

Structural Reform Measures and Primary School Enrolment in Cameroon

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Abstract

Although Cameroon recorded an increase in primary school enrolment rates in the 1970s and 1980s, there was a decrease in the 1990s in spite of a 3% yearly average increase in the population of school age. The fact that this drop in the rate of schooling coincided with an economic recession and the implementation of the Structural Adjustment Programme (SAP) seems to suggest that the austerity measures were at the root cause of the falling enrolment rates.

Using time series data from Cameroon, the paper shows that adjustment policy instruments, which often target macroeconomic indicators did adversely influence primary school enrolment. It is therefore recommended that SAPs should be reformulated so as to jointly promote growth and school enrolment.

Key Words: primary education, structural adjustment measures, human resource development, economic growth

1. Introduction and Problem Statement

Supported by the publications and funding programmes of OECD and UNESCO, education has come to be viewed as an important and indeed a crucial agent for the rapid economic growth of nations, (OECD, 1968; UNESCO, 1967). The theoretical framework that relates investment in education to economic growth has come to be known as "human capital theory". Based upon the works of economists such as Schultz (1961), Denison (1962) and Becker (1964), human capital theory holds that formal education is highly instrumental and necessary to improve the production capacity of a population.

Sociologists also hold the view that there is a direct relationship between education and socio-economic development. The underlying assumption of the sociologists, which has come to be called "modernisation theory," is that for a society to develop socially and economically an appropriate proportion of the population must hold modern attitudes, values and beliefs, (McClelland, 1961; Inkeles, 1979). Thus education is perhaps the most important agent for transforming a traditional society into a modern one. In other words, schooling has a modernising effect on the ways people think and consequently the ways they behave.

It should not be surprising that both human capital theory and modernisation theory played major roles in justifying massive expenditures on education virtually throughout the world in the 1960s and 1970s. The expansion of educational enrolment even in the developing countries was by any standards impressive. According to UNESCO (1996) primary enrolment in LDCs increased by 120% between 1960 and 1987. Cameroon witnessed an expansion of schooling in the late 1970s through the 1980s, as government expenditure on education grew rapidly to train manpower. However, as early as the first half of 1990 school enrolment began a steady decline, in spite of an average annual 3% growth rate of the population of school age, (DSCN, 1997).

Simultaneously with this deschoolarisation, and deteriorating educational standards, the Cameroon economy fell into a deep macroeconomic disequilibrium which plunged the economy into a crisis situation compelling the government to adopt an economic recovery programme with the support of the IMF and the World Bank in September 1988.

In order to examine all the ramifications of deschoolarisation and falling standards in the Cameroon educational sector, several questions come to mind:

- why, after an enormous educational expansion in the 1970s and mid 1980 did education become the target for cuts in social spending ?
- what is the relationship between structural reform measures and primary school enrolment ?
- faced with deschoolarisation, falling standards and a deteriorating human-resource base, what has the government and the community done to alleviate the situation?

The literature on school enrolment and adjustment is plagued with controversies. One of the major sources of this controversy is the question of the appropriate indicators for evaluating SAPs. According to the World Bank (1994) the most telling indicator of success is an improvement in the real GDP per capita growth rate. Based on this, the World Bank and the IMF have often focused on growth performances in assessing the adjustment efforts of countries, on the assumption that growth will benefit everyone. ECA (1989), UNDP (1995) and Cornia (1987) disagree with the Bretton Woods Institutions conclusion. They argue that economic growth is vital, but emphasize that growth on its own is not sufficient – it has to be translated into an improvement in people's welfare. We should be asking some Key questions during an adjustment programme. What has been happening to poverty, life expectancy, school enrolment and the quality of schooling. These human development indicators have not been given adequate attention in developing countries and specifically in the Cameroon context. Rather than focusing attention solely on macroeconomic indicators, we argue here that non economic indicators should be incorporated into the adjustment framework to capture the welfare effects of adjustment. To do this, we formulate a model that establishes a cause-and-effect relationship between a human development indicator, the primary school enrolment rate and adjustment policy variables.

