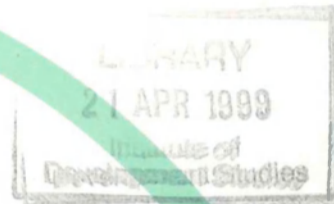


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CAMEROON'S FISCAL POLICY AND ECONOMIC GROWTH

ALOYSIUS AJAB AMIN

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Cameroon's fiscal policy and economic growth

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Cameroon's fiscal policy and economic growth

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Abstract

Cameroon has experienced periods of economic growth and decline. During the growth period public expenditures increased the size of the public sector. The decline period, which started in 1986, has been characterized by government expenditures that outstripped revenues. The government's recovery programme has meant drastic reduction in public expenditures and desperate efforts to raise revenue. Since the programme started, Cameroon's key macroeconomic indicators of performance have continued to show adverse trends. There are few single country studies relating government budget to growth through private investment. More so nothing has been done on Cameroon. This study analyzes the relationship between public and private investment, stressing the crowding in or crowding out of private investment by public expenditures. Based on secondary data from the public sector, the results of a growth model show that the relevant factors have positive effects on growth while those of the investment model show the crowding in of infrastructures and social sector. The study concludes by recommending the reallocation of more resources to productive sectors and increasing and sustaining of spending on those productive sectors or those components of public expenditures that crowd in the private sector.

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I. Introduction and background

Prior to 1986, Cameroon sustained a very high economic growth rate partly because of its rich diverse agricultural base coupled with petroleum production. The average annual growth rate of the gross domestic product (GDP) was 8%. This permitted the country to maintain a high level of per capita income despite the high population growth rate of 3%. Cameroon was then classified as a middle income country (Figure 1).

However, since 1986 almost all the key economic indicators have been declining mainly due to the collapse of world commodity prices and internal (structural) problems. The major weaknesses of the economy of Cameroon were exposed, as the budget deficit increased despite many steps to reduce public expenditures with the hope of increasing revenue and reducing deficits. These efforts seemed to yield few positive results, partly because there has been no serious attempt at systematically controlling the budget and using fiscal policy to promote sustained economic growth. Also, there seems to have been no attempt to examine the relationship between government spending and economic growth, so as to give better input for policy making, and there is lack of rigorous analysis as input into public decision-making processes.

The main purpose of this study is to examine the effects of disaggregated public spending on private investment as well as the effects of total investment on growth.

Background

The period 1960–1977 was characterized by high economic growth, with agriculture being the principal source of growth. Agriculture accounted for a yearly average of 34% of GDP (Amin, 1996), although agricultural output growth was mainly from land area expansion. The discovery of offshore oil in 1975 produced a new primary export commodity by the late 1970s. And for the period 1978–1985, the high economic growth rate was sustained by oil, with agriculture's share in GDP declining to less than 28% in the late 1970s and oil shooting to 17% of GDP. For the period 1980–1985, in real terms, the economy grew at a rate of 8% propelled by the oil sector, with oil export reaching about two-thirds of the total exports by 1984. The investment growth rate was 7%, export was 16% and consumption was 3.3% (Cameroon, 1989b, 1991), and Cameroon had a high per capita income (Figure 2). This performance was maintained by Cameroon's credit-worthiness and credibility abroad.

The export boom of the late 1970s and the 1980s provided Cameroon with considerable

Figure 1: Gross domestic product (000 FCFA)

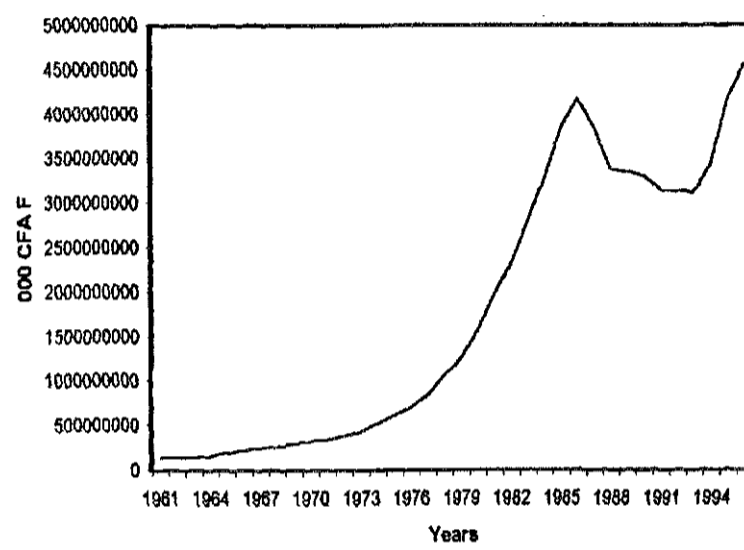


Figure 2: Per capita income (000 FCFA)

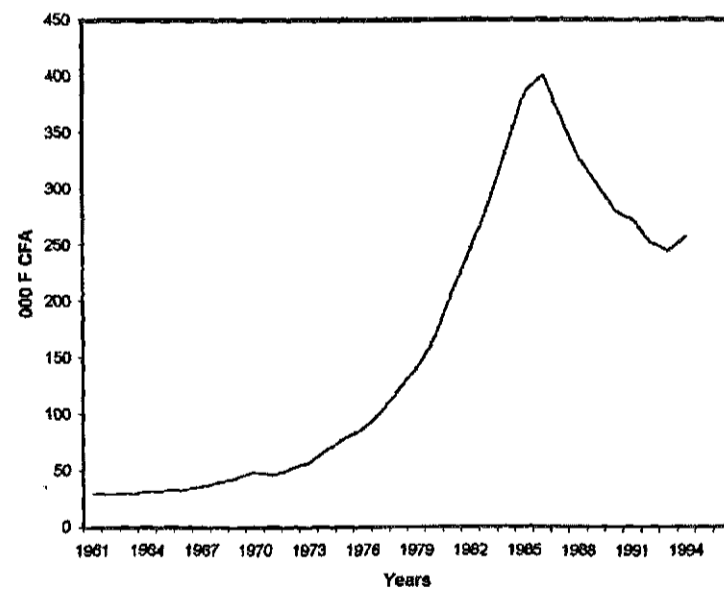
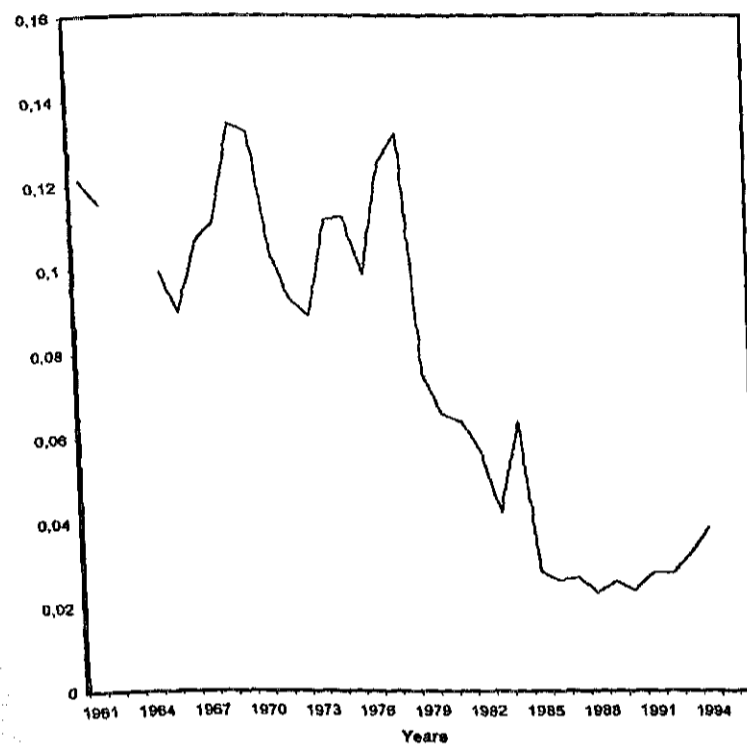


Figure 3: Terms of trade (TOT)



resources including an oil windfall that was partly kept out of the state budget. The huge foreign earnings greatly affected both domestic and external accounts. Since foreign reserve balances were increased it was easier to buy more imports, and also to increase foreign tax revenue. The oil boom helped the government to constantly run surpluses with little foreign borrowing. The government heavily depended on oil revenue without explicitly showing so since some oil revenue was spent from extra budgetary account. Although expenditures increased sharply, some financing expenditures were channelled through newly created public company subsidies, and transfers increased significantly with government financing some new investment projects.

As one would expect, the expenditures from oil revenue pushed up prices of non-traded goods, which were fairly inelastic in supply, and because of the relative high price of the non-tradeables to tradeables, there was increased appreciation of the real exchange rate (Amin, 1996). This greatly hurt the producers of primary products such as cocoa, coffee, cotton, etc. In 1986, the drop in export prices led by oil had a serious negative effect on the economy. These terms of trade shocks coupled with a decline in oil production sharply reduced foreign exchange earnings (Figure 3).

The situation was worsened by the appreciation of Cameroon's real exchange rate, mainly because of the depreciation of the U.S. dollar and the Nigerian naira. Cameroon's foreign exchange earnings were drastically reduced and the decline had great impact on the state budget. Budgetary revenues fell sharply while there were increases in public

expenditures. The budget deficit was therefore inevitable, and from 1986, Cameroon's economy declined into a deep economic crisis. The structural problems including crisis in the public finance and overgrowth of public expenditures seemed to have aggravated the economic situation.

In response to these structural problems, Cameroon signed a stand-by arrangement with the International Monetary Fund (IMF) in September 1988 and a structural adjustment loan in June 1989. The structural adjustment programme (SAP) was to address the country's structural problems and external shocks. The economy did not greatly improve despite reduction in public expenditure, restructuring and liquidation of some public companies and some institutional reforms.

Cameroon not only started spending foreign reserves but also began accumulating arrears to both internal and external creditors. At the same time the government started cutting back on expenditures. Initially the expenditure cut-back seemed mostly to affect public investment projects and the private sector, but it later cumulated into current expenditure cuts including civil servants' salaries.

