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Full Length Research Paper

Higher education and economic development in Africa: The case of Cameroon

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This study investigates the actual and potential impact of higher education on the development of Cameroon. Using household survey data from the first Cameroon household survey, we analyze the effect of education attainment on earnings and private returns to education. The econometric work uses Ordinary Least Squares (OLS) to estimate earning equations for full time workers across educational levels. The results confirm a relatively high premium on higher education. In effect, an additional year of schooling is expected to increase earnings implying that individual investment in education is profitable. However, the private returns to post secondary education are greater for men than for women. Next, we use the short-cut method to estimate social returns to investments in higher education. The results equally show that social returns to higher education are quite substantial but are also higher for women than for men. Finally, we determine the link between higher education measured with enrollment and gross domestic product as a proxy for national income. The findings reveal positive and significant relationship between higher education and economic growth. The study concludes that higher education plays an important role in the development process of Cameroon and that this role can be enhanced provided measures are taken to improve the efficiency of the higher education system, improve equity in attainment and ensure greater professionalism of academic programs. The study also underscores the need to reduce inequity in the distribution of benefits from higher education in Cameroon.

Key words: Higher education, economic development, estimates, university, enrollment, employment, Cameroon.

INTRODUCTION

At independence, higher education in Cameroon like in many other African countries was viewed as a vehicle for training high level manpower for the new nation to consolidate its autonomy and as a driving force for the nation's economic development (Comité Ttechnique de Réflexion pour l"Amelioration du System Nationale de L"Enseignement Supérieure, Rapport, Avril, 2004). To achieve these goals, the government of Cameroon devoted a large share of its budget to the expansion of education including higher education. The expansion in higher education was motivated by the conviction that it was a benchmark for the training of manpower at lower levels of education and was an important source of economic growth.

The interest in the growth effect of education dates back to the time of Adam Smith when he made his inquiry into the wealth of nations. However, it was not until the 1960s that economists attempted to study the link between education and economic growth (Saxton 2000). The pioneering works of Becker (1964), Schultz (1961), and Denison (1985) provided a new link between education and economic growth. Early estimates of economic growth with the application of the growth accounting often resulted in a large residual indicating a change in output that was not accounted for by the explanatory variables. This shortcoming in the estimation of economic growth was resolved with the introduction of human capital into growth accounting (Jorgenson and Griliches, 1967) and the development of endogenous growth models (Lucas, 1988; Romer. 1986).

Higher education contributes to economic development through the creation and dissemination of knowledge. Higher education also enables those who have acquired

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it to become more productive thus contributing to the overall economic growth. Investments in higher education provides benefits to the individual and such benefits include higher wages, which may lead to better health and improved quality of life. Although no empirical evidence on the link between higher education in Cameroon and economic development has yet been established, there is little doubt that higher education indeed plays a key role in the development process of the country. Higher earnings for highly educated individuals for example help to raise tax revenue for the state and the society at large.

The interest manifested by the government of Cameroon to expand higher education relented during the crisis and adjustment decade of the mid-1980s through 1993, a period characterized by cutbacks in government expenditures resulting to shortages in resources available for investment in education. The lack of sufficient resources to invest in the sector and the inefficiency in the allocation of scarce resources was reflected in the fall in the internal efficiency of the system and the general fall in standards. The rise in the number of unemployed graduates combined with limited professionalism of higher education in the country has raised questions on its usefulness and relevance.

This study will evaluate the contribution of higher education to economic development by estimating private and social returns to investments in various levels of education. We shall also use simple regression to examine the causal link between higher education and economic growth by regressing an indicator of education attainment on economic growth. Thus the study will employ the standard Mincerian wage earning function (Mincer, 1974), to estimate private returns to higher education in Cameroon and then apply the elaborate method to analyze social returns. The former is intended to determine the private profitability of higher education while the latter is intended to assess public profitability.

RESEARCH OBJECTIVES AND QUESTIONS

The central objective of the study is to investigate the potential and actual impact of higher education in Cameroon's development process and identify ways to enhance that impact. Specifically, the study seeks to:

- establish a causal link between higher education and economic development,
- investigate the private and public levels of profitability of higher education in Cameroon,
- determine the cost of higher education in Cameroon and who is bearing it,
- verify enquire whether higher education policy in Cameroon promotes social equity.

The study will seek to provide answers to the following questions: Is there a link between education and development? How profitable is higher education in Cameroon? What is the cost of higher education in Cameroon in particular? Does higher education policy in Cameroon promote social equity?

THE STATE OF HIGHER EDUCATION IN CAMEROON

Pre-university education in Cameroon lasts for approximately 13 years distributed as follows: 6 years of primary education, 5 years of secondary education and 2 years of upper secondary education. However, not all students can afford nursery education and it is not compulsory in Cameroon. Higher education in Cameroon consists of various forms of educational institutions beyond high school education. These institutions include conventional universities which offer courses in both the sciences and humanities, polytechnics which provide advanced vocational training, professional schools for management, public administration, and higher teacher training. (Some universities example, The university of Douala offers courses in engineering).

The development of higher education in the country dates back to June 1962 when the Federal University of Cameroon was created. The university began in September 1962 with a student enrollment of 600, all Registered in the Faculty of Arts and Social Sciences, the Faculty of Science, and the Faculty of Law and Economics. In addition to the three faculties, specialized schools or the grandes écoles attached to the university and other professional institutions of higher learning were created to prepare graduates for professional careers. Particularly prominent among these specialized institutions attached to the university were the school of medicine (CUSS) created in 1969, the Institute of International Relations (IRIC), the school of engineering (ENSP) created in 1971 and the School of Journalism (ESIJY) created in 1970.

The rise in student enrollment and the desire to decongest the university, led to the creation of the university center for languages, translation and interpretation in Buea; the university center for Agriculture in Dschang; the university center for Business studies and training of technical teachers in Douala; the university center for Food Science and Food Technology in Ngaoundere in 1977.

Specialized schools not attached to the university such as the school of public works (ENSTP), the military academy (EMIA), the school of administration (ENAM), were also created. Unlike the university where entrance was based on a pass at the general certificate of education examination at advanced level for English speaking students or the baccalaureate for French speaking students, entrance into the specialized institutes and other professional schools not attached to the university is competitive.

The expansion in student enrollment, and eventual congestion in the University of Yaounde, in addition to other social and political exigencies led to the university reforms in 1993 which saw the splitting of the lone university into six independent state universities. The reforms led to the suspension of stipends and called for the invol-

Table 1. Student Enrollment in Universities 1992/1993 and 2002/2003.

Year	Buea	Douala	Dschang	Ngaoundere	Yaounde I	Yaounde II	Total state universities	CUCA	Overall Total
1992/1993	790	1666	1899	776	25157	13279	42791	130	42921
1993/1994	1984	4782	1820	789	19625	9585	38585	378	38963
1994/1995	3324	7475	2559	1286	17798	9053	41495	588	42083
1995/1996	4185	7301	3779	1264	15969	6780	39278	678	39956
1996/1997	4219	8424	4300	1526	13988	6553	39010	789	39799
1997/1998	4511	9744	7007	2039	19308	7598	50207	926	51133
1998/1999	5062	11376	8776	3082	21257	10661	60214	1130	61344
1999/2000	5834	8847	10518	3424	19459	11198	59280	1237	60517
20002001	6112	10786	11291	4695	20167	10084	63135	1291	64426
2001/2002	6519	10326	11656	6938	22889	12763	71091	..	72465
2002/2003	7282	12316	10321	7407	22065	14714	74105	..	75471

Source: NIS and Statistical Yearbook of the Ministry of Higher Education, (2005)

vement of other external stakeholders in the financing and management of higher education thus introducing some form of privatization. Private higher education institutions particularly vocational and professional institutions have been authorized to operate and are expanding rapidly although a number of them especially universities are yet to be legalized. Today, with the creation and opening of the University of Maroua (1998), there are in total seven state universities in Cameroon.