This study focuses on primary education rather than higher – level education for two simple reasons. First, primary education is one of the essential social services geared towards the poor, and most importantly primary education is the foundation of schooling. Primary education has other socio-economic effects; it reduces fertility, improves health and nutrition and promotes significant behavioural changes at the level of both the individual and the society (World Bank 1980). Second, writers such as Jallade (1977); Psacharopoulos (1972); Tafah (1994) and World Bank (1980) have established that primary education increases productivity in all sectors of the economy and most importantly that the economic returns to investment in primary education are in many countries considerably greater than those from higher levels of schooling. To judge the impact of SAP on the poor it is therefore, necessary to study how adjustment policy measures have affected primary school enrolment.

The objective of this study, therefore, is to examine the relationship between structural adjustment measures and the educational sector, specifically the primary school sector in Cameroon; and to provide answers to the research questions raised earlier in the introduction.

The rest of the paper is organised as follows: sector 2 gives an overview of the Cameroon economy and the primary education system in Cameroon. Section 3 presents the model, section 4 discusses the results while section 5 concludes the paper.

2. An Overview of The Cameroon Economy And The Primary Education Sector

2.1 PRIMARY EDUCATION IN CAMEROON

Primary education in Cameroon operates on two different systems; the Francophone and Anglophone systems. The educational system is divided not only by language but also by heritage in terms of educational philosophy, school structures, examination systems, curricula, and the role of private education. A reform programme is currently underway to harmonize the two systems into one model responsive to the needs of Cameroon's society. Notably amongst the reforms is the harmonization of Anglophone and Francophone systems:- with 6- year primary cycle (in conformity with the existing Francophone system) and a 7-year secondary cycle (in conformity with the Anglophone).

Government statements since the early years of independence have highlighted the importance of education for achieving economic growth and effective governance. The government has therefore invested a large amount of resources in this sector. In 1990, government expenditure on education as a percentage of GDP was 6% in Cameroon, 4,9% in Sub-Saharan Africa, and 5% worldwide (UNESCO, 1992). That same year the education sector constituted 19,8% of government expenditure in Cameroon (World Bank, 1993). These public sector investments, supplemented by the willingness of families and the community to make large private investments in education led to a rapid expansion of educational opportunities. Over a ten year period (1973-1983) annual growth of

the primary educational systems was 4,5%, compared with population growth of 3,6%. The ratio of gross enrolment at primary level per hundred primary school-aged children has been and remains one of the highest in the region, rising from 94 in 1965 to 108 in 1988 (Poulin et al., 1989). The early expansion of education was justified in part by the desire of the government to train man power in the newly independent country. The need to replace expatriate civil servants with nationals was important in driving both government policy towards investment in education and demand by the public for increased educational opportunities. The private returns to education in those years were quite high. For example, by 1965 a Cameroon with some secondary education could advance rapidly through the ranks of the civil service. Seeing this, widespread demand for education arose in the country. The situation in the primary sector is depicted in table 1 (see appendix).

Table 1 shows that enrolments in primary school increased from 745,086 in 1970 to 1,389,192 in 1980, an average annual increase of 8,6%. Between 1980 and 1989, primary school enrolment increased at an average rate of 4,4% per year, and actually declined thereafter up to 1997 at an annual average of 1,15%. The years of declining enrolments just coincided with the adjustment period.

Increased enrolments were accompanied by commensurate increases in the number of teachers employed by the primary school system. Table 1 shows that the number of primary school teachers increased from 11073 in 1970 to 24,843 in 1980 (an annual average growth rate of 12,4%) and to 30,357 in 1991. The number of teachers declined or stagnated during the period 1992-1995 when due to the austerity measures of adjustment, recruitment of teachers was suspended and teachers who went on retirement were not replaced. The number of teachers can be validly assessed through the pupil/teacher ratio which shows the teacher strength. It has been on average 51 in the entire country (DSCN, 1997) but there are disparities among the provinces. In 1979/80, the situation deteriorated in the North West, West, Central, and Littoral provinces where the ratio stood at 62 (DSCN, 1997). Indeed, when smaller units than provinces are considered, especially major towns like Douala, Yaounde and Bafoussam, it is common to find classrooms with more than 110 pupils. This is due to the lack of classrooms which has led to the institution of the two shift system.