Research problem and objectives

In trying to reduce public expenditures, the Cameroon government started privatizing and liquidating some public companies that were absorbing public subventions or resources. There were across-the-board budgetary cuts including sharp salary cuts. The Cameroon currency –the CFA franc –was devalued by 50%, which triggered a series of price increases. These measures on macroeconomic aggregate have not been analysed. Yet it is important to look at the periods of growth and decline, particularly the effects of the composition of expenditures on some macroeconomic aggregates, which may tell us what could properly be done.

Cross-country or cross-sectional studies do not address the problems specific to given regions or countries. Equally missing is any specific individual country study that examines fiscal policy impact on economic growth, besides a recent study on Nigeria by Ekpo (1994). In fact there is no macroeconomic study on Cameroon that addresses these issues.

Yet the current economic programme is mainly of a fiscal nature of Cameroon's current structural adjustment and stabilization programme, and fiscal policy is directly linked with macroeconomic aggregates. It is important for policy implications to see if there is a trade-off between cuts in government expenditures and deterioration in some sectors of the economy; for example, cuts in public infrastructure could have adverse growth effects. More so as cuts are carried out across the board, it is important to have insight into which expenditures should be maintained and sustained and which components could be more severely affected and if possible by how much. Furthermore, by decomposing public expenditures into different components and examining their performance, we are able to gain better insight into the role of government in the process of growth.

Our objectives in this study are therefore to:

- Review Cameroon's fiscal profile by examining the trend, structure and composition of government revenues and expenditures with emphasis on the expenditures for the period 1961 – 1994. This is partly to determine the performance of total government spending and disaggregated government spending.
- Examine the effects of fiscal policy on growth. This focuses on examining the relationship between public spending and private investment, and growth directly, then stressing the crowding in and/or crowding out of private investment due to public expenditures. This is important because there is a shift towards strong market oriented policies.

Why an examination of the fiscal policy

The magnitude of the economic collapse after 1986 appeared to reflect poor fiscal policies. These policies were unable to sustain investment and cushion the GDP drop even after the commodity price shock. It becomes important and interesting therefore to examine Cameroon's fiscal policy, particularly the public spending experience, for future policy input.

As from the late 1970s, the offshore oil provided Cameroon's economy with a new source of revenue. High foreign exchange earnings mainly from the oil boom permitted high government expenditures. During this period many transfers and subsidies were also made to public enterprises that were not very productive.

With the economic crisis, the government's immediate response was to spend the foreign reserves, and to finance the deficit partly by accumulating domestic arrears and foreign borrowing. At the same time, the government embarked on cutting expenditure and reducing or eliminating subventions to state corporations. But little is known about how the composition of government expenditure affects Cameroon's economic performance. Since the sources of revenues were limited, the main option was expenditure cuts. It has become critically important to know which component should be adjusted and why. Knowing the relative contribution of each component to economic growth is crucial for decision making.

The need for this type of knowledge in decision making assumes great importance, as one of the government's recent priorities is to encourage and promote strong private sector-led growth. The belief is that, among other things, such growth would be able to generate fiscal surpluses and sustain interest payments on debt, as well as lessen the debt burden, promote employment and further support necessary public expenditures. So it is important to evaluate how the different components of public expenditures affect economic performance, since a different composition of budgetary expenditure may affect the economy differently.

Policy relevance of the study

An empirical analysis of government expenditure and revenue is crucially important for the understanding of government fiscal policy and its effects on macroeconomic performance. So far no empirical analysis has been done to see how public expenditures contribute to economic growth despite the assumed important role of government expenditure in promoting economic growth in Cameroon. This study is one way of helping policy makers design growth-oriented programmes and carry out fiscal changes that are growth enhancing. This also helps to explain the government's earlier experience and to see what lessons could be drawn from Cameroon's previous economic performance.

The ad hoc behaviour and sometimes inaction of policy makers may be due to lack of an informed basis for action. We hope to contribute to filling this gap in fiscal policy discussion and also to provide policy makers with a working document on the effects of fiscal policy. This is important given the current changes in the constitution, government structures and institutions, and the structural adjustment programmes. We attempt to bring together comprehensive evidence on the behaviour of some macroeconomic aggregates for the past periods resulting from fiscal policy. A good analysis of Cameroon's fiscal policy is necessary to give insights and informed guidance to macroeconomic policy. In fact, because of the current focus on public expenditure reduction, we would examine the effects of expenditures on growth and development, and consequently generate discussion on what type of expenditures should be maintained and even increased.

The study is divided into six sections. A review of literature in the area is done in Section II. The review reveals that there are no country studies linking public spending to economic growth through private investment. Section III discusses the role of government within the social policy framework. We also carry out a detailed analysis of the government budget, focusing on the expenditure part. We derive our theoretical framework for both growth and investment models, and discuss the sources and nature of data in Section IV. Empirical results based on regression analysis are discussed in Section V, and conclusions in Section VI with some policy implications.

II. The literature review

Not many case studies on African economies have been done to show that macroeconomic policies are important for long-run growth. Both cross-sectional studies and case studies on other regions do show that variables such as external debt, public deficit and investment are macroeconomic policy indicators that do affect growth. The results, however, do not show the channels through which these variables affect growth or how the different variables affect each other (Fischer, 1993).

Yet there is a vast cross-country literature on the linkages between growth rates and government expenditures. Some of the studies (Levine and Renelt, 1992) have found strong results in investment spending in physical capital and a positive relationship between increased spending on human capital and increases in the rate of growth. In fact most of these cross-sectional studies are summarized by Levine and Renelt. The studies are based on regression analyses that regress growth rate on a number of variables, although they tend to focus on the association between public investment, trade policy, some measure of human capital, and the level of development and rate of growth.

Jappelli and Meana (1994), still on cross-country study, show that public expenditures on investment and consumption have different impacts on economic activity. Public investment stimulates output and so increases government revenues and in turn allows the government to spend more. So the study analyses the determinants of public expenditures that are allocated to public investment, based on cross-country data. The implication is that specific spending promotes growth; that is, specific revenue sources can be allocated to specific expenditures. Economic theory justifies earmarking, which assigns revenue from specific taxes to specific activities. Some economists are skeptical about earmarking; McCleary (1991) argues for and against it, but from World Bank country studies, he cautions against earmarking.

During the period 1974–1982, public spending boomed in many developing countries, including Cameroon. The terms of trade and interest rate shocks produced fiscal imbalances and debt accumulation. From the study of 17 countries, Corden (1990) concluded that these developments were the causes of the current crisis. Since the growth was demand determined (and not growth of capacity), the spending boom did not increase the productivity of the investment; consequently such growth had no effect on long-run growth. Alogoskoufis and Kalyvitis (1996) analyze the effects of infrastructure on output and highlight the production enhancing role of public investment. From their analysis they show that public infrastructure changes operate through firms' production function and are then reflected in output changes. A review of studies on Nigerian manufacturing

industries (Chhibber and Dailami, 1990) showed that a breakdown of social infrastructure forced private firms in Nigeria to acquire costly alternative sources of energy such as generators. There are economies of scale by the public provision of communication, utilities and social services from which private firms obtain much benefit. Non-availability of these services increases the cost of production to the private producers as well as forcing the firms to allocate scarce resources away from productive investment. Hence public investment spending that provides public services that reduce costs of production to the private sector do enhance private investment and profitability. And non-infrastructure public investment usually crowds out private investment (Easterly and Schmidt-Hebbel 1993; Chhibber and Dailami, 1990).

But there is no reason why the crowding in effect of public expenditures should be stressed only for infrastructure. Public spending on the social sector, such as education, vocational training and health, enhances human capital, which has a positive impact on economic growth. While public spending has a crowding out effect, there is also a wide range of public expenditures that could improve private sector productivity. The externality or public good effect of public spending improves growth by increasing the productivity of the private sector (Tanzi and Zee, 1996; Kelly, 1997). These show that the goals of social welfare and growth can be both pursued.

Investigating government expenditure in Africa during the 1980s, Gallagher (1994) found that increased interest payment crowded out other kinds of spending. Capital spending was reduced much earlier than recurrent expenditure when the total spending was declining, and even the defense spending suffered much more than other expenditures. He underscored the importance of infrastructure expending in government expenditure. This goes to confirm that only specific types of spending promote growth.

There are very few individual country studies on this area of fiscal policy and economic performance. In his study of Tanzania, Osoro (1997) found that growing public spending was the cause of large public deficits. His suggestion is to curtail public expenditure as well as broaden the tax base, since more tax revenue may not increase public expenditure. But given the needs and demands on the public sector's resources, expenditure will always tend to increase. However, his study was aimed at examining causality, so the effects of fiscal policy on growth and other macroeconomic aggregates were not investigated. More so, he stresses curtailing public expenditures in general and not any specific expenditure. This may mean across-the-board budgetary cuts, which may have negative effects on general economic performance, since some spending may promote growth.

In examining the contribution of public spending (particularly capital spending) to growth in Nigeria, Ekpo (1994) shows that infrastructural spending crowds in private investment and consequently enhances growth, while other public spending such as on manufacturing crowds out private investment. On the whole, Ekpo shows private investment to be more efficient than public investment. Drawing from the expenditures by Ghana and Zimbabwe, Schmidt-Hebbel (1995) concludes that deep fiscal adjustment is necessary for achieving high economic growth. Yet all adjustment to balance the budget fell on capital expenditure, while the greater part (wage bill) of recurrent expenditures in Côte d'Ivoire even increased in the 1980s – which was the period of adjustment (Easterly et al., 1994). This resulted in poor economic performance. In Ghana private investment

remained very low with peaks and troughs corresponding to years when public investment was high or when a change in government occurred. Private investment remained low and had little impact on the economy, mainly because of economy-wide credit ceilings imposed by the government, and public investment tended to crowd out private investment. The Zimbabwean case was similar. The public sector crowded out private investment as the public sector financed its deficits by using non-market mechanisms to generate and use a significant private sector surplus. As the public sector required more resources from the private sector to finance its deficit, it restricted foreign exchange allocation to the private sector, thus containing and crowding out private investment. This has substantially affected the growth potential and performance of the Zimbabwean economy.