Evolution of student enrollment

The student enrollment which was only 600 in 1962 increased steadily to 29 990 students in the 1989/1990 school year and by 2002/2003 (Table 1), total enrollment in the universities was estimated at 75,471 students. The steady rise in the student enrollment into the universities and their affiliated professional institutions since the creation of the Federal University in 1962 to 1994 is explained by the fact that higher education was free for everyone who became qualified to enroll into the university. The high demand for places into the university was also motivated by allowances that were given to students depending on their performances. However, entrance into university centers and other specialized institutions of higher education was competitive and based on the openings available in the public service for those who were admitted.

The dramatic growth in student enrollment to 39,187 at the University of Yaounde was not accompanied by any increase in infrastructure resulting in overcrowded lecture halls and other facilities. This rendered lectures difficult staff-student ratio. The high enrollment equally over-stressed the equipment for laboratory and library. All these contributed to the inefficiency of the system as they affected student motivation and performance. Although data on the internal efficiency of higher education in Cameroon is limited, by the end of 1980, 1500 students were graduating each year from the university representing a completion rate of 30% (Ngwana, 2003). The rather poor internal efficiency of the system can be attributed to inadequate recruitment of lecturers, over-crowding of lecture halls, and inadequate infrastructure amongst others.

Higher education and labor market participation

Despite the rise in student enrollment into institutions of higher education in Cameroon since the 1960s and rising number of graduates from the universities, the employment of these graduates has been a serious problem. The curriculum designed in the 1960s were severely inadequate for private sector demands during the 1990s. This coupled with the inability of the government to absorb graduates into the public service has exacerbated the problem of unemployment. This is explained by the fact that the skills acquired from higher education were grossly inadequate for the requirement of the labour market leading to de-motivation of those aspiring to pursue studies at higher levels.

The picture becomes clearer if we examine labour market participation using data drawn from the second Cameroon Household Survey (ECAM II). From the survey information, a large proportion of the active population estimated at two thirds of the total had only primary education or less. A bulk of the graduates from higher and ineffective. The recruitment of staff was not commensurate to the rise in student enrollment leading to a low education was less competitive in the job market given that they had pursued general education without specific relevant skills (Lachaud 1996) (Lachaud's observation is based on the first or the 1996 Cameroon Household Survey data. This observation still holds when one looks at the report on employment from the second Cameroon Household Survey data). Econometric studies show that those holding technical and professional diplomas were more likely to get secured employment (Lauchaud, 1996; ECAM II, Report on Employment, 2001).

Table 2. Active population distributed by level of education in percentage.

Sex	Less than a year	Primary	Secondary	Higher	Unknown
Total	30.9	36.3	28.3	4.3	0.2
Males	22.7	37.6	33.2	6.4	0.1
Females	39.5	34.9	23.1	2.2	0.3

Source : Les statistiques sur l'emploi et le marché du travail au Cameroun, Yaoundé. Bureau International du Travail (BIT) 2004

The conceptual links from higher education to economic development

Higher education is an important form of human capital investment. It has the potential of being the driving force of economic development in Africa. In fact, Castells (1994), describes it as the "engine of development in the new world economy". Higher education does not only enable those with such capital to earn higher, it also contributes to economic growth. Higher education affects the participation of individuals in economic activities and the overall economic development; it contributes in the development of human capital by expanding the size and skills of the work force. Higher levels of education are accompanied by higher wages, lower unemployment probabilities and higher labour participation rates. It also increases the returns and consequently the productivity of workers (Since wages are often seen as reflecting marginal labour productivity, this implies that the link between higher education and wages can be used to analyze the productivity effects of higher education) (Psacharopoulos, 1994 ; Todaro, 1989 ; Mingat and Tan, 1996 ; Gallup et al., 1998). Thus higher education provides knowledge and professional skills capable of contributing significantly to the growth of the economy.

Second, higher education and especially universities promotes economic development through the production and dissemination of new knowledge (Rosa, 2002). It expands technological capacities and enhances progressive innovations that are required in a more competitive global economy. The creation of new technological knowledge through research and innovations can create more employment, promote capital formation and create surpluses for reinvestment and can in turn lead the development of human resources (ADB, 1998, p. 195). New research creates new openings, jobs and new wealth which expand the economy. Once knowledge is created, it becomes possible for it to be transferred and disseminated through out the economy so that it is almost assumed to be a public good due to its non-excludability and non-rivalry characteristics.

Third, higher education can well play the role of a basic income generating industry. Universities generate revenues from sponsored research, tuition, support services and state appropriations which help to provide jobs and pay for services in the community. Sponsored research enables researchers in universities to bring to their communities money that would not have been earned in its absence. Higher education can spare a community from costs such as unemployment, declining welfare and crime. Services provided by the community to universities generate income that helps in improving lives and economic development. Lastly, higher education offers the society with both cultural and political benefits (TFHES 2000). It creates attitudes and causes attitudes necessary for the socialization of individuals. Higher education enhances democracy and good governance by producing higher quality administrative personnel that can manage economic development.

The assumptions that higher education is not important in the economic development process of African countries have been reinforced by findings by Psacharopoulos (1988) and Pritchett (1996) who used cross national econometric measures and theories to emphasize investment in basic education. The author used two sets of data on the educational attainment of the labor force to show the growth of education capital per worker has no association with the growth rate of output per worker. They attributed the negative impact of education in developing countries to a combination of defective schooling, greater supply than demand for education and rent-seeking behavior of the educated elite. Psacharopoulos and Patrinos (2002) showed that the social rates of return to investment in primary education are the highest, followed by secondary education and are least for higher education.

Contrarily to the view that higher education does not contribute to growth in Africa, there is much evidence that education indeed affects economic growth. Shultz (1981) argues based on empirical evidence that investment in education that results in human capital accumulation is critical for economic growth. Similarly, Barro (1991) conducted a survey on 98 countries and concluded that there is a strong relationship between schooling enrollment and economic growth.

Tilak (1986) also reached similar conclusions in a study on the relation between schooling and growth on Pakistan and South Korea. Lin (2004) investigates the effects of higher education curricula on labor force and consequently on economic growth in Taiwan over the period running from 1965 - 2000. The study's findings reveal that higher education through four disciplines: humanities, engineering and science, business and social sciences, and agricultural sciences overall provide a positive and significant effect of higher education stock which is

Table 3. Returns to Higher Education (percentage).