As regards the number of classrooms, it increased from 18,164 in 1970 to 25,017 in 1980 or an increase of 3,7% per year, but it stagnated during the adjustment period of 1991 through 1996, (table 1). it should be noted that most of the classrooms are built with temporary and semi-permanent materials. With regard to equipment, it is noticed that most of the schools, even those in urban areas do not have toilets. School furniture, particularly desks, benches, and cupboards is grossly inadequate. Existing equipment is generally in a bad state. The number of schools more than doubled during the period 1970-1980 rising from 2 147 to 4621 (table 1). The coverage of the country in primary schools is quite satisfactory. A Ministerial Decision creates primary schools almost on yearly basis.

While the government has long been committed to the expansion of school facilities, serious constraints to the improvement of educational quality remain. Pupil/teacher ratios remain high at 51, and drop-out rates are also high (DSCN, 1997). Public investment in construction has only partially remedied the poor quality of buildings, equipment and sanitation in the school system.

In order to get a good grasp of the trends in primary school enrolment and other dimensions of the primary education system in Cameroon it is useful to look at the economic milieu in which the system operated.

2.2. AN OVERVIEW OF THE CAMEROON ECONOMY

Cameroon has been referred to as “Africa in miniature” because of its rich resource endowment and diversified production base. This impressive development potential enabled Cameroon to attain real growth rate averaging 7% per year from independence in 1960 to 1985 (Poulin et al., 1989). Agriculture was the main source of growth and foreign exchange earnings until 1978 when oil production started and boosted economic growth. Thus by 1985 Cameroon had an apparently strong and well balanced economy characterised by rapidly growing per capita incomes, a high rate of investment/GDP, a balanced budget and a low external debt.

However, the period of rapid growth came to a sudden halt in 1986. Three major shocks exposed Cameroon’s weaknesses in economic structures and policies. First, the external terms of trade declined by 60% through 1993 as the prices of coffee, cocoa and oil fell sharply. Second, the real exchange rate appreciated by about 54% over 1986-1993, greatly reducing the economy’s competitiveness (Poulin et al., 1989). Third, the government itself has correctly identified the poor performance in the public and parastatal companies as one of the causes of the economic crisis. Public corporations in Cameroon have been very inefficient and always operated at deficits subsidized by the state. For example, total operating losses of the parastatal sector in 1984 reached at alarming level of 150 billion frs. These were subsidized by the state, representing about 50% of government revenue from petroleum (World Bank, 1987. DSCN, 1997).

Due to the above factors, the Cameroon economy which was widely regarded as committed to long-term balanced growth fell into a recession. Real GDP fell by 2.8% in 1986 and by 8.6% in 1990. Over the period 1985-1993 GDP per capita declined by nearly 6.4% per year and private consumption per capita declined by 6.1% over the same period. Between 1984 and 1993, industrial production dropped by 14% in volume and employment by 10% (DSCN, 1997). The overall budget deficit rose from 3.4% of GDP in 1986 to about 12% in 1988. This led to large domestic arrears to government suppliers, heavy drawing from the Central Bank (BEAC) and an increase in the external debt to the tune of 690 billion frs (Poulin, 1989). To say the least , all macroeconomic and social indicators of the Cameroon economy over the period 1986-1993 were in the red.

In 1988, the government launched an economic recovery programme supported by the IMF and World Bank designed to correct major problems across sectors. It included measures such as a freeze on salaries and allowances of civil servants, cuts in subsidies, retrenchment of workers from the public sector and suspension of recruitment into the civil service. The adjustment package was also designed to restructure the banking, and progressively liberalise the export crop sector.

The question at this juncture is whether the falling enrolments at the primary school level observed in table 1 had a relationship with the austerity and restructuring measures of the adjustment programme.

3. The Model

We attempt to answer the above question by establishing a relationship between primary school enrolment and structural adjustment policy instruments. To do this, we formulate the following model.

$$PSE R_t = \alpha_0 + \alpha_1 GDP R_t + \alpha_2 GDP N_t + \alpha_3 REER_t + \alpha_4 BD_t + \alpha_5 EDUC_t + \alpha_6 AGRIC_t + \alpha_7 URBAN_t + DSAP_t + \varepsilon_t \dots\dots\dots (1)$$

The variables in the equation are defined as follows:

- PSE R Primary school enrolment rate
- GDP R Real GDP growth rate
- GDP N Real GDP per capita
- REER Real effective exchange rate
- BD Budget deficit as a % of GDP
- EDUC Per capita real expenditure on education
- AGRIC Agricultural output as a % of GDP
- URBAN Urban population as a % of total population
- DSAP Dummy of 1 from 1970 to 1987, 0 otherwise¹
- ε Stochastic term

The exogenous variables in the model are adjustment policy measures that countries manipulate in a typical adjustment programme. The specification of the model is based on the following reasoning .