Kouassy and Bohoun (1993) also attempted to find the effects of different policies adopted to reduce Côte d'Ivoire's budget deficit since the start of the adjustment programme. The study did not evaluate the effects of fiscal instruments on growth, despite the fact that it used a very narrow base of instruments that could have been easily used to examine those effects. Although CFA membership offers some advantages including more financial openness, more stable prices and no foreign exchange rationing, Fielding (1993) shows that Côte d'Ivoire's membership in CFA has not resulted in greater financial openness and Ivorian investors have been subjected to greater risk than those in Kenya. Private investment has therefore been more difficult in Côte d'Ivoire than in Kenya.

Fiscal policy offers many instruments at the disposal of the government to effect some positive changes in the economy (Khan and Villanueva, 1991; Little, 1993). The structural problems experienced by Cameroon and other African countries have partly resulted from *too much state intervention where it should not have been, poor management and distortionary policies*. Although Keynes initially developed a simple theoretical model of investment in which investment was the means of increasing income, more in-depth analyses have tended to see investment as a function of a wide range of factors. Recently factors such as human resource development have been emphasized as among the major means of increasing productivity for rapid development and economic growth especially in developing countries. For sustained economic growth in Africa, substantial investment is required. In Africa, risk is important in understanding long-term issues and irreversibility is necessary in explaining the lack response of investment to economic reforms. Given that substantial investment expansion would come primarily from the private sector, uncertainty can strongly hinder investment even under situations of risk neutrality (Serven, 1996). Hence, in promoting private investment, the stability and predictability of the incentive framework is very important. These could be partly reflected in sustainable macroeconomic balances that enhance stability and certainty about future policies. Some of the key policies that would help generate profitable investment options are human capital investment, adequate infrastructural provisions and effective institutions (Serven 1996).

III. Government and fiscal adjustments in Cameroon

The budget, which is the expenditure and income statement of the government, is usually used as a major instrument of economic policy. Even consciously changing government expenditures and receipts to give budget surplus, deficit or balance may bring out economic changes (Table 1, Figure 4). The deliberate changing of government expenditures and receipts through fiscal policy could be consciously planned to effect beneficial changes in the overall level of macroeconomic aggregates. Originally government objectives were to raise enough revenue to cover expenditure so that the budgets were balanced. Nowadays, the budget has become a very important instrument for stimulating the economy.

More so in Cameroon, a developing country, the role of government is important, particularly in providing public goods and services, alleviating poverty, and taking care of market failure including missing markets etc. It has become very difficult to balance the budget. Most African economies including Cameroon have experienced budget deficits partly because of diminishing revenue.

The role of the government in terms of intervention in the economy has been increasing since independence. It has been strongly argued that the low living standard of some groups in the country makes it imperative for the government to play a vital role in the economy (Burgess and Stern, 1993). This is also because of market failure including missing markets and the government's comparative advantages in certain areas of the economy such as infrastructure and the social sector. Although the public sector provides growth promoting goods and may design appropriate taxes to narrow the gap between social and private costs, government may equally waste national resources. This wastage may include carrying out projects that do not encourage growth, imposing distortionary taxes and regulations (Levine and Renelt, 1992), and creating situations of policy failure.

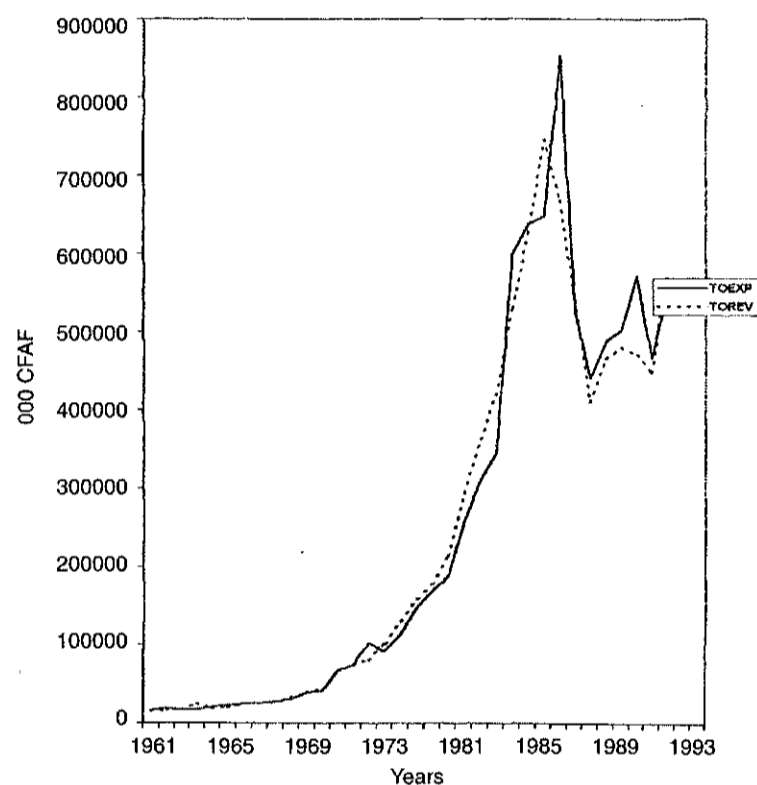
In fact, some scholars hold that all public expenditures tend to retard economic growth. This is because government has centralized decision-making features, which inefficiently generate government spending and consequently lower productivity of government investments. However, Ekpo (1994) shows that certain components of public expenditures enhance private productivity of investment, thus emphasizing the important role of government. So fiscal policy in terms of taxation and public expenditure is important in determining growth and other macroeconomic variables but could also lead to stagnation. It is therefore significant to ascertain growth promoting components of public expenditure.

Table 1: Total revenues, expenditures and deficit/surplus (in billion CFA francs)

Years	Total expenditure	Total revenue	Deficit/surplus
1961	15.690	15.030	-0.660000
1962	18.750	15.990	-2.760000
1963	16.670	16.330	-0.340000
1964	17.390	25.280	7.890001
1965	20.190	18.550	1.640001
1966	22.880	19.910	-2.969999
1967	24.500	24.500	0.000000
1968	26.180	26.180	0.000000
1969	27.530	27.250	-0.280001
1970	30.830	33.290	2.460001
1971	38.370	39.170	0.799999
1972	42.170	43.960	1.790001
1973	66.850	66.850	0.000000
1974	74.500	74.500	0.000000
1975	71.500	81.180	9.680000
1976	91.820	101.03	9.209999
1977	113.37	130.29	16.91999
1978	147.62	158.81	11.19000
1979	170.01	177.47	7.460007
1980	186.59	213.39	26.80000
1981	323.67	293.76	-29.91000
1982	309.71	362.29	52.58002
1983	344.39	419.20	74.8100
1984	530.58	539.18	8.599976
1985	636.36	625.31	-11.04999
1986	647.11	745.15	98.04004
1987	852.17	667.26	-184.9100
1988	536.32	539.60	3.279968
1989	440.93	410.90	-30.03000
1990	488.82	465.61	-23.21002
1991	501.24	480.85	-20.389098
1992	571.86	471.00	-100.86000
1993	466.85	448.14	-18.70999
1994	546.00	576.00	30.00000

Sources: Ministry of Economy and Finance (budgetary department) and the different ministerial departments, Yaounde.

Figure 4: Government revenue (torev) and expenditures (toexp) (000 FCFA)



The government's budget has two parts, the revenue part and the expenditure part. (Appendix A). These parts consist of many components. We analyse all the main components, with more stress on the composition of expenditures.

Government's revenue

The government raises its revenue from a number of sources by using various mechanisms. Taxes constitute an important source of government revenue (Table 2), accounting for more than 80% of government revenue, falling to 60% in the early 1990s. Taxes include income taxes on persons and companies, domestic taxes on goods and services, wealth and property, and external trade taxes. A substantial share of total revenue is non-tax revenue such as income from agricultural marketing boards, mineral sources and oil revenue, as well as other sources.

Government total revenue is equal to tax revenue plus non-tax revenue and other sources. Import duties seem to be a very important source of government's revenue, much more than export taxes (Table 2). While export revenues have ranged from 5% in the late 1960s to 0.3% in the early 1990s, import taxes have been as high as 30% in the early 1960s and as low as 1.5% in the early 1990s.

Table 2: Share of tax revenues in total revenue

Years	(Exp+Imp. Tax Rev)/ (Tot. Tax. Rev)	(Tot. Tax. Rev)/ (Tot. Rev)	(Exp. Tax. Rev)/ (Tot. Rev)	(Imp. Tax. Rev)/ (Tot. Rev)
1966	0.4918	0.9191	0.0854	0.3666
1967	0.4363	0.8327	0.0612	0.3020
1968	0.4093	0.8212	0.0497	0.2865
1969	0.3440	0.9174	0.0477	0.2679
1970	0.2891	0.8831	0.0481	0.2073
1971	0.2602	0.8731	0.0434	0.1838
1972	0.2410	0.8872	0.0409	0.1729
1973	0.1595	0.9005	0.0239	0.1197
1974	0.1418	0.9087	0.0215	0.1074
1975	0.1339	0.9017	0.0197	0.1010
1976	0.1104	0.9057	0.0168	0.0831
1977	0.0956	0.8028	0.0138	0.0629
1978	0.0715	0.9162	0.0120	0.0535
1979	0.0621	0.9072	0.0107	0.0456
1980	0.0494	0.9115	0.0098	0.0351
1981	0.0358	0.8932	0.0082	0.0238
1982	0.0399	0.9139	0.0102	0.0262
1983	0.0326	0.9442	0.0052	0.0255
1984	0.0359	0.9358	0.0047	0.0289
1985	0.0374	0.8677	0.0038	0.0286
1986	0.0222	0.8455	0.0030	0.0158
1987	0.0246	0.8707	0.0024	0.0190
1988	0.0301	0.6149	0.0030	0.0156
1989	0.0272	0.7338	0.0041	0.0158
1990	0.0268	0.6727	0.0037	0.0144
1991	0.0263	0.5939	0.0031	0.0125
1992	0.0320	0.6378	0.0030	0.0174
1993	0.0294	0.6980	0.0029	0.0176
1994	0.0213	0.6753	0.0024	0.0120

Source: Author's calculations.