Region	Social			Private		
	Primary	Secondary	Higher	Primary	Secondary	Higher
Asia*	16.2	11.1	11.0	20.0	15.8	18.2
Europe/Middle East/North Africa	15.6	9.7	9.9	13.8	13.6	18.8
Latin America/Caribbean	17.4	12.9	12.3	26.6	17.0	19.5
OECD	8.5	9.4	8.5	13.4	11.3	11.6
Sub-Sahara Africa	25.4	18.4	11.3	37.6	24.6	27.8
World average	18.9	13.1	10.3	26.6	17.0	19.0

Source: Psacharopoulos and Patrinos (2002).
*Non-OECD

associated with an increase in real output.

Although the social and private returns to higher education are less than that of primary education, it should nevertheless be noted that higher education does yield an attractive rate of return in Sub-Saharan Africa (11.3%) and to the individual as well (27.8%) as shown in Table 3 below.

When the returns to education are compared across the various subsets of the population in Africa, one finds that the rate of returns for women is slightly higher than for man. In a study using a sample of countries across the world, Psacharopoulos (1994, 1329 Table 3) showed that the average rate of return for males is 11.3% which is about 1.3% point lesser than for females. Psacharopoulos and Patrinos (2002) estimated the rate of returns for women at 9.8 percent compared to 8.7% for males. Estimates obtained for Ghana and Cote d'Ivoire generally show no substantial differences both sexes.

In the case of Cameroon, studies on the returns to investment in education are scarce. Tafah Edokat (1998) studied private returns to investment in education in Cameroon and concluded that returns to education in Cameroon are positive and in some cases higher than investment in other sectors of the economy. His study revealed that primary education gives highest returns followed by secondary and higher education. Like Psacharopoulos (1994), he concluded that investments in primary education and those willing to pursue higher education should be made to bear a greater proportion of such education.

In a more recent study, Amin and Awung (2005) analyzed private returns to investment in education in Cameroon. The study which was based on survey data from five provinces of the country found that in contrast to Tafah-Edokat 's (1998) findings, the returns to investment in education increased from lower to higher levels. In addition, returns to investment in education were higher at higher levels than at lower levels. The results from these two studies in Cameroon indicate that the patterns of returns to education at the different levels remain inclusive.

The World Bank study, "Can Africa Claim the 21st Century", maintains that economic growth cannot be sustained except with literacy rates of over 50% and that the consequences of the low secondary and university education may be particularly critical in Africa. The study insists that universities have a potentially greater role to play in Africa than in many other regions because universities are the only institutions with manpower, skills, equipment and the mandate to generate new knowledge through research and adapt global knowledge to help resolve local problems.

HIGHER EDUCATION AND ECONOMIC DEVELOPMENT IN CAMEROON

Empirical analysis

This study does not estimate the production function augmented with human capital but rather examines the causal relation between income per capita and higher education attainment. GDP is measured with 1995 constant prices as a proxy for income and education attainment is measured with enrolment into higher education institutions in Cameroon. Enrollment into higher education in Cameroon has expanded substantially since 1962 indicating an overall expansion in the higher education system.

The stock of working age population with higher education is an important indicator of the extent of the development of the sector and represents the efforts made by the Government of Cameroon since the past years to expand higher education. This indicator is important because the stock of working age population with higher education forms a large part of the skilled and educated workforce. The growth in overall output will be higher, the higher the stock of population with skilled labour.

Using data on Cameroon from 1965 - 2002, to regress constant GDP on enrollment, the trend line in Figure 2 indicates that the regression coefficient is positive and statistically significant at one percent level showing a strong relationship between higher education and national income. The positive slope of the trend line depicted in the Figure shows in effect that higher education attainment enhances the growth of national income.

The estimated equation as well as the trend line clearly

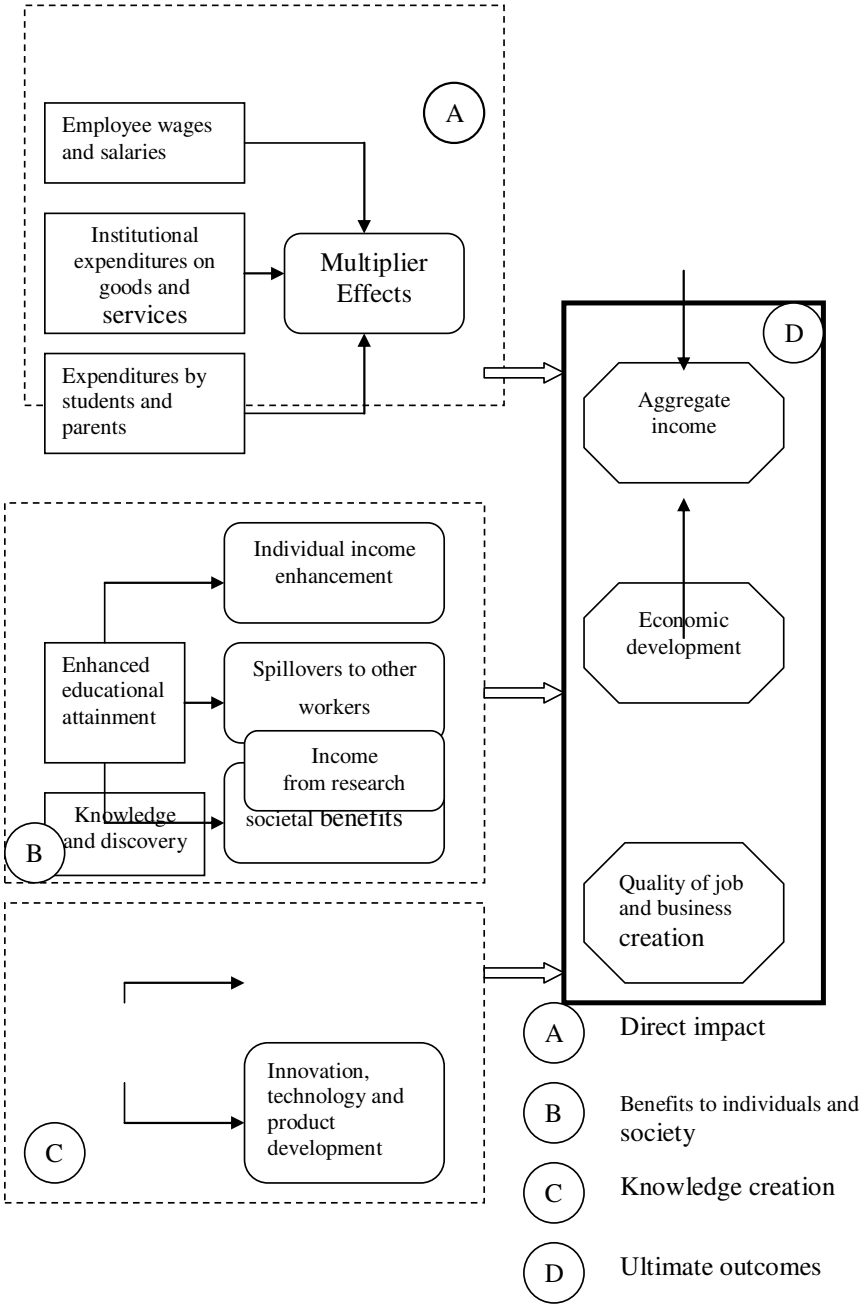

Figure 1. Conceptual Framework.
Source: Seidman L. M. (2005). Research Institute, W. P. Carey School of Business, Arizona State University.

indicates that higher education has a significant and positive contribution to output and it may be inadmissible to minimise this role. It may be argued that simple regression of gross national output on higher education only suggest a correlation between the two and necessarily not a cause and effect relationship. Since a time lag is allowed for higher education to cause increases in output, the argument is uncalled for.