First, the inclusion of GDP R and GDP N in the model is justified on the grounds that these macroeconomic variables are usually the targets of SAPs (Cadman and Raj, 1992). These variables measure economic performance and usually constitute the targets of adjustment policy instruments supported by the IMF and the World Bank in developing countries. Countries under SAP have often sought to accelerate these macroeconomic variables by implementing the austerity measures of adjustment. We expect GDP R and GDP N to be positively correlated with school enrolment rates. The relationship is expected to be positive because a faster rate of economic growth and an increase in GDP per capita will raise living standards and enrolment rates will rise.

¹ The period of study 1970-2000 is disaggregated into a pre- SAP period (1970-1986) and a SAP period (1987-2000).

Second, in a typical adjustment context countries are often required to reduce budget deficits and public expenditures particularly in the areas of social programmes such as health and education. The adjusting countries also strive to achieve a surplus in the current account by manipulating the real effective exchange rate. The implementation of this exchange rate policy illustrates government's effort to ensure competitiveness in international trade. It is on these grounds that expenditure on education as measured by the per capita real expenditure on education (EDUC), budget deficits (BD), and the real effective exchange rate (REER) have been included in the equation as adjustment policy variables. An increase in EDUC would imply the construction of more schools, classrooms, benches, and the provision of textbooks and other didactic materials, thus a positive relation is expected between EDUC and PSER. An increase in budget deficits raises long-term interest rates (Little, 1982). Consequently an increase in budget deficits will reduce real incomes by raising the real interest rates; a fall in real incomes lowers living standards. The relation between PSER and BD is therefore expected to be negative. A negative relation is to be expected between REER and PSER because a fall in the real exchange rate renders domestic goods more competitive and improves the current account situation. This has a positive effect on enrolment.

Third, it is well established in the literature that one of the principal causes of the economic crisis was due to external factors such as deteriorating terms of trade, rising international interest rates, and falling world demand for primary commodities. It is therefore but logical to include some external environment variables in the model to capture such external influences. These external variables define an environment within which developing countries must operate and thus their economic policies will be judged relative to the prevailing conditions of that environment. To reflect these external influences we introduce a period-specific dummy variable (DSAP) of 1 for the pre-SAP period and 0 for the SAP period. The dummy variable will register the common external influences on economic performance and school enrolment. We equally introduce the country's level of economic development (as proxy by the share of agricultural output in total output) as an explanatory external variable. The share of total output produced in the agricultural sector (AGRIC) is a proxy variable inversely related to a country's level of economic development. A high share of agricultural output in the GDP is a major characteristic of developing countries. For example agriculture contributes about 32% of the GNP of developing countries as compared to only 8% in the case of developed countries (Todaro, 1997). It is for this reason that adjusting countries have often aimed to diversify the economy by reducing the share of agriculture in the GDP. Thus the inclusion of AGRIC as an explanatory variable is justifiable.

Fourth, demographic variables such as the urbanisation rate, fertility rate, and the annual population growth rate will also affect school enrolment. The demographic influence on school enrolment in this paper is captured by the urbanisation ratio (the proportion of urban population in the total population-URBAN). The choice and subsequent inclusion of URBAN in the model as a policy explanatory variable is justified on the grounds that most developing countries under adjustment have been

preventing rapid urbanisation (a characteristic of underdevelopment) through the establishment of rural-based agro-industries.

Given that an increase in the share of agriculture in the GDP, and an increase in URBAN are symptoms of underdevelopment and poverty, one therefore expects AGRIC and URBAN to be negatively correlated with PSER.