Exp = export; Imp = import; Rev = revenue; Tot = total.

Since the 1960s more than 60% of government revenues have been fiscal revenue with much less than 40% from other sources. But the fiscal revenues include direct taxes, registration fees, stamp duty and customs duties. A detailed examination would have stressed the evolution of direct taxes and customs duties, but the available data did not permit such examination. The total revenue increased gradually in the period 1960–1974, and from the late 1970s there was sharp increase in revenues reaching a peak in 1985/86 of more than 745 billion francs CFA. The oil revenue contributed greatly to these increases. But after the mid 1980s the total revenue declined sharply, dropping to CFAF 448 billion in 1992 and CFAF 576 billion in 1993 (Table 1 and Figure 4). As a share of GDP, the total revenue increased from 11% in 1962 to 12% in 1972, rose sharply to a yearly average of 16% for the period 1973–1985, and peaked in 1986 with a share of 18%. From that level, the share dropped to 14% in 1993. On the whole, the share of total

revenue excluding grants in GDP has not been greater than 18% (Table 3). This is low compared with other countries for almost the same period. Little et al. (1993) present developing countries with shares ranging between 18% and 20%, with some countries such as Chile with 29% and Brazil with 33%. In Cameroon's case not all oil revenues were included in the budget.

Table 3: Share of total revenue and expenditure in gross domestic production (GDP)

Years	Total expenditure/GDP	Total revenue/GDP
1961	0.112152	0.107434
1962	0.131671	0.112289
1963	0.115204	0.112854
1964	0.110133	0.160101
1965	0.120394	0.110614
1966	0.130000	0.113125
1967	0.125964	0.125964
1968	0.119325	0.119325
1969	0.111232	0.110101
1970	0.110107	0.118893
1971	0.126676	0.129317
1972	0.118488	0.123518
1973	0.166916	0.166916
1974	0.151238	0.151238
1975	0.123297	0.139990
1976	0.139693	0.153705
1977	0.143524	0.164945
1978	0.152484	0.164043
1979	0.148351	0.154860
1980	0.132315	0.151319
1981	0.180167	0.163518
1982	0.142540	0.166739
1983	0.131547	0.160122
1984	0.166066	0.168757
1985	0.165766	0.162888
1986	0.156492	0.180201
1987	0.217285	0.170137
1988	0.147159	0.148059
1989	0.125514	0.116966
1990	0.146608	0.139647
1991	0.151003	0.144861
1992	0.180147	0.148374
1993	0.147211	0.141311
1994	0.15923	0.168288

Source: Author's calculations.

An increase in revenue over time may reflect a greater coverage and the inclusion of some oil revenue. Recently the government is trying to increase its tax revenue by broadening the tax base and improving tax administration. Customs services are being

restructured to improve their effectiveness, tolls are being levied on some major roads, tax exemptions are being reduced. Tax collection is being computerized for better management and detection of non-compliance of tax laws. But with growth in income and trade liberalization, foreign trade tax revenue would tend to decline over time, as seen in Table 2. Foreign trade tax revenue has fallen very sharply in the 1990s as a share in the total government revenue.

Government's expenditure

The size of the government sector in the economy could be measured in terms of employment, economic activities or expenditure. Usually the importance of the public sector is in the expenditures. Total public expenditure can be put into three main categories:

- Public investment spending
- Public consumption spending
- Transfer payments (such as pension, interest payment on debt, family allowance, etc.)

Cameroon's expenditures are actually in two main accounts—current and investment accounts. Usually investment or development or capital spending is separated from public consumption or current budget with tax revenues earmarked for consumption expenditures. And any surplus may be allocated to the investment budget. Because of demands and pressures on the government it has not been easy to apply this system of budgeting. We disaggregate the public expenditures into the ministerial departments or different components and examine each component. We then find how each component affects growth through private investment.

Growth rates and shares of different components of public expenditures

Since the 1960s, there have been two major periods of economic performance - high economic growth and economic decline. The period of decline was matched with sharp budgetary cuts. These cuts affected the composition of government expenditure; some components lost while others gained, but it is doubtful whether there was any deliberate expenditure switching. Expenditure on education grew, though a serious decline occurred from 1992. Similarly, there was negative growth rate in expenditure on infrastructure and slightly on health and agriculture. Even defense suffered from negative growth rate. The drop in all the sectors was very severe in 1988, although defense did not suffer the same loss (Table 4).

Table 4: Simple growth rates of selected components of public expenditure (%)

Years	Health	Education	Agriculture	Defense	Infrastructure
1961	NA	NA	NA	NA	NA
1962	2.7	10.4	9.9	82.4	31.4
1963	16.8	-68.5	4.7	0.8	50.4
1964	4.6	19.0	8.3	-2.2	04.0
1965	10.4	46.6	13.8	3.1	33.5
1966	10.0	9.0	9.4	6.1	57.9
1967	4.5	8.3	7.4	14.9	-04.6
1968	4.3	8.4	3.4	7.0	-03.0
1969	20.8	9.2	11.1	6.1	-10.6
1970	3.4	14.9	30.0	7.8	14.9
1971	6.6	-3.9	16.6	8.7	51.7
1972	3.1	12.3	13.2	1.0	05.2
1973	15.1	14.1	50.2	10.3	38.1
1974	5.2	21.6	7.3	16.2	53.9
1975	10.0	20.9	12.6	9.1	05.9
1976	20.4	16.6	21.5	32.5	02.9
1977	9.4	27.1	8.4	-3.9	89.8
1978	29.3	37.4	21.7	32.9	13.4
1979	9.3	10.5	4.0	12.0	10.5
1980	2.4	4.0	4.0	20.0	-06.1
1981	20.2	34.2	17.9	22.6	63.5
1982	15.8	26.9	3.1	0.0	16.2
1983	39.3	27.1	-63.4	20.8	07.6
1984	17.1	29.6	32.0	21.6	35.8
1985	23.0	12.1	379.4	24.0	43.7
1986	13.1	17.7	22.3	14.8	29.9
1987	4.5	12.3	12.3	7.4	-06.0
1988	-23.0	-13.3	-22.4	-10.6	33.2
1989	7.3	2.6	11.7	-1.3	08.9
1990	7.0	6.8	11.6	5.2	-36.5
1991	2.6	9.0	14.3	4.0	-77.1
1992	8.1	-2.2	7.7	0.4	13.6
1993	-16.4	-6.0	-9.6	-6.9	31.9
1994	6.5	-6.5	16.0	7.3	-21.7

Source: Author's calculations.

Total public expenditure and functional composition

In Cameroon, government expenditures have tended to increase with government revenue, with expenditures peaking faster than revenue (Figure 4). As a proportion of GDP, public expenditures have been increasing. The upward trend shows that the proportion has risen from 11% in 1961 to 18% in 1981. It has been as high as 21% in 1987 and dropped to as low as 16% in 1994. 1987 was also the government's peak expenditures of CFAF 85.2 billion (Table 5).

Table 5: Share of government expenditure in gross domestic product (GDP)

Years	Education/GDP	Health/GDP	Agriculture/GDP	Communication/GDP	Defense/GDP
1961	0.012938	0.010293	0.003724	0.003853	0.013867
1962	0.014045	0.010393	0.004024	0.004171	0.024860
1963	0.004354	0.011956	0.004147	0.005598	0.024672
1964	0.004750	0.011463	0.004117	0.005503	0.022103
1965	0.006559	0.011926	0.004412	0.005569	0.021467
1966	0.006818	0.012500	0.004602	0.005545	0.021705
1967	0.006684	0.011825	0.004473	0.005008	0.022571
1968	0.006427	0.010939	0.004102	0.004786	0.021422
1969	0.006222	0.011717	0.004040	0.004444	0.020162
1970	0.006321	0.010714	0.004643	0.004071	0.019214
1971	0.005612	0.010565	0.004985	0.004094	0.019313
1972	0.005367	0.009272	0.004805	0.003906	0.016606
1973	0.014981	0.009488	0.006417	0.004170	0.016280
1974	0.014819	0.008120	0.005603	0.003735	0.015388
1975	0.015227	0.007588	0.005363	0.003397	0.014261
1976	0.015670	0.008063	0.005751	0.003286	0.016674
1977	0.016584	0.007343	0.005191	0.002937	0.013331
1978	0.018593	0.007747	0.005154	0.003078	0.014461
1979	0.017365	0.007155	0.004529	0.002757	0.013682
1980	0.014679	0.005957	0.003829	0.002744	0.013353
1981	0.015475	0.005622	0.003546	0.002227	0.012858
1982	0.016246	0.005285	0.003024	0.002310	0.010631
1983	0.017151	0.006226	0.000917	0.002391	0.010665
1984	0.018216	0.005978	0.000992	0.002382	0.010632
1985	0.017010	0.006122	0.003959	0.002363	0.010977
1986	0.018597	0.006433	0.004498	0.002392	0.011702
1987	0.022030	0.007088	0.005329	0.002710	0.013254
1988	0.020552	0.005872	0.004445	0.002135	0.012742
1989	0.021890	0.006539	0.005152	0.001825	0.013034
1990	0.024654	0.007378	0.006058	0.001982	0.014453
1991	0.026993	0.007604	0.006959	0.002061	0.015108
1992	0.027596	0.008600	0.007844	0.003116	0.015874
1993	0.025951	0.007189	0.007095	0.007095	0.014789
1994	0.022468	0.007100	0.007626	0.08765	0.014708

Source: Author's calculations.