The fact that higher education contributes to economic development growth gained grounds in the theoretical growth literature only recently. Human capital represented here by higher education is considered as an input into production. Although, our study did not do this, it recognized the role of HE as an input into the production function. If this is the case, then there exists a correlation between the two which gives us an approximate relationship between them.

The results have shown a strong and positive rela-

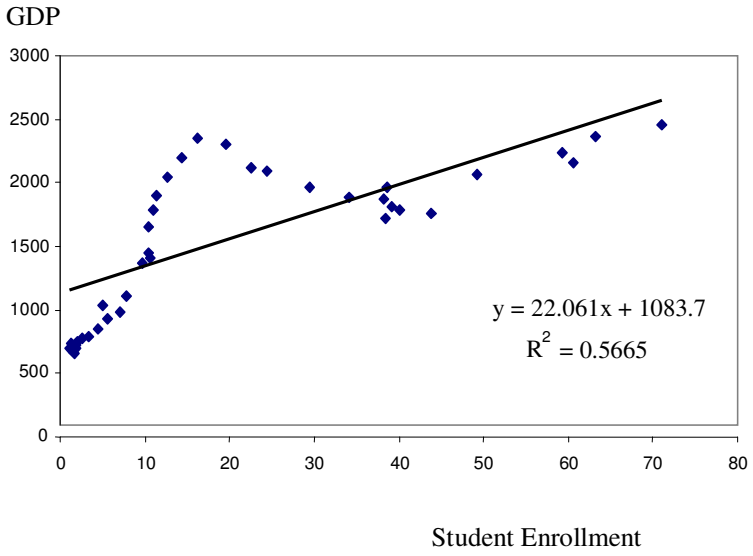

Figure 2. Relationship between Higher Education and National Income.

tionship between higher education and national income which indicates that higher education contributes to output growth. Since Higher Education plays an important role in the economic development of Cameroon. Government needs to put in place economic policy strategies that (or with the potential to) can create jobs to enable graduates to use the skills acquired through human capital investments which will in turn engender output growth.

THE PROFITABILITY OF HIGHER EDUCATION IN CAMEROON

Private profitability

The Mincerian wage regression model: In order to investigate the profitability of higher education in Cameroon, we shall employ a variant of the Mincerian earning functions (Mincer 1974) to estimate the rates of return to higher education. The Mincerian equation is simply the regression of the natural logarithm of wages on the years of education and experience. The standard form of the Mincer wage regression is denoted by:

$$\ln(W_i) = \beta_0 + \beta_1 S_i + \beta_2 Exp_i + \beta_3 Exp_i^2 + \mu_i \quad (3.1)$$

Where W is the annual wage rate, S is years of schooling; Exp is potential years of labour market experience, Exp^2 is its square. Assuming that there are no direct costs of schooling, the of years of schooling in the wage regression can be interpreted as the average rate of return to an additional year of education, regardless of the level of schooling (Pscharopoulos, 1994). The error term μ represents the variation in wages not captured by the right-hand-side variables. The specification in (1) is based on the assumptions that (i) all individuals have the same access to credits (ii) the correlation between genetic endowment and human capital are zero and education is measured without errors (Mwabu and Schutlz, 2000).

In our present study, we capture the effect of higher education by converting the continuous years of schooling variable into a series of dummy variables representing the completion of the different levels of education: primary, secondary, and higher education levels as follows:

$$\ln(W_i) = \beta_0 + \beta_1 Prim_i + \beta_2 Sec_i + \beta_3 HEduc_i + \beta_4 Exp_i + \beta_5 Exp_i^2 + \beta_6 X_i + \mu_i \quad (3.2)$$

Where, the β_s represent the parameters to be estimated. These parameters with the exclusion of β_6 represent the technology by which education and labour market experience are transformed into skills. If we are interested in the different types of curriculum within a given educational level, these dummies can represent them as well. The model is augmented with a variety of other explanatory variables (X) particularly gender, (Temple 2000).

The coefficient on the variables for education in equation (1) above are often interpreted as the returns to the level of education (Cohen and House 1994).

However, the coefficient on education will not be equal to the proper return to education for a number of reasons including the fact that there is a direct cost of education other than the opportunity cost. This explains why this coefficient is referred to as the Mincerian return to education. Nevertheless, from the extended earnings function expressed in equation (2), dummies rather than years of

schooling are used so that the rate of return to a given level of education is derived as:

$$R_{prim} = \frac{\beta_{prim}}{S_{prim}}, \quad R_{sec} = \frac{\beta_{sec} - \beta_{prim}}{S_{sec} - S_{prim}}, R_{univ} = \frac{\beta_{univ} - \beta_{sec}}{S_{univ} - S_{sec}} \quad (3.3)$$

where S is the number of years of schooling of the respective educational level and β_{prim}, β_{sec}, and β_{univ} represent the estimated coefficients for primary, secondary and higher levels of completed education respectively. (Note that nursery education is not considered as it is not compulsory and wastage is not also taken into consideration). For instance to calculate the rate of return for secondary education, S_{prim} will be six years, and S_{sec} will be six plus seven years to give thirteen years for the case of Cameroon so that S_{sec} - S_{prim} will be 7 years. The estimated average number of years of higher education in Cameroon as applied in the study is seventeen years.

Since the sample consists of individuals in the working age (16 - 65 years who are full time employees (A full-time worker is one works the required hours of work and for all days as defined by the employer except when on leave or away for official reasons. This definition excludes those who are self-employed and those working on part-time basis. This distinction and application helps in reducing measurement errors in the earnings for those who are not full time workers), a worker's experience is defined as his/her age (A) minus six years and the number of years of schooling. This method of estimating the rate of return is based on a number of simplifying assumptions of which the key ones are that all individuals start school at six although some individuals may start at an earlier age and that individuals get employed immediately after completing school. This may be a strong assumption in the case of women and youths who are not well represented in the labor market due to either discrimination in the case of women and scarcity in jobs for young school graduates.

Methodological issues in estimating the returns to higher education: The estimation of the effect of higher education on wages may suffer from some difficulties. Particularly of concern is the omission of relevant variables in the earnings equation. The omission of relevant variables such as ability and family background is a serious setback because this can lead to biased estimates of the conventional OLS estimates. This is because when a proxy for ability is included in the regression, this tends to lower the estimated returns indicating that OLS estimates are biased upwards. If the differences in ability for example were observable to the researcher, they could be accounted for in the statistical analysis. However, characteristics of the individual such as ability are difficult to observe and this is a serious difficulty as ability is likely to correlate positively with education and wages.

Several approaches have been used to deal with such problems. One approach consists of estimating the effect of schooling on two identical individuals (twins). The basic idea is that twins are more similar than any randomly chosen individuals so that omitted determinants of wages and education should not be a problem in estimating the effects of education on wages using ordinary least squares. Studies using the twins approach display varying results, with some reporting slightly lower and others reporting slightly higher education return estimates as compared to conventional ordinary least squares estimates. Knight and Sabot (1981), for example used data on workers in Kenyan and Tanzanian urban enterprises to test whether human capital measured by ability test scores has an independent effect on earnings or if it simply signal inborn ability. The results showed that although ability might have a role in wage formation, controlling for it does not diminish the effect of human capital earnings.