An implicit assumption in the model is that the cause-and-effect relationship between the PSER and the explanatory variables is unidirectional; the explanatory (exogenous) variables are the *cause* and the dependent variable is the *effect*. We however, recognize that such a one-way or unidirectional cause-and-effect relationship is not meaningful in this model; because some of the explanatory variables (specifically GDPR and GDPN) are usually outcomes or targets of adjustment policy instruments. This suggests that there is a two-way or simultaneous relationship between PSER and some of the explanatory variables; which makes the distinction between dependent and explanatory variables of dubious nature. To by pass this problem we construct instrumental variables for the endogenous explanatory variables by regressing each of them on the exogenous variables as follows:

$$REER (p)_t = \beta_0 + \beta_1 GDPR_t + \beta_2 GDPN_t + DSAP_t + \mu_t \dots \dots \dots (2)$$

:
:
:
:

$$URBAN(p)_t = \gamma_0 + \gamma_1 GDPR_t + \gamma_2 GDPN_t + DSAP_t + v_t \dots \dots \dots (3)$$

We thus obtain the predicted values of all the endogenous variables REER (p), EDUC(p) ---URBAN (p) ; where (p) indicates that these values are predicted or predetermined values. Next, we regress the PSER on the exogenous variables and the predicted values of the endogenous explanatory variables as shown in equation (4).

$$PSER_t = \lambda_0 + \lambda_1 GDPR_t + \lambda_2 GDPN_t + \lambda_3 REER(p)_t + \lambda_4 BD(p)_t + \lambda_5 EDUC(p)_t + \lambda_6 AGRIC(p)_t + \lambda_7 URBAN(p)_t + DSAP_t + \omega \dots \dots \dots (4)$$

This is the instrumental variable method or the two-stage least squares method (2SLS). A noteworthy feature of this method is that the estimates obtained are unbiased and consistent (Gujarati, 1996; Kmenta, 1982).

Since the main objective of this paper is to establish a cause-and-effect relationship between school enrolment and adjustment policy measures, We are more interested in the signs than in the magnitude of the coefficients in (4).

Consistent with the above discussions, the *a priori expected signs* on the explanatory variables in (4) are as follows:

$$\lambda_1 > 0 ; \lambda_2 > 0 ; \lambda_3 < 0 ; \lambda_4 < 0 ; \lambda_5 > 0 ; \lambda_6 < 0 ; \lambda_7 < 0 .$$

We equally recognize the fact that there is likely some degree of inter-correlation among the explanatory variables in equation (4) which can impair the accuracy and stability of the parameter estimates. In this regard, a simple correlation matrix of the explanatory variables is presented in table 2 at the appendix.

Table 2 shows that there is only modest pair-wise correlation among the explanatory variables and this multicollinearity does not pose a serious problem. This is confirmed by a high adjusted R^2 value, and the occurrence of many significant t values for most of the explanatory variable coefficients in the regression results on table 3.

4. Discussion of Results

To effect this study, educational statistics were collected from the Ministry of National Education, the Department of Statistics and National Accounts. These were supplemented with some primary data from questionnaires. Some questionnaire respondents (parents, teachers, educational officials and pupils) were interviewed in order to expand upon, clarify and enrich the data from the questionnaires.

Secondary data covering the period 1970 – 2000 were collected, and using the instrumental variable method or the 2SLS method, the structural coefficients in equation (4) were estimated. The results of the regression are summarised in table 3.

It should be observed from table 3 that the intercept and the coefficients on GDPN, EDUC, REER, AGRIC, and URBAN are all significant. These coefficients also appeared with the right or expected signs. The positive sign on GDPN suggests that an increase in per capita income raises school enrolment. This confirms the findings of Meerman (1979) and Jallade (1977) which have established a positive correlation between the level of income of parents and the amount of education received by their children. The level of household income seems to be one of the most important determinants of educational demand. The level of family income enables the parents to finance the direct costs of schooling – such as fees, uniforms, textbooks etc. As part of the draconian measures, Presidential Decree n°93/003 of Jan. 1993 reduced the basic salaries of civil servants by 20 %. Another text reduced the housing allowance from 20 % to 8 % of the basic salary. By September 1993, salaries were reduced further, giving an overall reduction rate of about 50 %. School enrolment at all levels declined during this period showing a strong positive correlation between the income cuts and the amount of schooling.

The negative sign on REER implies that a fall in the real effective exchange rate increases school enrolment. This is to be expected because a fall in the REER means that domestic goods have become less expensive and hence more competitive. This ameliorates the current account situation and improves the living standards. This finding is in line with Tybout et al. (1997), and Cogneau and Collange's (1998) evaluation of the effects of devaluation in the CEMAC countries. They showed that the 50 % devaluation of the CFA F ameliorated the current account of Cameroon by 5 %, and that

primary school enrolment increased by 3 % in the country. However, the sign of the coefficient on REER has to be interpreted with care given the controversy among economists about the favourable effects of devaluation (depreciation) in the context of developing countries.