The allocation of total public expenditures on the different sectors has not followed the same trend. The social sector –education and health (particularly education) –has gradually increased its share in the total budget with health maintaining almost a constant share of 4%. While the defense sector started off with almost 21% in 1963, since then it has gradually reduced its share to as low as 10% of the total public expenditure, but still taking one of the largest shares, second only to the education sector. Other components have allocations much lower than those of education and defense (Table 6). The share of agriculture expenditure in total expenditure has ranged only from 3% to 5% since 1961. The other components have no single allocations above 4% of the total expenditure.

Table 6: Share of different components in expenditures

Years	Education/ Total Expenditure	Health/ Total Expenditure	Agriculture Total Expenditure	Communication/ Total Expenditure	Defense/Total Expenditure
1961	0.115360	0.091778	0.033206	0.034353	0.123646
1962	0.106667	0.078933	0.030560	0.031680	0.188800
1963	0.037792	0.103779	0.035993	0.048590	0.214157
1964	0.043128	0.104083	0.037378	0.049971	0.200690
1965	0.054482	0.099059	0.036652	0.046261	0.178306
1966	0.053061	0.096154	0.035402	0.042657	0.166958
1967	0.053858	0.093878	0.035510	0.039755	0.179184
1968	0.055939	0.091673	0.034377	0.040107	0.179526
1969	0.057412	0.105340	0.36324	0.039956	0.181257
1970	0.044305	0.097308	0.042167	0.036977	0.174505
1971	0.045293	0.083399	0.039354	0.032317	0.152463
1972	0.045293	0.078255	0.040550	0.032962	0.140147
1973	0.089753	0.056844	0.038444	0.024981	0.097532
1974	0.097987	0.053691	0.037047	0.024698	0.101745
1975	0.123497	0.061538	0.043497	0.027552	0.115664
1976	0.112176	0.057722	0.041168	0.023524	0.119364
1977	0.115551	0.051160	0.036165	0.020464	0.092882
1978	0.121935	0.050806	0.033803	0.020187	0.094838
1979	0.117052	0.048232	0.030528	0.018587	0.094838
1980	0.110938	0.045018	0.028940	0.020741	0.100916
1981	0.085890	0.031205	0.019681	0.012358	0.071369
1982	0.113978	0.037777	0.021213	0.016209	0.074586
1983	0.130375	0.047330	0.006969	0.018177	0.081071
1984	0.109691	0.035998	0.005975	0.014343	0.064024
1985	0.102615	0.036929	0.023886	0.014253	0.066220
1986	0.118836	0.041106	0.028743	0.015283	0.074779
1987	0.101388	0.032623	0.024526	0.012474	0.060997
1988	0.139655	0.039902	0.030206	0.014506	0.086590
1989	0.174404	0.052094	0.041050	0.014537	0.103849
1990	0.168160	0.050325	0.041324	0.013522	0.098584
1991	0.178757	0.050355	0.046086	0.013646	0.100052
1992	0.153184	0.047739	0.043542	0.017294	0.088116
1993	0.176288	0.048838	0.048195	0.048195	0.100460
1994	0.140842	0.044505	0.047802	0.054945	0.09219

Source: Author's calculations.

Economic composition: Adjustment process and losers

A look at the evolution of the government's current and investment expenditures some interesting features. First, from the 1960s both expenditures increased, with the current expenditures reaching their peak in 1987 (with CFAF 512 billion) and investment expenditures reaching their peak in 1984 (with CFAF 271 billion). Second, investment expenditures were much lower than current expenditures.

Table 7: Recurrent and investment expenditures (in billion CFA francs)

Years	Current expenditure	Investment expenditure
1961	15.03	.660
1962	16.00	2.750
1963	15.50	1.220
1964	10.30	1.100
1965	18.50	1.600
1966	19.90	2.970
1967	21.70	2.800
1968	23.40	2.700
1969	25.20	2.300
1970	27.40	3.000
1971	34.10	4.300
1972	37.20	4.980
1973	56.50	10.400
1974	62.20	12.300
1975	68.10	3.500
1976	79.50	12.300
1977	88.60	24.700
1978	113.00	34.600
1979	121.60	48.400
1980	129.40	57.200
1981	204.40	52.800
1982	244.30	65.400
1983	253.80	90.600
1984	327.70	270.80
1985	386.10	250.30
1986	433.80	213.30
1987	512.20	34.000
1988	403.90	122.40
1989	370.20	70.700
1990	92.30	82.400
1991	63.00	93.800
1992	377.80	165.80
1993	312.90	102.20
1994	336.50	136.50

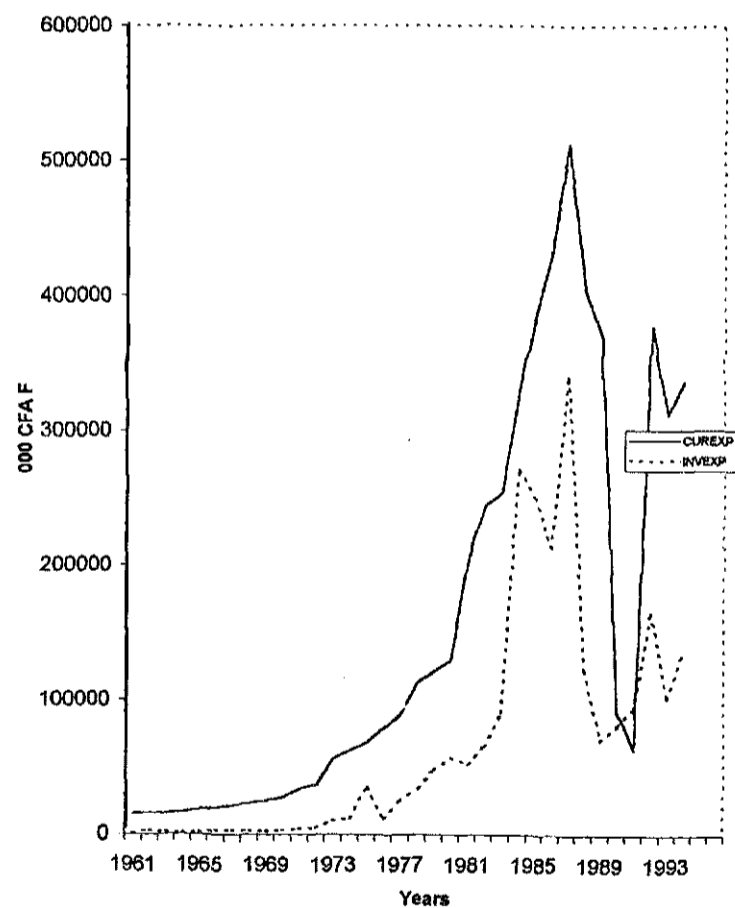
Sources: Ministry of Economy and Finance (budgetary department) and Central Statistics Office, Yaounde.

Third, the first drastic cuts fell on the investment expenditures, bringing them to the CFAF 34 billion level in 1987. The current expenditures were cut much later in the 1990s (Table 7). The government has been reluctant to curb current expenditures and reform non-productive state enterprises, thus making the investment component of expenditures bear the brunt of adjustment. This reflects the political strength of those who stood to lose and who therefore attempted to block the adjustment process. So it was easier to first cut the investment of public expenditures (Figure 5). The structural adjustment programme became more serious in 1989. Also from 1987 civil servants' amenities were sliced, which cumulated in drastic salary cuts in 1993. So by 1993, the government might have realized that the adjustment in only internal measures had taken

its full course—hence devaluation in 1994.

Cameroon's experience seems to be similar to those of other developing countries as government finds it easier to reduce capital or investment spending than to reduce current spending. For decision makers, cutting investment expenditure is a "softer" option than reducing current spending during periods of fiscal austerity. Colombia, Côte d'Ivoire, Kenya and Pakistan have had similar experiences during their adjustment process (Pradhan and Swaroop, 1993).

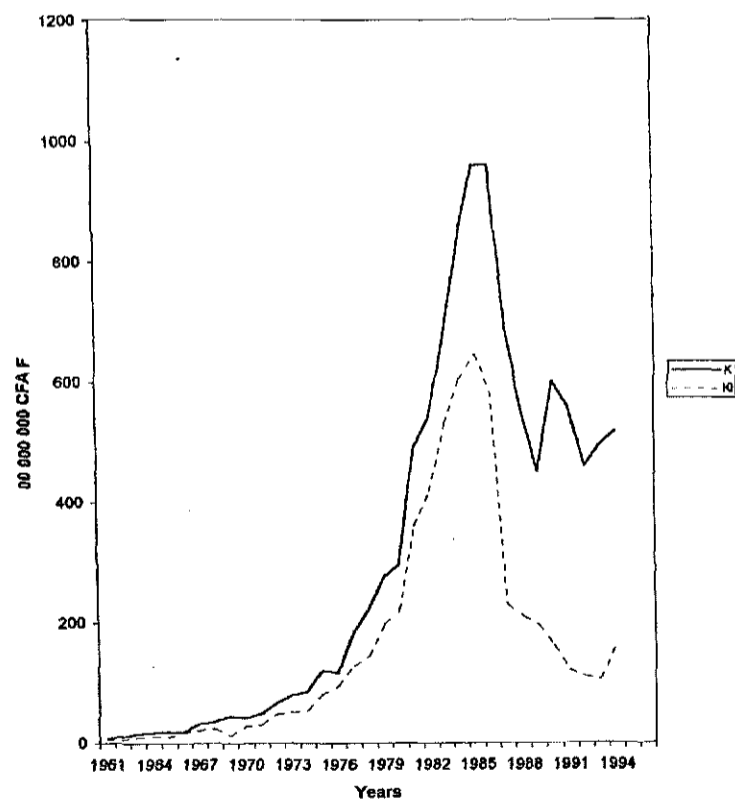
Figure 5: Current and investment expenditure (000 FCFA)



IV. Methodology

To gain better insight into the determinants of Cameroon's economic growth, we examine the growth effects of public spending. To motivate our discussion initially, we use a derivative of the Denison growth accounting model to analyse the relationship between Cameroon fiscal policy and economic growth in Cameroon (Denison, 1962). More so we try to link private investment with economic growth. Once this link is established, we are able to justify our examination of the effects of public policies on private investment, which is a component of the total investment (Figure 6).