The data used for the purpose of this study does not provide us with information that can be used to control for ability and family background. As a consequence, drawing from Knight and Sabot's results, we assume that though unobserved ability might have a role in wage formation, it does not significantly diminish the effect of human capital on earnings. Thus our present study does not try to correct for the presence of these problems since it does not fully benefit from the approaches to solving these problems due to data limitation. This might in fact bias the OLS estimates upwards.

Empirical evidence

Descriptive results : In Table 4 below, we present the average monthly wages at each level of education and for men and women in 1996. An examination of the estimates displayed in the table shows that the mean monthly earnings of salaried workers increased with the number of years spent in school. The information also shows that the mean monthly earnings were higher for men than for women as the number of years spent in school increase. For instance, the mean monthly earnings for men at the primary level was 65 153.75 FCFA for men and slightly lower for women estimated at 55 945.25 FCFA. These estimates were respectively 85 525.17 FCFA and 47 949.06 for men and women at the secondary level.

For the pooled sample, the estimates were 63 186.80 FCFA and 77 955.67 FCFA at the primary and at the secondary levels. At the tertiary level, men earn approximately 202 615.0 FCFA and 101 000.0 FCFA for men and for women. The pooled average monthly earnings at this level were estimated at 192886.0FCFA. However, the earnings at the primary levels for women were slightly less than for secondary level. The difference in mean monthly earnings for men and women was quite remarkable at the tertiary level where women earn about half of what was earned by men. The reason for the large differential may be that men had the opportunity to get

Table 4. Mean monthly wage by educational level and by sex, Cameroon, 1996.

Level	Men	Women	Total
Primary education	65 153.75	47 949.06	63 186.80
Secondary education	84 525.17	55 945.27	77 955.67
Higher education	202 615.00	151 000.00	192 886.00
Total (all levels)	109 804.56	67 557.50	100 988.68

Source: First Cameroon Household Survey (ECAM I), 1996

Table 5. Mean earnings by experience group and by sex, Cameroon 1996.

Experience (years)	Men	Women	Total
< 5	16 000.00	-	16 000.00
5 - 9	31 750.00	20 000.00	28 812.50
	(15 750)	(20000.0)	(12812.5)
10 - 14	77 407.30	36 409.34	65 820.90
	(46 657.3)	(16409.34)	(37008.4)
15 - 24	111 440.68	61 289.69	104 753.80
	(34033.38)	(24880)	(38932.9)
25 >	116 854.46	65 552.80	108 051.20
	(5413.78)	(4263.46)	(3297.4)
Total	109 804.56	57 557.51	100 988.68

Source: First Cameroon Household Survey (ECAM I), 1996.

Table 6. Results of Standard Mincerian Equation.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	8.3781	0.3241	25.85	0.000
Gender	-0.3474	0.0951	-3.65	0.000
School	0.1349	0.0107	12.57	0.000
Experience	0.0940	0.0166	5.67	0.000
$(Experience)^2$	-0.0012	0.0003	-4.03	0.000

Dependent Variable: ln (wages) - Number of obs = 372; Prob > F = 0.0000;
R-squared=0.3590; Adj R-squared = 0.352.
372 constitute the total number of observations with probability inferior to the observed frequency (o.oooo). R-squared represents the Pearson correlation (0.3590), with an adjusted Pearson correlation (Adj R-squared) of 0.3520

highly paid technical jobs than women and possibly possess more professional skills necessary for recruitment into these jobs than women.

Table 5 presents the mean monthly earnings by experience group and by sex. The information displayed in the table enables us to assess the relationship between labour market experiences and mean monthly earnings at all levels of education identified for the analysis. The information reveals that mean monthly earnings increased with labour market experience for both men and women. The results confirm the hypothesis of a diminishing marginal returns to increase in on-the job training. This can be seen from the figures in brackets which show changes in wages as one move from a lower group of years of labour market experience to a higher one. This implies in effect that although the mean earnings increase with the number of years of labour market experience, the increase occurs at a diminishing rate. For example, for male workers, an addition of 15750FCFA was received when they spent between 5 - 9 years in on-the-job market and an addition of 46657.3FCFA when their years of labour market experience lie between 10 - 14 years showing a more than proportionate increase. However, as the worker's years of labour market experience increased further, additions to earnings increase but at a decreasing rate. The average earnings of the male worker increased between 15 - 24 and 25 years of labour market experience and above by only 5413.78FCFA compared 46657.3FCFA between 5 - 9 and 10 - 14 years of labour market experience respectively.

The figures in brackets are changes in mean wages as one move from a lower level of years of labour market experience to a higher one.

Estimated results : We begin by presenting the estimated results of the standard Mincerian equation presented in equation (1). As depicted in Table 6, the levels of education are not represented in these results; rather, we use the number of years of schooling to represent the return to education. These results suggest that the return to an additional year of schooling is 13.5%. This in effect shows that if a worker invested in an additional year of schooling, his earnings will increase by 13.5% on average.

From the same results, the coefficient of experience is positive and that of the quadratic term of experience is negative indicating that although experience increases the level of wages, such earnings increase at a decreasing rate. Table 7 presents the coefficients of education dummies and experience variables for all salaried workers in the sample.

The estimations show that about 35% of the total variations in log earnings are explained by the model with the coefficient of higher education explaining up to 130% of the variations in wages compared to 47% for secondary education. These results confirm those obtained by Amin and Awung (2005) that private returns to education in Cameroon are highest at the level of tertiary

From Table 8 below, the power of the regression equation shown by the Adj. R^2 are respectively 30.24, 25.34 and 31.31% for men, women and the pooled sample respectively. The statistical tests using R^2 and F statistics show that the performance of the model is acceptable and the results are robust. The results suggest that the returns to an additional year of schooling were largest for higher education than for secondary education thus revealing that private profitability of higher education in Cameroon is more than that of lower levels of education. The rate of return to schooling for the pooled sample is

Table 7. Results of Modified Mincerian Equation.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	9.3754	0.2988	31.38	0.000
Gender	-0.2856	0.0965	-2.96	0.003
Secondary	0.4748	0.0924	5.14	0.000
Higher	1.3286	0.1117	11.89	0.000
Experience	0.0928	0.0167	5.55	0.000
$(Experience)^2$	-0.0012	0.0003	-4.06	0.000

Dependent Variable: ln (wages) - Number of obs. = 372; Prob > F= 0.0000
R-squared = 0.3501; Adj R-squared= 0.3412.
372 constitute the total number of observations with probability inferior to observed frequency (0.0000). R-squared represents the Pearson correlation (0.3501), with an adjusted Pearson correlation (Adj R-squared) of 0.3412.

Table 8. Estimated wages equations by sex and level of education.

Variables	Men	Women	Pooled sample
Constant	9.0889 (29.66)	8.7537 (17.02)	9.3754 (31.38)
Secondary	0.4935 (4.70)	0.3470 (1.82)	0.4748 (5.14)
Higher	1.3648 (11.03)	1.0599 (3.99)	1.3286 (11.89)
Experience	0.0906 (4.73)	0.1133 (3.13)	0.0928 (5.55)
Experience squared	-0.0010 (3.44)	-0.0016 (2.43)	-0.0012 (4.06)
Observations	310	62	372
F. Statatistic	36.21	6.18	36.21
Adj. R^2	0.3024	0.2534	0.3131

Absolute values of t-statistics are in brackets.