Budget deficit appeared with the wrong sign although it is insignificant. As part of the adjustment package, were austerity measures such as cuts in wages, suspension of recruitment into the public service, and massive retrenchments in the public and parastatal sectors. These measures were intended to reduce the budget deficits incurred by the state. One would have expected a falling enrolment as a consequence of the above measures. The appearance of the wrong sign on BD may be explained by the fact that the Cameroon government has continued to provide educational subsidies which boost school enrolment despite the falling real incomes. Primary school education does not only receive state subsidies, but exempts pupils of tuition fees in government schools by the Presidential Decree of 2000. This is of the nature to increase primary school enrolment irrespective of the hardship of parents.

It is also seen from the regression results that the coefficient on GDPGR appeared with the wrong sign. This may be attributed to the inequitable distribution of the growth in output in many developing countries (Steve et al., 1997). Much of the growth in output hardly trickles down to the masses who continue to live in poverty, and are therefore incapable to bear the private educational costs of their children. This result raises doubts over the World Bank's assertion that there is a strong linkage between growth and poverty reduction (World Bank, 1994). This strong linkage is not to be expected in the context of developing economies where growth in output is not always equitably distributed, suggesting that poverty and school enrolment may actually worsen even when there's an increase in the GDP.

The positive and significant coefficient on EDEX is to be highly expected. This is because the proportion of resources, both public and private, allocated to education is the main determinant of schooling. Thus an increase in education expenditure per pupil would improve school enrolment. This confirms the findings of Shultz (1961) and Anderson (1983) establishing a positive correlation between expenditure on education and school enrolment.

The appearance of the expected sign on AGRIC and URBAN implies that an increase in the share of the agricultural sector in GDP and rapid urbanization do indeed reduce primary school enrolment. Little (1982) and Todaro, (1997) have established that an increasing share of agricultural output in total output is manifestation of poverty and underdevelopment. Urbanization exerts enormous pressures on social services including education. An increase in the urban population implies that existing schools could accommodate only a small proportion of the school population.

The insignificance of the coefficients in this model, specifically on the variables GDPGR, and BD may be attributed to two sets of factors. First, the inclusion of too many explanatory variables in the

model. This then suggests that the significance of these variables might improve if some of them are dropped. But by dropping some of the variables, we may be committing a specification bias. Again, we feel reluctant to do so because as Ramanathan (1992) puts it “the consequences of including too many variables are less serious than those of omitting important ones”. Second, the nature and quality of the data used in the analysis. Indeed much problems were encountered in collecting the data series. Some data were not complete and we thus had to piece data from different sources into a single series or construct missing data from other aggregates. In some cases statistics for the same variable from different sources were not consistent. All in all much of the data were poor and such poor quality data will likely affect the expected signs and significance of some of the variables.

5. Conclusion

What general inferences can be drawn from the foregoing about the relationship between adjustment policy measures and primary school enrolment? To answer this question it is useful to determine whether the model as a whole is consistent. The adjusted R^2 value for the model is 0,966 which suggests that about 97% of the variations in school enrolment are influenced by variations in the explanatory variables specified in the model. The high adjusted R^2 value and the satisfaction of many of the a priori expectations suggest that the model fits the data well. The DW test statistic revealed that there are no worries about serial correlation. The dummy variable coefficient is positive and significant which implies that primary enrolment was adversely affected during the SAP period.

The variables GDPN, REER and EDUC not only appeared with the correct signs, but are all significant. This suggests that real per capita income, trade surplus, and expenditures on education have strong positive effects on primary school enrolment. This finding supports Tafah's (1995), Anderson's (1983) and UNESCO's (1996) assertion that there's a positive correlation between real income and school enrolment. It is important to note that GDPN appeared with the wrong sign. This confirms the earlier arguments that rapid growth in output does not automatically translate into rising school enrolment rates.

