Full length Research Paper

An Assessment on Determinants of Government Public Universities Funding in Kenya

Simon Kibet Kipchumba\textsuperscript{1,2} and Liu Zhimin\textsuperscript{1}

\textsuperscript{1}Higher Educational Institute, Nanjing Agricultural University, No.1 WeiGang, Nanjing, 210095, P.R.China. \textsuperscript{2}Egerton University, Nakuru, Kenya.

\textsuperscript{*}Corresponding Author's Email, Email: Liuzhimin@njau.edu.cn, Tel./Fax +86-25-84396653, kipchumba7@yahoo.com, Tel +8613851556873

Abstract

Since the commercialization of higher education in Kenya in the early 2000s, there is an increasing record in the expansion of the number of Public Universities Kenya. The main question this paper addresses is; does the Government of Kenya use all inclusive model; Recurrent Expenditure, Development Expenditure and Students Admission Units to fund Public University Education? The paper analyzed the 6 main Public Universities in terms of their; students' admission, development and recurrent expenditures between the years 2004 to 2013. Regression model was used to establish the relationship between Government financing trends and students' admission, universities' development and recurrent expenditures. The paper established that there was no significant relationship between the Universities' Development expenditure, recurrent expenditure and Government Funding. On the other hand, the study established a significant relationship between students' admission and Government Funding.

Key Words: University Admission, University Development Expenditure, University Education, University Recurrent Expenditure, University Funding,

INTRODUCTION

As the demand for university education increases in Kenya, Public Universities have risen to the demand by admitting many students and not pegging admission to bed capacity as has been the practice in the previous years. The stretch in the University admission as a demand has not made the funding side of the equation elastic enough to address this demand. Instead of relying on a single form of funding, efforts should be made to evolve a model of funding that provides a mix of the various alternative policy choices and methods like the public exchequer, student loans, a graduate tax, and student fees (Jandhyala, Tilak and Varghese, 2012).

The levels of funding can influence the universities' economic contribution in terms of their direct initial investment impact and the effects of students and staff spending and universities operating expenditure on the surrounding economy. Mostly public universities are expected to promote technological progress, contribute to the accumulation of human capital, research and create knowledge. The funding structures are therefore meant to broaden access to professional and social advancement to the highest numbers in the general public (Douglass, 2004; Mille, 2004).

It is important to note at that not much research has been done on funding models for university education in Kenya. The few studies that have been done have concentrated in Africa for example, the challenges facing higher education financing in Africa are particularly severe because of the continent's rate of population growth (Ledoux 2007). Economists have taken several approaches like student-level data and population of prospective to modelling enrolment demand at universities. A number of researchers (Ehrenberg and Sherman, 1984; Moore, Studenmund and Slobko, 1991; Buss, Parker and Rivenburg, 2004) have analyzed the likelihood of an individual admitted applicant enrolling for
The key determinants of college enrolment among students include the availability of loans, work-study, and grants offered as well as the relative cost of the school that they chose to attend. The student enrolment to higher education is influenced by a number of cost factors. The five cost factors that determine the enrolment yield in university whether public or private include the required amount of tuition, mandatory fees and room and board charges, as well as the size and composition of financial-aid packages. It has been documented in most literature that college costs are strongly and negatively associated with enrolment yield. Using the financial-aid measures shows that the average financial-aid offer particularly the grants and loans have a positive and statistically significant effect on enrolment yield (Buss, Parker and Rivenburg, 2004).

Governments and institutions throughout Africa have implemented various policies designed to reduce costs, including freezing salaries and recruitment of teaching staff, reducing student social aid and scholarships, eliminating expenditure on books and equipment, and forgoing basic maintenance and repair activities. Without associated efficiency gains, these measures have had a negative impact on the quality of the higher education sector (World Bank, 2008a). Evidence shows that in countries with inadequate public financing and resource diversification, admitting increasing numbers of students results in a deterioration in quality. Universities find it increasingly difficult to maintain adequate student-teacher ratios, lecture halls are overcrowded, buildings fall into disrepair, teaching equipment is not replaced, investment in research and in training new instructors is insufficient, and many lecturers are obliged to supplement their income by offering their services in the private sector. At worst, inadequate funding may lead to student protests and strikes, jeopardizing the completion of the academic year. These outcomes don’t promote college improvement (World Bank, 2009). The intended study is focused on establishing the mediating role of students’ enrolment on the relationship between government funding and improvements in college outcomes among public universities in Kenya.