Table 9. Private rate of return to an additional year of education (%).

Level of education	Males	Females	Pooled sample
Secondary	8.395	6.386	7.390
Higher	21.78	17.82	21.34

Source: Authors' calculations from the regression results.

estimated at 7.39 and 21.34% respectively for the secondary and tertiary levels (Table 9). Although the returns to higher education are high for both men and women, there is a remarkable differential in earnings between the two groups. At the secondary level of education, the rate of return is estimated at 8.39 and 6.38% for both men and women. At the tertiary level, the returns are 21.78 and 17.82% for both men and women. Thus men in the wage sector in Cameroon seem to better compensated than women at both the secondary and the tertiary levels showing profound inequalities between the two sexes. These results contrast sharply with those obtained for Cameroon by Edokat-Tafah (1998) and the findings reported by Psacharopoulos (1994).

As regards, private returns to investments in education in Cameroon, we find in general that such returns tend to be higher for the males than females. This is not surprising as the more educated are likely to hold highly paid jobs than the less educated, (though there may be individuals making much more money within the private sector with comparatively less academic qualifications). Besides, women are less competitive in the job market given that a bulk of them tends to pursue general education which is void of required relevant skills for highly paid technical jobs.

Public profitability of higher education

Social Returns to Higher education: Social returns are those benefits that improve the well-being of the individuals and the general public. This would include the increased tax receipts collected from educated citizens. An estimation of the social benefits of higher education will include all the costs and benefits used in the calculation of private returns and all the costs and benefits that the individual does not incur or enjoy. Thus in calculating the social value, costs would include the rental of buildings and teachers' salaries. The earnings used should include gross of taxes and income in kind. The high level of costs involved in social returns relative to private returns may imply that social returns are lower than private returns.

Although social returns to education are difficult to estimate because of data limitations, policy makers have used these returns to determine the profitability of investments in education. A comparison of the estimated rates of returns across educational levels provides a basis for the prioritisation of public investments in education. The social rate of returns incorporates positive externalities resulting from investment in education. Since private investments in education yield external benefits, it is possible that social returns to investments in education will tend to be higher than private returns.

The social rate of return to education is best estimated using the elaborate method as the discount rate r which equates the stream of costs of education to the stream of benefits from education (Wossman, 2001):

$$\sum_{t=l}^{s}\left(C_{h,t}+W_{l,t}\right)(1+r)^{-t}=\sum_{t=s+1}^{n}\left(W_{h,t}-W_{l,t}\right)(1+r)^{-t} \quad (3.4)$$

where, C_h represents the cost of education incurred to attain a higher level h from a lower level l, s is the years of schooling at h educational level, n is the retirement age, W_l is forgone earnings of the student while at school, and (W_h-W_l) is the earnings differential between a person with a higher level of education. The above formula serves as a means of calculating social and private rates of return to education. However, to calculate social returns, income is considered without tax deductions, while costs include the expenses on education by the individual as well as costs incurred by the society.

In using the above formula to measure the investment cost of education, Wossman (2001), explicitly includes the opportunity cost of wages forgone while studying. He also estimates future returns to education with reference to the difference in income stream accruing to the person with the higher qualification. Finally, he equates future streams of income to investment costs by using a discount rate which enables him to estimate the internal rate of return that will equate the costs of investments with future benefits.

Empirical Findings: In the following analysis, we have used the elaborate method to estimate the social returns to investments in higher education in Cameroon. The results from these estimates are shown in the following Table:

The benefits as well as the costs involved in investments in higher education have been discounted to account for inflation and the time value of money. In order to determine the public profitability of investment in higher education, we compute the internal rate of return which is the discount rate that equalises the present value of all benefits and costs. In calculating the social returns to investments in higher education, we include government subsidies as part of the costs incurred in addition to private costs. To account for benefits to the society from investment in higher education, income is considered gross of taxes. The incremental earnings arising from higher education are 62 351 520 FCFA for males and 50 188 900 FCFA for females and their respective present values are 11 101 490 and 8 935 975 FCFA. However, the net present values calculated at a discount rate of 4% real interest are greater for women than for males and are estimated at 5 780 350 and 6 677 240 FCFA respectively. The estimated internal rate of returns is 13.4 and 14.5% for males and for females respectively and are higher for women than for men.

The overall results from the rate of returns calculation show that both private and social returns to higher education are high. The results also show that private returns are higher for men than for women at all levels. These results do not indicate that the investment in education by women is not profitable because, account is not taken of household production by females. On the contrast, the social returns to investments in higher education are higher for females than for males. Given the high levels of profitability of higher education, increases in investment in the sector as well as implementation of policies to ensure the efficiency of the system can enhance the quality of higher education as well as the creativity and productivity of those who have acquired higher education. These can go a long way to boost the development of the country.

THE COST OF HIGHER EDUCATION IN CAMEROON

The government of Cameroon is the highest single provider and funder of higher education in the country. Between 1981 and 1987, the share of government budget allocated to the Ministry of Higher Education fell below 0.5% except in 1986 when it represented 0.60 percent of overall state budget. Table 10 below shows that expenditures on higher education which initially fell from 0.60 in 1986 to 0.45 in 1987 percent as a share of total budget were relatively protected during the crisis and adjustment era.

This can be shown by the dramatic increase in the allocations to higher education in absolute value and as a share of total state budget between 1988 and 1995. However, budgetary allocations to higher education and particularly to the university of Yaounde (The then lone government university before the reforms in 1993) was a serious problem. Personnel emoluments consumed about 46.3% of the total budget while 43.3% was often distributed to students as stipends. The amount allocated to cover recurrent cost was estimated at only 8.9% while a meagre 1.5% went to research and laboratory facilities (Ngwana 2003).

Following the revival of economic growth since 1995, the overall government budget has increased unprecedentedly. This ought to have resulted in the growth of budgetary allocations to the Ministry of Higher Education but that has not been the case as the percentage of expenditure devoted to the Ministry fell to 1.26% before stagnating on an average of 0.80% between 1998 and 2001 (Table 11). The introduction of fees into state universities since 1993 has reduced the reliance on state subventions as the only source of finance as was the case in the past. Despite this, the overall budget of the universities falls short of the real needs of the system given that lecture halls are still over-crowded and the student teacher ratio is still very high. Figure 3 and Table 12 show the general budget of the government and the universities all taken together and the per student expenditure as well as the estimated contribution by the government in the form of subsidies. The table shows that expenditure per student was highest during the 1992/93 academic year and was lowest during 1997/98 academic year.

Of the total per student expenditure in state universities, the amount provided by the state was about 92%. This share dropped to about 54% during 1997/98 academic year. The contributions of students to the financing of the universities is less significant when compared with the subventions from the central government except during the 1997/98 and 1998/99 academic year when this share rose to almost 50%. This evidence shows that although the state is still the major contributor to the financing of higher education in Cameroon, students' participation in the financing of higher education has increased significantly in the most recent years. Generally, students who are nationals pay a flat rate of 50 000FCFA for tuition in the six state universities except in some programs and professional institutions where tuition may exceed 50 000FCFA. In private institutions tuition vary between 200 000FCFA and 700 000FCFA and the cost is borne almost entirely by the students.