It emerges, therefore, from this paper that in spite of the persistent endeavours of the Cameroon government to sustain the development of its human resources, primary school enrolment rates, and the effectiveness of schooling declined during the SAP period as compared to the pre-SAP period. A hostile external environment, secular development trends and the adjustment policy instruments implemented during this period did play a major role in the decline.

A major conclusion, therefore, from this paper is that adjustment policy measures do adversely influence school enrolment and the quality of schooling. This finding ties in with the conclusion arrived at by Tchabouré (1996) in the case Togo. This conclusion poses a challenge to policy makers who are responsible for implementing adjustment measures. It suggests that the focus of SAP should not be only on growth and other macroeconomic variables, but also on welfare-enhancing variables

such as the development of human resources. The traditional adjustment package should be redesigned to promote and sustain growth and school enrolment at the same time.

The correlation and regression analysis in this study provide no testing of causal relationships. Thus it is impossible here to rigorously identify those positive and significant variable influences which caused the decline in enrolment and in what magnitude. These results do establish, however, some salient facts about the relationship between PSEER and economic policies that will be useful in future theoretical research.

REFERENCES

- Anderson, C. A., (1983) *Social Selection in Education and Economic Development*, Washington, D. C., World Bank. pp 71-82
- Becker, G. S., (1964) *Human Capital: A theoretical and Empirical Analysis*, with special Reference to Education, Now York : Oxford University Press, .pp 56-73
- Cadman, A. M. and Raj. N., (1992) *Analytical Approaches to Stabilisation and Adjustment Programs*, An EDI Seminar Paper. N° 44, The World Bank, Washington D. C. pp 27-49
- Cogneau, D., and Collange, G.; (1998) "Effets à Moyens Termes de la Dévaluation des Francs CFA: Cameroun et Cote d'Ivoire" *Revue d'Economie du développement*, No 34 Décembre. pp 213-233
- Cornia, G. A., (1987) *Adjustment with a Human Face*, vol 1, Oxford Clarendon Press.
- DSCN, (1997) *Cameroon in Figures: January*.
- Denison, E. F., (1962) "Education, Economic Growth and Gaps in Information", *Journal of Political Economy*, Vol LXX (October). pp 32-46
- ECA (1989) *Economic Paper on Africa*, Addis Ababa.
- Inkeles, A., (1979) "National Differences in Scholastic Performance", *Comparative Education Review*, n°23 (October).
- Jallade, J. P., (1997) « Basic Education and Income Inequality in Brazil : The Long Term View ». BIRD Staff Papers, n°268.
- Little, I. (1982) *Economic Development: Theory, policy and International Relations*, New York; Basic Books.
- McClelland, D. C., (1961) *The Achieving Society*, New York : The Free Press,
- Meerman, J., (1979) *Public Expenditure in Malaysia : Who Benefits and Why ?* New York : Oxford University Press.
- OECD, (1988) *Social Objectives in Educational Planning*, Paris.
- Official Gazette of the Republic of Cameroon. 1998.
- Poulin et al., (1989) *USAID Cameroon country Development strategy statement. An Analytical study* , Prepared by USAID, Feb. pp 62-84
- Psacharopoulos, G., (1972) "Measuring the Marginal Contribution of Education to Economic

- Growth”, in *Economic Growth and Cultural Change*, vol 4. pp 26-41
- Ramanathan, R., (1992) *Introductory Econometrics*, 2nd ed. New York, The Dreydren Press
- Schultz, T. W., (1960) Investment in Human Capital“, in *American Economic Review*, pp.1 – 17.
- Steve et al., (1997) “A Welfare – Based Evaluability Assessment of Structural Adjustment Programs in Africa”, *Canadian Journal of Development Studies*, vol 18. pp689-710.
- Tafah-Edokat, E. O., (1994) “An Economic Analysis of the Determinants of Primary School Expenditure in Cameroon” ; in *Journal of Third World Studies*, vol. XI, n°1. pp56-69
- Tafah-Edokat, E. O., (1995) “Income Distribution Effects of Schooling and Implications for Educational Resource Allocation in LDCs : A Case Study of Cameroon”, in *West African Economic Journal*, Vol 8, N° 1. pp 23-37
- Tafah-Edokat, E. O., (1996) “Determinants of Public Sector Earnings : Application of The Generalised Earnings Model Using Data from a Developing Country”, in *Manpower Journal*, Vol 32, n°1. pp 54-70
- Todaro, M. P., (1997) *Economic Development* ; New York, Addison – Wesley. pp 78-94
- Tchabouré, A. G., (1996) “ Impact des Programmes d’Ajustement Structurel sur les Effectifs Scolaires : Cas du Togo” , in *Canadian Journal of Development Studies*, vol XVII, 2. pp 452-462.
- Tybout et al.; (1997) “ Firm-level Responses to the CFA Devaluation in Cameroon” *Journal of African Economies*, vol. 6 ; No 1. pp 45-55
- UNDP (1995) Human Development Report, Washington DC.
- UNESCO, (1996) *Report of the State of Education in Africa*, Dakar.
- UNESCO, (1985) “CAMEROUN”, UNESCO, Paris Nov.
- World Bank, (1980) *Primary schooling and Economic Development: A Review of the Evidence*, Washington D.C.
- World Bank, (1986) *Financing Education in Developing Countries*, Washington, D. C., IBRD/World Bank.
- World Bank, (1994) *Adjustment in Africa, Results and the Road Ahead*; Washington DC.