Figure 6: Total investment (k) and private investment (ki)(00 000 000 FCFA)



Growth model

Implicitly we could write an aggregate production function as:

$$Y = Af(K_{pr}, K_{pu}, N, H, V) \quad (1)$$

where	Y	= full employment output
	K_{pr}	= private capital
	K_{pu}	= public capital
	N	= labour force
	H	= human capital
	V	= vector of other factors affecting growth, such as exports, imports
	A	could be regarded as an index representing total factor productivity.

From a series of differentiation and manipulation, this growth accounting model (equation) could further be specified explicitly in the form of growth rate as:

$$\dot{Y} = a_0 + a_1\dot{K}_{pr} + a_2\dot{K}_{pu} + a_3\dot{N} + a_4\dot{H} + a_5\dot{V} \quad (2)$$

where	\dot{Y}	= output growth rate
	\dot{K}_{pr}	= private investment growth rate
	\dot{K}_{pu}	= public investment growth rate
	\dot{N}	= population growth rate or the growth rate of labour force
	\dot{H}	= accumulation of human capital
	\dot{V}	= growth rates of other factors, such as exports, imports
	a_0	captures the growth in productivity while a_i ($i = 1$ to 5) are the elasticities of output for the respective factors.

The variables on the right-hand side of the equation are affected by government spending and consequently they influence growth directly. On the basis of Equation 2 we estimate and discuss the direct effects of these variables on growth. Khan and Reinhart (1990) used a similar model to examine the direct effects of private and public investment on growth. From the results of their cross-sectional study, they drew two main conclusions: (a) that the marginal productivities of private investment were greater than the marginal productivities of public investment, and (b) that private investment should be more favoured than public investment in development and adjustment strategies because private investment plays a much larger and more important role in the growth process in developing countries.

In Equation 2 the determinants of growth are more than from the usual labour,

capital and productivity growth sources. Some have argued that export growth has helped in the development of other growth enhancing components such as transportation and communication development. In turn, these have facilitated the production of goods. Human capital is included because there is increasing stress on the important role of education and research and development (R&D) in the growth process. Expenditure on education contributes to human capital formation and so increases the productive capacity.

We can combine investment into a single variable, as well as split it into two components—private and public investment—in order to examine the direct impact on growth rate. Public investment can be complementary or competitive to private investment. Total public expenditure has both productive and unproductive components that have impact on growth (Khan and Reinhart, 1990; Devarajan et al., 1993)

The effects of public policies on private investment

Monetary, fiscal and exchange rate policies affect private investment differently (Serven and Solimano 1992). Investment could be affected by restricted monetary and credit policies, which can raise interest rates and even raise the opportunity cost of retained earnings and consequently reduce investment, since the user cost of capital is raised (Greene and Villanueva, 1991). It is therefore important to look at the institutional structures of financial markets since they determine the effect of monetary and credit policy on investment. Also, we cannot ignore the positive role of foreign borrowing or capital inflow in financing domestic investment (Fielding, 1993).

Furthermore, increased fiscal deficits may raise interest rates and reduce credit to the private sector and crowd out private investment (Chhibber and Dailami, 1990). So reducing public deficit should allow the expansion of private investment. But it matters how fiscal deficit is corrected, since a mix of expenditure cuts and tax increases would affect private investment (Serven and Solimano, 1992). Reducing public deficit (as the Cameroon government has been doing) may involve reducing public investment complementary to private investment, so it is important to look at those types of public investments that are complementary to private investment. Empirical studies (Blejer and Khan, 1984; Gramlich, 1994; Ekpo, 1994; Kelly, 1997) have shown that public spending on such components as infrastructure are complementary with private investment. Devaluation affects the price of goods, especially imported capital goods. Investment goods include foreign and domestic components so that devaluation raises the cost of the imported components. This could reduce the supply of those imported components of investment and thus reduce investment. In effect, interest rate and exchange rate policies affect the resources available to the private sector (Serven and Solimano, 1992; Moshi and Kilindo, 1995). Government expenditures would have both direct (as seen above) and indirect effects on long-run growth.

Directly the capital spending would improve physical infrastructure, with spending on education and health contributing to human capital formation, thus increasing productive capacity. These types of expenditures can have indirect effects by crowding

in or crowding out private investment (Moshi and Kilindo, 1995; Ekpo, 1994; Blejer and Khan, 1984). Crowding out occurs when the public sector competes with the private sector for financing. This increases the cost of capital or reduces the amount of credit available to the private sector if there is credit rationing, which seems to be the case in Cameroon. A second effect operates through the marginal efficiency of investment, which rises if public capital (e.g., infrastructure) makes private capital more productive; in this case there is crowding in, which has to be compared with the adverse effect occurring through cost of capital. A rise in public capital could also crowd out private investment through the marginal efficiency of capital route if public investment is in the productive sectors and competes with private investment (Serven and Solimano, 1992).

Cameroon is a member of the Central African Customs and Economic Union, which also forms the Central African Monetary Union (BEAC). Cameroon shares a common currency (the Central African CFA franc) and central bank with five other countries. The CFA franc is convertible into French francs at a fixed guaranteed rate by the French treasury. To ensure that domestic inflation rates are comparable with those of France, BEAC have imposed some restrictions in domestic monetary creation (Fielding, 1993). Belonging to BEAC may therefore affect investment in some ways, particularly through fixed exchanged rate and prices, which may reduce variability in the prices of imported capital goods. Full convertibility of the CFA franc may make foreign exchange less rationed since the domestic currency is not economically different from the currency of Cameroon's major trading partner—France. Thus the financial crowding out or in effect depends on the overall government budget deficit and monetary policy rather than just on capital spending.

Investment model

Our model here is based on Blejer and Khan's (1984a) investment model, which is applied to developing countries. We use our model to examine the effects of public policy on investment, taking into consideration the issues discussed above, and specifying the different components and the principal policy instruments.

Blejer and Khan (1984b) model private capital formation within the flexible accelerator framework. They incorporate the structural and institutional characteristics of developing countries in a model that explicitly emphasizes the role of fiscal and monetary policies. Here we specify a simple investment function as in Blejer and Khan's study, and from their model we derive Equation 3 (see Amin, 1995, for details).

$$PRI_t = a_0 + a_1PUI_t + a_2FIF_t + a_3Y_t + a_4RER_t + a_5BCR_t + a_6DEB + u \quad (3)$$

- PUI* = public investment including spending on public companies
- BCR* = bank credit to private sector
- RER* = real exchange rate
- DEB* = national debt
- FIF* = capital flow

PRI = private investment
Y = output or GDP

We specify different variations of the model in Equation 3 in order to capture the effects of the different variables in the alternative specifications and to gain better insights into the nature of the relationships of the different variables. We then estimate these different specifications.

In effect, private investment is a function of many factors, including bank credit to the private sector, cyclical factors and public sector spending. Generally it is difficult to separate the infrastructural component from the non-infrastructural component of investment so as to obtain their separate effects. However, it is important to obtain such distinctions in investment. Total public expenditure is decomposed into different components in order to ascertain the crowding out and crowding in effects of private investment. For example, public expenditure on infrastructure is complementary to private investment, and we therefore expect a positive coefficient.

Also, we expect the coefficient of public spending on public companies to be negative, reflecting the case of crowding out of private investment by public spending on public companies. In the 1970s and the early 1980s, the government created many public enterprises (public companies) that have since absorbed substantial state resources. Of late there has been much discussion about the unproductiveness of these enterprises. The government is now trying to either liquidate or privatize these public companies, with little rigorous empirical evidence to show that the resources would have been more productive in the private sector or somewhere else in the economy.

According to some empirical studies, the coefficient of public spending on transport and communication is positive, giving the case of crowding in of public expenditure on transport and communication, which is an important component at the smooth functioning of the private sector. The literature so far has focused on public spending on infrastructure, as the case of crowding in of private investment. However, we have a set of specifications from Equation 3 from which we relate private expenditure to the different components of the government expenditures. These equations are further motivated individually although based on Equation 3.

Still maintaining the basic determinant of private investment, we decompose public expenditure into various components to see how these components affect private investment. In these equations or specifications, we examine in detail the relationship between private investment and the different components of the public sector and their relative importance in affecting private investment.

In Cameroon the government has provided most of the trained and qualified personnel in the private sector. In fact, expenditure on education and health results in human capital formation and as such is beneficial to private investment. So is capital expenditure on agriculture, such as research and extension services carried out by the government. Similarly, expenditures on infrastructure and transportation and communication have been shown to crowd in private investment (Ekpo, 1994; Gramlich, 1994). Equally important, Serven (1996) has observed that effective institutions are essential for the stability of the incentive framework that promotes private investment. There is as well

an attempt to find the relative importance of these different public expenditures on private investment (Ekpo 1994; Serven 1996).

All the appropriate level variables are divided by GDP partly to reduce the nonstationarity in the time series data. The national income (GDP) is divided by the population, giving a variable that is positively related to private investment (Greene and Villanueva, 1991).

Sources and nature of data

Usually secondary data in a developing country like Cameroon have problems. But until these problems are solved we do the best with what we have. Our major source of secondary data is the public sector—the government or ministerial departments. Many more data were collected from the Directorate of Budget, Directorate of Central Statistics and National Accounts, and Directorate of Customs, all in the Ministry of Economy and Finance. Besides other ministerial departments, the National Assembly is also a valuable source of data. These government departments also produce some publications that are very important sources of information (data), including *Notes Annuelle des Statistiques, Cameroun en Chiffres, Comptes Nationaux du Cameroun, Lois de France, Cameroon's Plan Quinquennals*.

Another important data source is the publications of international organizations: the Bank of Central African Countries (BEAC) *Etudes et Statistiques du BEAC, Statistiques Financiers et Rapport d'Activité*; the African Development Report for various years; IMF's Balance of Payment Statistics and Government Finance Statistics; and World Bank's *International Finance Statistics*, and various studies on Cameroon.