Table 10. Social value of higher education based on mean earnings of full-time year round workers in Cameroon, 1996.

	Males	Females
Costs: Ages 18 - 21		
Tuition, Fees, Government subsidies	2 168 000	2 168 000
Forgone earnings	4 057 200	2 685 360
Total costs discounted at 4% real interest	5 321 140	2 258 735
Benefits: Ages 22 - 65		
Earnings with a secondary school education certificate	44 629 200	29 539 100
Earnings with a four-year higher education certificate	106 980 720	79 728 000
Differentials in earnings	62 351 520	50 188 900
Discounted at 4 percent real interest	11 101 490	8 935 975
Net Present Value of investment in higher education	5 780 350	6 677 240
Internal rate of returns (social returns)	13.4 %	14.5 %

Source: Calculated with data from the Ministry of Higher Education, National Institute of Statistics and the second Cameroon Household Survey, ECAM 1996.

Table 11. The Budget of the Ministry of higher Education in Billions FCFA.

Year	Total State budget	Higher education budget	Percentage share of total budget
1990	541.342	9.947	1.84
1991	613.343	10.947	1.78
1992	487.052	11.885	2.44
1993	451.284	20.257	4.49
1994	549.595	16.901	3.08
1995	638.424	16.127	2.51
1996	892.278	13.029	1.46
1997	1230.000	15.479	1.26
1998	1256.750	10.095	0.80
1999	1230.000	11.174	0.91
2000	1297.638	10.514	0.81
2001	1476.000	11.828	0.80

Source: Department of Budget, Ministry of Economy and Finance (Finance Laws).

Table 12. Budget of State Universities (in 10^3 FCFA) and Expenditure per capital.

Year	Budget	Enrollment	Expenditure per student	Government subvention	% of student contribution
1991/1992	10 201 000	39 187	260 315	210 315	19.2
1992/1993	29 477 000	43 755	673 683	623 683	7.4
1993/1994	19 180 000	38 426	499 140	449 140	10.0
1994/1995	17 800 000	40 080	444 112	394 112	11.3
1995/1996	8 075 000	38 145	211 692	61 692	23.6
1996/1997	5 765 000	38 674	149 065	99 065	33.5
1997/1998	5 349 000	49 265	108 575	58 575	46.1
1998/1999	7 032 638	60 214	116 794	66 794	42.8
1999/2000	13 163 788	59 280	222 060	172 060	22.5
2000/2001	16 829 160	63 135	266 558	216 558	18.8
2001/2002	19 127 970	71 091	269 063	219 063	18.6
2002/2003	23 761 000	74 105	320 639	270 639	15.6

Authors' calculations with data from the Ministry of Higher Education Statistical Yearbook.

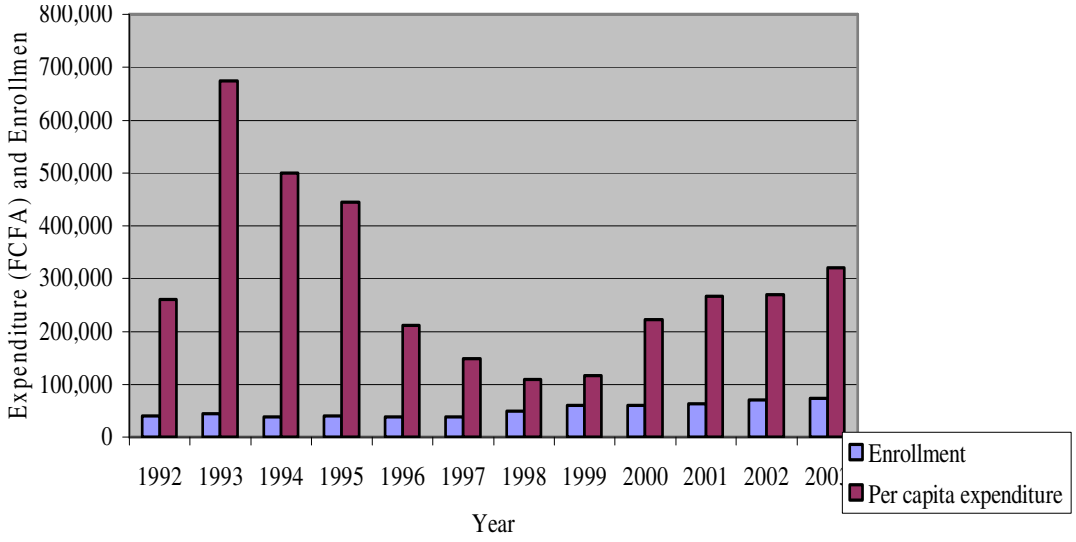

Figure 3. Student enrollment and expenditure per student (in CFAF) in state universities. Constructed by authors from data from the Ministry of Higher Education Statistical Yearbook.

This evolution of the overall financing of university education in Cameroon does not show exactly how much is spent by a student in the university during a given academic year because the amount spent on tuition does not include expenses on text books, lodging, transportation, and food. Besides, the suppression of grants to students as was the case before the 1992 reforms and the introduction of high cost professional programs imply that students have to bear a larger cost of financing of university education in Cameroon. The first and the second Cameroon household surveys conducted in 1996 and 2001 respectively have shown that poverty has increased considerably which imply that a majority of students are not able to afford the cost of higher education. As a consequence, in the absence of consideration and support for poorer students, they may not be able to pay for higher education in Cameroon. With the scarcity of jobs and the inability of the university system to train students with the required skills to compete in the already saturated job market, many parents, especially the poor are less willing to allow their children pursue post secondary education.

As concerned private institutions of higher education in the country, a greater proportion of the cost is borne by the students through tuition which is quite high compared with public institutions. It should be emphasized that promoters of these institutions with the exception of those operated by religious groups are business operators who run these institutions for profit motives. Given the financing constraints faced by many parents, enrollment into these institutions is low although the curriculum design is tailored towards the training of students to satisfy the demands of the job market.

SOCIAL EQUITY IMPLICATIONS OF HIGHER EDUCATION IN CAMEROON

Equity implications of higher education will be concerned with the way costs and benefits of investments in the level are distributed among the different social groups in the country. In particular, we need to see if the costs and benefits are equally distributed among regions, between sexes, the different socio-economic groups and we want to see if everyone has equal access to higher education. In the presence of inequalities, we will like to know the policy options that government can undertake to reduce various inequalities.

Beginning with the colonial heritage of the country, Cameroon is a bilingual country but with the French language dominating the English language spoken by about a third of the population. The decree creating the then University of Yaounde specified that it was a bilingual university with Anglophone and francophone students given equal opportunities to study in both languages. Unfortunately, bilingualism as a language has never been effective as lectures are given almost entirely in French with the exception of the English Department making studies to be extremely difficult for English speaking students.

Apart from the emerging problems of overcrowding that plagued the University of Yaounde towards the 1980s, policy-makers found it difficult to clearly define the status of languages in the bilingual system with limited access to English-speaking students. Besides, as a lone university located at the national capital, students from other provinces had to cover several kilometres to acquire university education thus incurring higher costs.

Table 13. Distribution of students by university and by gender, 2000/2001.