The capacity of the public universities is still limited and only 3 percent of the university aged cohort are selected for government sponsorship and enrol in university education. The rest of the students who are deemed officially qualified for university admission on the basis of their KCSE results enter university on a self-paying basis, others are admitted to the private sector leaving another very big qualified number of students unable to enter higher education (UNESCO, 2006; Ngolovoi, 2006).

Like most African countries, higher education in Kenya was historically free, with the public purse covering both tuition and living expenses (Weidman, 1995). Economic difficulties, and the alarming increase in population, coupled with rising oil prices of 1973 (Cutter, 2001) changed this trend and resulted in the reduction of the recurrent budget allocated to higher education, and eventually the introduction of user charges. The introduction of cost-sharing and user charges in higher education was due to the shortfall in the public budget for higher. Public universities resolved to alternative.

Income generating sources aimed at reducing their overdependence on the government budget through the establishment of units for income generation, introduction of the Module II programs, external consultancy and research contacts (Kigotho, 2000). As a result of these and many other measures, the funding and admission of self-sponsored students for the revenue diversification was expected to see improvement in college outcomes and offset some fractions of the considerable financial austerity facing public universities in Kenya today. Given that the public universities have the highest number of student enrolments justifies why the intended study will focus on the public universities funding, student enrolments and college outcome improvements.

The pattern of financing higher education does not seem to be very different between the several layers of higher education. All public institutions of higher education rely extensively on public funds. The reliance varies between 70% and 92% of their total (recurring plus non-recurring) expenditure. Institutions of national importance, that are involved in science and technology education and research activities, are probably understandably financed by the government to the extent of 92% of their expenditure. But surprisingly so are the colleges below degree level that provide diploma and certificate courses. Fee contributions are very small in general. From the efficiency point of view, one can expect the public subsidies to flow relatively more to areas where the social rates of return are high. From the equity point of view, fee burden should be less in those areas, that are populated relatively more by the students of less privileged groups of the population. It may be difficult to combine the two criteria. But the evidence shows at least tentatively that the efficiency criterion is being more cared for in the case of fee and subsidy policies in higher education (Jandhyala, Tilak and Varghese, 2012).

The government of Kenya introduced a new policy in 1991, as a response to the ever declining state budget where students and/or their parents were required to cover both modest tuition fees and contribute to the costs of maintenance. The Higher Education student loan program was established to enable the needy students to access higher education institutions. It was faced by challenges of high default rates, which reached 81 percent in 1987 prompting the establishment of the Higher Education Loan Board (HELB) in 1995. With the inception of HELB, loan recovery has been increasing. This increase is a result of efficient record keeping, obligating employers through the use of the law to ensure repayment and also by cultivating a culture of repayment among loan recipients (Ngolovoi, 2006).
HELH targeted the needy students orphaned as a result of HIV/AIDS and those who come from regions that have been classified as disadvantaged. The undergraduate student loan scheme covers about three quarters of the yearly higher education costs that must be borne by government sponsored students (referred to hereafter as module I students) and their family and about 40 percent of the tuition fee for the self-sponsored students (referred to hereafter as module II students) and is available to all needy students in public and private universities.

The Ministry of Education disburses about 82 million each financial year to HELB. HELB identifies needy students through means testing and awards bursaries according to each student’s level of need. Once HELB determines that a student should be awarded a loan, the Loans Board pays Ksh 8,000 (US$271) directly to the university towards the student’s tuition costs. The remaining loan funds are paid to the student through his/her bank account for food and lodging costs and other living expenses (GoK, 2006; Ngolovoi, 2006).

Funds are paid directly to the universities towards tuition costs. The maximum amount that a student can receive in the form of bursaries is Ksh 8,000 (US$271). Students in private universities do not receive bursaries from HELB and instead apply to the Ministry of Education for funds. Students in both private and public universities can also apply for grants or bursaries from the Constituency Development Fund (CDF). The CDF was created through an Act of Parliament in 2003 to finance community-based projects with the overall goal of poverty alleviation (GoK, 2006). Needy students from various constituencies can apply for the bursaries, which account for 10 percent of the total CDF (GoK, 2006; Ngolovoi, 2006).

Today Kenya Government is pursuing Vision 2030. 

Kenya Vision 2030 is the country's new development blueprint covering the period 2008 to 2030. It aims to transform Kenya into a newly industrializing, "middle-income country providing a high quality life to all its citizens by the year 2030" (Republic of Kenya, 2007). Critical players in achieving Kenya Vision 2030 are the universities.