The data sets collected were for the period 1961–1994; they include variables on Cameroon macroeconomic aggregates, fiscal variables on government revenues and expenditures, and other relevant variables. There are some points to be made. First, in collecting the data, we found different figures for the same data series. The figures are sometimes so different as to make one wonder whether they are on the same variable. Second, there is inconsistency in some of the data sets, as well as missing points in the data sets. In certain cases aggregate data do not reflect the actual figures for some periods. There is divergence of values of variables from different sources. For example, for about a decade, the oil production and exports were not included in the national accounts; oil figures were therefore subject to different estimates depending on the institution or organization or user of the data. In such cases proper judgement about what values to use or what to do is highly required. Third, the yearly budgetary allocations to the different ministerial departments are classified into current and capital expenditures. Usually the current expenditures are fully spent while the other expenditures may not be spent completely. The budgetary estimates may differ from the actual budget spent, but not the actual expenditures incurred. This ties in with the issue of when a budget head is committed but not completely spent or even not spent at all on the head although recorded as spent.

Fourth, there is also the difficulty of separating some components of variables from others. For example, it is not easy to separate investment from non-investment

components, since within each expenditure there are both components. Yet within the overall budget these components are separated. Fifth, for some of Cameroon's publications, such as the *Note Annuelle des Statistiques* or *Cameroun en Chiffres*, the statistics are obtained from the different ministerial statistics departments. But the ministerial structure for data collection is very weak and the severe economic situation is tending to erode even the fragile structure set up in the ministries.

It must be noted that information published by international organizations is mainly based on the information (data) obtained from the Cameroon government sources. The organizations sometimes adjust the data based on their own estimates and their standard definitions. In Cameroon, data production and gathering are mainly the public sector's affair. Hence all the data used in this study are from the main source—the Cameroon government, particularly the Ministry of Economy and Finance. The exception is that the data for calculating the real exchange rate is drawn from the International Financial Statistics.

V. Empirical analysis

Our discussion here is based on the growth and investment equations.

Model 1

In tables 8 and 9, all the coefficients are positive as expected except the constant (the productivity index) and the dummy (reflecting the economic decline). These are both negative, which seems to indicate productivity decline and economic decline. Some of the coefficients are significant at 5% level. The R^2 is quite high.

Investment has a positive effect on the rate of economic growth, both in total and when it is broken into public and private investment. Equations 2, 5 and 7 use the population growth rate, while equations 1 and 4 use the change in the labour force. In equations 2 and 7 we use the population growth rate and in equations 1, 4, 6 and 8, we use the change in the labour force. We use the growth rate of exports and imports with surprising results. The coefficient of the growth rate of the volume of exports is negative and that of imports is positive. The export coefficient is significant in Equation 5, and the import coefficient in Equation 2. ENR is the primary school enrolment rate used as a proxy for human capital but with 7 lags. The coefficient is positive, but not significant at 5% level.

It is surprising to see that the sign for the exports (XVOL) is negative while that of imports is very significant. Even when D is removed from the regression equation and also the different variables are deliberately logged, we still see the negative sign for the export coefficient. A possible explanation could be that exports don't have positive growth effects because many of the benefits from exports are captured but not well used by the government. Another explanation is that the benefits from exports are not captured by the government and so the economy may not benefit. Or since foreign earnings are also used for importation, the real growth effects are captured in imports.

Another point is the negative sign in the public investment variable, but when the dummy is removed the sign changes to positive. The effects of the population growth rate seem to be less significant than those of the active population. After all, it is the active population that produces the goods and services.

Our main concern here is to ascertain the effects of investment (both decomposed and aggregated) on growth. The public investment coefficient has the expressed sign and does not seem to explain growth. However, all the coefficients of private investment are

positive, showing its positive effects on economic growth. This result is quite significant and confirms and strengthens the rationale of the orientation towards the private sector. It also becomes easy for us to discuss the effects of public spending on private investment with the direct implication on economic growth or economic performance.

Table 8: Model 1 - Growth equations (Y)

Dependent variable: Output growth (Y)

Variables/ equations	1	2	3	4	5
Constant	-10.022 (-3.115)	-0.930 (-0.2816)	-0.248 (-.0767)	-13.369 (-1.675)	-2.673 (-0.221)
D	-17.383 (-3.748)	-16.202 (-3.008)	-12.280 (-2.125)	-17.598 (-3.217)	
TINP	76.154 (2.9316)			81.547 (2.167)	
APOP	4.198 (2.209)			5.333 (1.023)	
XVOL	-0.009 (-1.487)	0.001 (0.288)	0.003 (0.0056)	-0.001 (-1.364)	-0.0037 (-3.410)
MVOL	0.0069 (0.244)	0.066 (2.248)	.055 (1.834)	.006 (.160)	0.0052 (0.832)
PUP		37.466 (0.723)	21.577 (0.380)		10.0211 (1.046)
PRIP		61.1376 (1.794)	78.257 (2.675)		12.005 (0.251)
POPG		0.7817 (0.5257)			3.654 (1.676)
PRI					
PU					
ENR(-7)				-0.019 (-0.055)	0.159 (0.423)
R ²	.888	.881	.838	.884	.733
R ² (Adj)	.867	.853	.809	.855	.649
DW	2.395	1.857	1.52	2.45	1.979

Acronyms for variables:

- APOP = active population
- C = constant
- D = dummy variables (1 = 1986 to 1994 and 0 = 1961 to 1985)
- ENR = enrolment primary school (ENR 7 lags)
- MVOL = volume of imports
- POPG = population growth rate
- PRIP = private investment expenditures/GDP
- PUP = public investment expenditures/GDP
- TINP = total investment expenditures/GDP
- XVOL = volume of exports
- Y = growth rate of GDP

Table 9: Growth equations (LNY)

Dependent variables: Output growth (LNY)			
Variables/Equations	6	7	8
C	3.952 (1.0915)	-5.0513 (-1.337)	3.952 (1.0915)
D	-0.941 (-2.094)	-1.060 (-1.785)	-0.9407 (-2.0941)
LNTINP	1.2814 (1.8417)		1.281 (1.8417)
LNAPOP	0.8990 0.934		0.899 (0.934)
LNXXVOL	-0.1893 (-1.0116)	-0.1146 (-0.382)	-0.1893 (-1.0112)
LNMVOL	.1809 (0.4088)	1.229 (2.533)	0.1809 (0.408)
LNPUP		0.0348 (0.0807)	
LNPRIP		0.280	
LNPOPG		0.6308 0.357 0.6027	
R ²	.816	.717	.8162
R ² (Adj)	.767	.623	.7679
D.W	2.329	1.581	2.329

LNTINP, LNAPOP, LNXXVOL, LNMVOL, LNPUP, LNPRIP and LNPOPG are the natural log forms of these variables

Model 2

Table 10 shows the results of the different versions of model 2. The investment equations were estimated using ordinary least squares with the t-statistics in parentheses. The variables are motivated individually. Most of the coefficients in the different equations have the predicted signs and are significant at 5% level. Low values of DW statistics seem to indicate the presence of efficiency in our estimates, so the standard error of the regression may be biased downwards. We may therefore conclude that the parameter estimates are more accurate when in fact they may not be. However, we are relying much more on the signs of the coefficients than on the accuracy of the coefficients. The signs of the coefficients are unchanged even if the serial correlation is corrected for. That is, our conclusions are least affected with the presence of serial correlation. The R² are not high as in the first model; still, more than 50% of the change in private investment is explained by the included independent variables.

Equation 1 shows that public investment has negative effects on private investment

Table 10: Model 2 - Investment equations

Variable/ Equations	Dependent variable (PRIP)										
	1	2	3	4	5	6	7	8	9	10	11
Constant	0.990 (3.591)	0.202 (3.485)	0.101 (1.416)	0.151 (2.616)	.149 (2.352)	0.124 (1.495)	0.092 (5.222)	0.052 (1.696)	.0613 (1.510)	.078 (4.62)	
PUP	-1.477 (-3.362)	-1.395 (-2.818)									
GDPOP	.0513 (3.492)	.0485 (2.916)	.0379 (2.55)	.066 (2.348)	.0362 (2.243)	.0355 (2.158)	.0248 (2.535)	.0225 (2.084)	.022 (2.171)	0.0002 (2.7)	.004 (1.874)
BCP	0.074 (0.409)	0.071 (0.381)	0.147 (0.693)	0.2191 (1.0537)	.0253 (0.1197)	0.052 (0.235)		0.1577 (0.9034)			.294 (1.50)
TDEBP	-3.159 (-2.623)		-4.8028 (-3.926)	-3.1152 (-1.826)	-4.462 (-3.419)	-4.606 (-3.388)	-4.24 (-4.321)	-3.331 (-4.357)	-4.25 (-3.354)	-4.63 (-4.64)	-2.894 (-2.50)
DDEBP		-4.545 (-1.1966)									
DEDEBP		-2.7329 (-1.656)									
RER	-0.002 (-1.1327)	-0.002 (-1.076)	-0.0019 (-1.275)	-0.0019 (-1.248)	-0.0015 (-0.92)	-0.0013 (-0.782)					
INEP			.3318 (0.313)	1.255 (1.467)							1.189 (0.95)
TNINEP			-0.585 (-0.219)								
PARAP					-1.716 (-1.421)	-1.521 (-1.177)					
NPARAP						0.1965 (0.4196)					
RODSP							9.225 (3.757)	7.039 (2.609)	8.252 (2.896)		
EDUIP							.7707 (0.458)	0.385 (0.2119)	0.396 (0.212)	1.435 (.847)	2.011 (1.005)
HEAIP										8.189 (3.29)	1.770 (0.79)
COMP									-0.596 (-0.093)		
AGRIP											
PUWKP								-1.113 (-1.351)		-1.438 (-2.18)	
NNINE					-0.001 (-1.063)						
DEFIP											-7.585 (-2.572)
R2	.564	0.566	.546	.540	.424	.424	.618	.647	.62	.64	.706
R2 (Adj)	.483	0.466	.441	.434	.318	.297	.550	.569	.54	.57	.596
D.W	1.042	1.09	.939	.969	.923	.909	1.145	1.135	1.11	1.28	1.66