University	Males	Females	Female % of total	Total
Buea	3106	3006	49.18	6112
Douala	6853	3933	36.46	10786
Dschang	8242	3049	27.00	11291
Ngaoundere	3493	1202	25.60	4695
Yaounde I	12498	7669	38.03	20167
Yaounde II	5931	4153	41.18	10084
Total State Universities	40128	23007	36.44	63135
Catholic Univ. of Central Africa	1237	786	38.85	2023
Total	40559	23288	36.15	64426

Source: Ministry of Higher Education and National Institute of Statistics (NIS).

Until 1993, all students, irrespective of socio-economic background were entitled to stipends and paid no tuition. As a result, it was possible for any student that had the requirement for admission into the university to enrol in the university and other tertiary structures. Besides, admission into the university or any other type of specialised institution of higher education was a guarantee for a well paid job with the government or the private market. This policy enhanced equality of access particularly with regards to costs and benefits on public spending.

However, by 1990, it was realised that the functioning of the system was grossly impaired and was no longer responding to the exigencies of the labour market. Given this situation and other challenges, a policy was put in place to revitalise the system and restore quality and accountability. Consequently, decree No. 92/74 of 13th April 1992 and decree No. 93/034 of 19th January, 1993 instituted major reforms aimed at broadening the participation of various stakeholders in the financing and management of higher education through the introduction of tuition and eventual reduction in government funding. In order to decongest the lone university and expand access to all, five more state universities were created which have greatly reduced congestion to a limited extent. (It should be noted that the 1993 HE reforms besides aiming at increasing access, also focused on strengthening quality and relevance through professionalisation of programmes, and responding to equity concerns. The creation of the other universities was partly aimed at doing this).

The introduction of fees implied that students will have to incur extra costs to acquire university education which has tended to restrict access to children from low income families. In reality, the average costs of pursuing university education in Cameroon is not less than a million FCFA per annum be it in public or private higher education. In some highly technical professional programmes such as management and engineering, tuition alone that is demanded from the student exceeds a million FCFA. This clearly indicates that only children from more affluent families can meet up with the costs. This perhaps, explain(s) why most dropouts from higher education are mostly from low income families.

Gender equity as a policy option has never been a problem in Cameroon because both female and male are given equal opportunities in access to all levels of education. However, cultural and perhaps religious constraints tend to hinder the education attainment of the girl child so that enrollment into institutions of higher education becomes gender biased (Table 13). Of the total number of registered students during the 2001/2002 academic year, 27,824 or 37% of total were females while the male population was 47,647 or 63% respectively. This enrollment included that of the Catholic University of Central Africa as the only private university. The number of students enrolled in private institutions of higher education legally recognized by the Ministry of Higher Education was estimated at 6 616 students during the 2001/2002 school year. This is an indication that despite the proliferation of these institutions operated by the private sector, they are yet to attract those seeking to pursue university education.

With the exception of the University of Buea where the disparity in enrolment of students of both sexes is low, gender differences are higher in other universities especially in the University of Ngaoundere where the community is predominantly Moslem with great negative perception of female education.

Inequity also exists in access to decent jobs. From Table 2, it can be seen that women have the lowest education attainment. About 40% of the women do not have access to formal education or are unable to go through the first year in school. This combines with structural obstacles to explain the difficulty faced by women in getting decent jobs. Women generally are less competent compared to their male counterparts due to low education attainment and low levels of professional experience which obstruct them from getting formal jobs.

From the issues discussed, it is obvious that the challenges to public policy in guaranteeing equity in access to higher education are enormous. These issues need to be addressed if higher education were to serve as an engine of economic development in Cameroon. A key suggestion in Government financing of the system of higher education seems to be justified for equity reasons. This need

not compromise the objective of efficiency in the management of government resources. The government should always try to achieve a balance between the two objectives.

Conclusion and policy suggestions

The study has found that investment in education especially at the tertiary level is profitable. In particular, it finds that the higher the level of education of the worker, the higher the level of returns obtained from such investment. As a consequence, it is recommended that the government should be cautious when instituting the recovery of costs at the tertiary level of education as this tends to influence the demand for places in institutions of higher learning.

However, since the government faces financial constraints in paying for the cost of training and the provision of other public services, it is advisable for the state to encourage universities and institutions of higher education to adopt ways of generating revenue to supplement the state financing of the higher education sector. This does not imply that individuals should not contribute to financing through cost recovery but that this should not act as a disincentive for private investment in higher education. Given the high level of externalities associated with higher education, the role of the state in promoting investment in the sector should equally be enhanced.

The fact that higher education yields higher returns than the secondary and primary levels does not imply that these levels should be given less priority for the simple reason that the lower levels are inputs into the higher level. Although the role of higher education in economic development has been at the centre of controversies in recent studies, there is no doubt that this level of education plays an important role on the economic development of Cameroon. Higher education has a positive impact on the earnings of individuals and consequently on their productivity which is crucial for the overall productivity of output growth. However, caution needs to be taken when concluding that higher education can contribute to output growth since this depends on whether jobs are available to enable graduates use the skills acquired through human capital investments.

The analysis of the private profitability of higher education in Cameroon provides a means of assessing the economic productivity of a trained worker. This is also one of the ways to determine the contribution of higher education to the development of the country. The study has given a comprehensive assessment of the returns to higher education in Cameroon which are essential in motivating investment in the sector by both the private individual and the government. However, because Cameroon like other countries of the developing world faces the problem of declining resources and financial constraints, resources devoted to the sector of higher education should be tailored to produce the best outcomes in terms of relevance and quality in relation to programs and professionalism.

As a matter of fact, the programs of most universities in Cameroon are seriously, out of step with the real world in getting students ready to become workers in the post university world. Vocational schools are what are in vogue compared to those expensive time consuming university diplomas. Most graduates in Cameroon can hardly find jobs and without jobs there is no productivity and minus productivity there is no economic growth. What is in demand today is not graduates but people with the required skills to work in trades and services office skills, auto repairs, computer repairs, plumbing, hairdressing and many other trades. These are not necessarily desirable jobs, but they offer the means and flexibility needed by those whose true vocation is service. That is what the world is today and no reason why people are turning to private institutions which offer such opportunities.

Two trends that characterise major changes in higher education should be taken into consideration. These are privatisation and the emergence of the private sector in higher education; privatisation refers to the involvement of private sector or the market in the operation and management of the institutions of higher education while ownership rests more or less within the public domain. The private sector on the other hand, indicates growth of the non state sector in higher education which is becoming popular in Cameroon. In most cases, this sector does not receive funding from the government and in any case does not rely on state funds for its growth and expansion. The state in Cameroon is taking an interest in the activeties of this sector with regulatory texts provided for its existence and operation.

Prudent management of the scarce resources and efficiency in the allocation and use of government financing can produce better outcomes. The problem of management has plagued higher education in Cameroon. Decentralisation and the use of trained administrators based on merits will certainly bring credibility to higher education in the use of scarce resources.

Another reason for the call for continuous government financing is the promotion of equity. Higher education used to be regarded as an engine of opportunity but today, quality higher education is fast becoming the domain of the rich and influential who alone can afford the huge costs required for training in the private sector. Actually, the shift to private financing of the cost of higher education can compromise the education attainment of individuals from low income households. However, the effect will be less significant if institutions of higher education can generate incomes from activities such as research to cover part of the costs and if the revenue saved is used to provide selective subsidies to the poor especially at the primary level of education.

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