APPENDIX

Table 1 : Number of Pupils, Primary Schools, Classrooms, and Teachers
(1970 and 1980 – 2000)

Year	Pupils	Schools	Classrooms	Teachers
1970	745,086	2147	18,164	11,073
1980	1,382,192	4621	25,017	24,843
1981	1,443,287	4677	25,493	25,174
1982	1,517,092	4779	25,771	25,965
1983	1,562,331	4841	25,997	27,017
1984	1,638,097	4897	26191	27,347
1985	1,705,824	4944	26,348	28,478
1986	1,844,419	4972	26,792	28,731
1987	1,875,872	5241	26,913	29,844
1988	1,881,716	5293	27,042	29,997
1989	1,940,963	5347	27,097	30,341
1990	1,918,633	5389	27,141	30,345
1991	1,893,791	5423	27,136	30,357
1992	1,820,047	5497	27,127	30,357
1993	1,809,234	5514	27,107	30243
1994	1,793,476	5603	27,109	30,243
1995	1,765,659	5745	27,124	30,247
1996	1,741,794	5814	27,271	31,345
1997	1,740,238	6073	27,321	32,101
1998	1,798,719	6144	27,344	35,276
1999	1,874,347	6271	27,482	36,893
2000	2,087,477	7292	27,597	37,482

Source: Annuaire Statistiques du Cameroun (various years).

Table 2 : Simple Correlation Coefficients of the Explanatory Variables

	GDPR	GDPN	REER	BD	EDUC	AGRIC	URBAN
GDPR	1,0000 (0,0000)						
GDPN	0,6564 (0,0003)	1,0000 (0,0000)					
REER	-0,0246 (0,9052)	-0,2806 (0,1650)	1,0000 (0,0000)				
BD	0,3746 (0,0593)	0,0993 (0,6294)	0,1875 (0,3591)	1,0000 (0,0000)			
EDUC	0,6103 (0,0009)	0,5330 (0,051)	-0,3421 (0,0872)	0,6013 (0,0012)	1,0000 (0,0000)		
AGRIC	0,63748 (0,0005)	0,5457 (0,0039)	0,4822 (0,0126)	-0,5342 (0,0049)	0,1726 (0,3991)	1,0000 (0,0000)	
URBAN	0,4412 (0,0240)	0,4109 (0,0370)	0,1875 (0,3591)	0,1206 (0,5573)	0,1658 (0,4183)	0,1501 (0,4643)	1,0000 (0,0000)

The numbers in parenthesis correspond to the probability values of the t statistics.

Table 3 : 2 SLS Regression of PSER on Explanatory Variables

	PSER
Intercept	93.6576 (5.719)****
GDPR	-0.06473 (-0.779)
GDPN	0.02469 (3.072)****
REER	-0.42049 (-1.871)**
BD	0.05748 (0.743)
EDUC	0.91988 (2.713)***
AGRIC	-0.63527 (-2.291)***
URBAN	-0.10481 (-1.984)**
DSAP	0.12238 (1.763)**
R ²	0.9785
R ² adj	0.9664
DW	1.734

Note :

**** significant at the 1% level

*** significant at the 5% level

** significant at the 10% level

The numbers in parenthesis are the values of t statistic.