Acronyms for variables

AGRIP = agricultural expenditures /GDP
 BCP = bank credit to the private sector/GDP
 C = constant
 COMP = communication expenditures/GDP
 DDEBP = external debt/GDP
 DEDEBP = internal debt/GDP
 DEFIP = defense expenditures/GDP
 EDUIP = expenditures on education/GDP
 EQUIP = expenditures on equipment/GDP
 GDPOP = GDP/population
 HEAIP = health expenditures/GDP
 INEP = infrastructures expenditures/GDP

NNINEP = non-infrastructure expenditures/GDP
 NPARAP = expenditure on non public companies
 NNINE = non-infrastructure expenditures
 PARAP = expenditure on public companies
 POPG = population growth rate
 PRIP = private investment expenditures/GDP
 PUP = public investment/GDP
 PUWKP = public works and transport/GDP
 RODSP = expenditures on roads/GDP
 RER = real exchange rate
 TDEBP = total debts (domestic and external)/GDP
 TNINE = total infrastructure expenditure/GDP

—that is, gross public investment crowds out private investment. The debt variable also has a negative effect on private investment. Throughout in all the equations, the per capita GDP has positive coefficients that are highly significant. The real exchange rate coefficient has a negative sign. The coefficient is very small and not significant. These show negative effects on private investment and consequently on growth. The infrastructure (INE) here was broken down into roads, communication, transportation and equipment expenditures. They jointly and singly show the crowding in effect on private investment. The coefficient of the combined infrastructure variable is not significant at the 5% level. Communication and transportation (PUWK) have the opposite signs and are not significant. It is important and interesting to note that roads strongly crowd in private investment.

The other factors, such as health and education, all have positive effects on private investment. But expenditure on defense seems to have negative effects on private investment. These results confirm the conclusions of many cross-section studies, although Devarajan et al. (1993) obtain different results from such government expenditures, which are supposed to provide an enabling environment for economic growth and strengthen economic growth. Their results, based on cross-country study of some developing countries, give negative growth effects. Our results seem to emphasize road infrastructure more than other infrastructures, which is quite significant given the importance of the development of road networks in African countries. It is equally significant to note the importance of spending on the social sector—education and health. (See Appendix 3 for some components of total expenditure.)

VI. Summary and concluding remarks

The proportion of government spending in Cameroon's GDP increased from 11.2% in 1961 to 18% in 1981 and peaked at 21.7% in 1987. GDP then declined sharply and the percentage fell to 14.7% in 1993 and 15.9% in 1994. Initially the government found it difficult to cut its expenditures, but has been forced to do so –partly by the gravity of the economic collapse. In the beginning cuts were made in capital expenditure, which is typical of developing countries. Conventional wisdom prefers the reduction of recurrent expenditure in order to protect the level of capital or investment expenditures, but recent developing country experience shows that during periods of fiscal austerity, the capital spending is the first to be sliced. There has also been much emphasis on growth and development in Cameroon. Yet in setting the targets for government expenditures, the growth objective has not been seriously considered. Expenditure switching and/or cuts may conflict with the growth objective, especially when targets are set without properly examining the composition of the total expenditure.

Studies that relate government spending to growth have not clearly brought out the nature and type of government expenditures. Furthermore, the studies have been on highly aggregated data—mainly cross-country or cross-sectional studies. In this study, the first of its kind on Cameroon, we attempted to differentiate the data in a single country's public expenditures. This study identifies those components of public expenditure that could be protected and sustained. In fact, our results show that public expenditures on infrastructure have enormous returns. Our results in models 1 and 2 indicate that these expenditures, including those on education and health, crowd in private investment. Hence there is some evidence of causality running from infrastructure to private investment to growth.

Although this study may not be conclusive, it does suggest that the government of Cameroon should continue spending more on these sectors and perhaps also reallocate resources from those components that crowd out to those that crowd in private investment. In public spending, it is important to note that the effectiveness of the private sector depends on the stability and predictability of the public incentive framework, which promotes or crowds in private investment. Productive government spending or the quality of government spending is significant in enhancing the efficiency and productivity of the private sector, as the level and quality of public expenditures seems to determine the rate of growth.

The study underscores the importance of disaggregating the government expenditure. The statistical results show that there are certain expenditures that could be more desirable

than others, and the importance of the level and composition of government spending within the policy framework. This means that more detailed data collection and analysis are needed. Given the scarcity of comprehensive data on public expenditure (especially on infrastructure), our data set and analysis are a step in this direction. By decomposing government expenditures we are able to explain as well as understand better the role of the state in the growth process; this knowledge is quite important for policy making. More so, the composition of public expenditures could be carefully restructured and scrutinized so as to enhance growth and promote an enabling environment for private sector development.

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Appendix A: Government budget categories

The government budget is made up of the (A) revenue and (B) expenditure sides.

A) Public revenue

- a) Fiscal revenue
 - Direct and related taxes
 - Registration fees and stamp duty
 - Customs duties
- b) Non-fiscal revenue
 - Revenue from state property
 - Oil royalties
 - Revenue from other services
- c) Other revenue
 - Miscellaneous revenue
 - Miscellaneous contributions
 - Repayment of loans
 - Remittances and deposits
 - Interest on guarantees
 - Proceeds from securities

B) Public expenditures

- a) Recurrent budget
 - All the different ministerial departments including the presidency
 - Transfer credits, which includes internal debt
 - State contributions
 - Common expenditures
- b) Public investment budget
 - Public investment debt
 - Development operations
 - Contributions

Appendix B: Some components of total expenditure for Cameroon, 1961–1994 (in billion CFA francs)

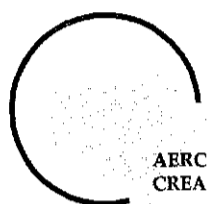
Years	Agriculture	Communication	Defense	Education	Equipment
1961	0.04600	0.53900	1.9400	0.00800	0.31900
1962	0.05000	0.59400	3.5400	0.00900	0.53200
1963	0.06000	0.81000	3.5700	0.01100	0.72600
1964	0.07000	0.86900	3.4900	0.01600	0.71000
1965	0.07500	0.93400	3.6000	0.00900	1.2400
1966	0.07600	0.97600	3.8200	0.01600	2.4600
1967	0.08000	0.97400	4.3900	0.10700	2.3200
1968	0.09500	1.0500	4.7000	0.10100	2.2200
1969	0.11300	1.1000	4.9900	0.20900	1.5400
1970	0.08000	1.1400	5.3800	0.08000	2.2800
1971	0.16300	1.2400	5.8500	0.63900	3.2800
1972	0.12300	1.3900	5.9100	1.0100	3.2800
1973	0.17400	1.6700	6.5200	1.1500	3.8700
1974	0.33800	1.8400	7.5800	1.2200	8.08400
1975	0.76000	1.9700	8.2700	1.3400	7.8200
1976	2.8700	2.1600	10.960	4.4600	4.7900
1977	1.3000	2.3200	10.530	1.9200	8.9600
1978	3.6700	2.9800	14.000	6.3200	11.090
1979	2.4900	3.1600	15.680	2.5100	16.410
1980	7.5300	3.8700	18.830	6.8100	14.550
1981	2.0300	4.0000	23.100	5.7600	29.470
1982	11.320	5.0200	23.100	11.040	22.260
1983	10.100	6.2600	27.920	9.1600	26.050
1984	15.630	7.6100	33.970	16.060	37.180
1985	48.830	9.0700	42.140	32.820	52.190
1986	80.890	9.8900	48.390	38.590	54.870
1987	33.000	10.630	51.980	20.580	63.220
1988	131.66	7.7800	46.440	67.160	240.00
1989	133.01	6.4100	45.790	70.290	150.00
1990	200.29	6.6100	48.190	51.040	28.230
1991	5.5400	6.8400	50.150	7.0500	22.920
1992	3.2100	9.8900	50.390	6.7700	34.250
1993	2.7000	22.500	46.900	6.8500	39.380
1994	2.7000	30.000	50.340	6.8000	20.840

Appendix B continued

Years	Health	Total infrastructure	Public works and transport	Road
1961	0.02500	0.87400	0.01100	0.00500
1962	0.02200	1.1450	0.01000	0.00900
1963	0.07500	1.7230	0.09200	0.09500
1964	0.03400	1.7920	0.03000	0.18300
1965	0.05300	2.3930	0.01800	0.20100
1966	0.07000	3.7790	0.04700	0.29600
1967	0.06700	3.6030	0.04400	0.26500
1968	0.06000	3.4920	0.06800	0.15400
1969	0.01700	3.1200	0.02500	0.45500
1970	0.04000	3.5870	0.02600	0.14100
1971	0.07500	5.4430	0.02600	0.89700
1972	0.14300	5.7270	0.09800	0.95900
1973	0.35300	7.9120	0.65000	1.7220
1974	0.33300	12.181	0.09100	1.4100
1975	0.18000	11.460	0.35000	1.3200
1976	0.30300	11.800	3.1400	1.7100
1977	0.45000	22.400	3.0300	8.0900
1978	0.67300	25.420	3.1400	8.2100
1979	0.65500	28.100	0.80000	7.7300
1980	1.3900	26.370	4.4800	3.4700
1981	2.2100	43.140	3.4900	6.1800
1982	3.5200	50.160	12.680	10.200
1983	5.1200	54.020	7.4500	14.260
1984	5.4300	73.390	9.0700	19.530
1985	14.580	105.47	20.500	23.710
1986	21.080	137.05	28.440	43.850
1987	8.0100	128.81	12.000	42.960
1988	23.800	300.44	40.660	12.000
1989	26.570	327.43	166.82	4.2000
1990	27.080	207.62	165.42	7.3600
1991	3.4100	47.540	9.6300	8.1500
1992	3.2200	54.050	5.0100	4.9000
1993	3.1500	71.300	4.8100	4.6100
1994	3.1500	55.800	0.84000	4.1200

Sources: Ministry of Economy and Finance, Yaounde (Central Statistics Office); National Assembly.

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