The market model also advocated by Oketch (2003) and Lamptey (1994) stresses the injection of the market principles and market driven approaches into the financing of higher education to make it completely self-financing. While Oketch views marketing model of financing higher education in terms of financial diversification and partial privatization of public universities; Lamptey advocates for the adoption of the contemporary marketing concepts of product, price, place and promotion (the 4 Ps) in higher education.

The market model for financing public higher education in Kenya is justified when we consider higher education sector to be composed of market segments and therefore it can be marketed using an effective marketing mix through opening up dialogue with potential markets ready to finance higher education because they are beneficiaries and consumers of higher education products. While the market model of financing higher education has been criticized and branded as academic capitalism driving universities into entrepreneurial competition (Levidow, 1998); the model if cautiously adapted can turn around the finances of Government and donor dependent public higher education institutions.

The study sought to establish whether the Government of Kenya uses Public Universities’ Development Index, Recurrent Expenditure and Students admission as a predictor to the funding education per unit measured in terms of students admitted.

Methods

The study adopted descriptive quantitative research design. The target population was the 6 public universities whose enrollment and funding data could be traced in the last 9 years; Kenyatta University, University of Nairobi, Moi University, Jomo Kenyatta University of Agriculture and Technology (JKUAT), Egerton University and Maseno University. Since the study was interested in quantitative analysis, it took a census of the 6 universities which had the required data and within the period of the study. The study used descriptive analysis methodology to analyze the admission, university development index (combination of development and recurrent expenditure) and the Government funding data. The study collected data from the universities based on their respective admission, university development index (combination of development and recurrent expenditure) and compared with the Government funding data collected from the Ministry of Education of the Government of Kenya covering the years 2004 to 2013. The study developed the following models first to compare what should be the actual Government Funding, second comparing the actual funds from the Government to establish any funding gaps and lastly to establish any existing relationship between the independent variables; development expenditures, recurrent expenditure, students’ admission and the dependent variable which was government funds transferred to the Public Universities. The paper collected the following data set from the Ministry of Education, department of higher Education between the year 2004 to 2014; students’ admission, the University Development Expenditures, the University Recurrent Expenditures and the Government Funding. The first model was used to analyze development expenditure; Recurrent Expenditure, Unit Cost Per Admission, Funding Gap and multiple regression model between Development Expenditure per Admission, Recurrent Expenditure per Admission and Government Funding.

Where: = Infrastructure Development, = Acquisition of New Facility, =
Human Capital Development, = Marketing Programmes, = Research and Development and D = Development Expenditure.
Where; Expenditure on Wages, = Expenditure on Salaries, = Grants to Government Agencies, = Subsidies, = Purchase of Consumer Goods and R = Recurrent Expenditure.

Where; Uc = the Unit Cost Per Admission, D = Development Expenditure, R = Recurrent Expenditure and A = Admission.

The study used the model below to establish the relationship between elements of development expenditure and Government Funding.

\[ \text{Government Funding} = \alpha + \beta_1 \times \text{Development Expenditure} + \beta_2 \times \text{Recurrent Expenditure} + \beta_3 \times \text{Students' Admission} + \varepsilon \]

Where; Uc = the Unit Cost Per Admission, D = Development Expenditure, R = Recurrent Expenditure and A = Admission.

The study identified the following independent variables; wages, salaries, grant to government agencies, subsidies and purchase of consumer goods. The dependent variable was Government funding.

The following regression model was further used to statistically test the four hypothesis;

HO1: There is no statistically significant relationship between all the elements of development expenditure with the Government Funding in the Public Universities in Kenya.

In order to test this hypothesis the study identified the following independent variables; infrastructural development expenditure, acquisition of new facilities expenditure, human capital development, marketing programmes expenditures, research and development expenditure. The dependent variable was Government Funding. The study used the model below to establish the relationship between elements of development expenditure and Government Funding.

\[ \text{Government Funding} = \alpha + \beta_1 \times \text{Development Expenditure} + \beta_2 \times \text{Recurrent Expenditure} + \beta_3 \times \text{Students' Admission} + \varepsilon \]

Where; Uc = the Unit Cost Per Admission, D = Development Expenditure, R = Recurrent Expenditure and A = Admission.

The study identified the following independent variables; infrastructural development expenditure, acquisition of new facilities expenditure, human capital development, marketing programmes expenditures, research and development expenditure. The dependent variable was Government Funding.

The following regression model was further used to statistically test the four hypothesis;

HO2: There is no statistically significant relationship between elements of recurrent expenditure with the Government Funding in the Public Universities in Kenya.

The independent variables used to analyze this hypothesis were students’ admission and combined university expenditures (Development and Recurrent) whereas the dependent variable was Government Funding. In order to arrive at the analysis of this relationship, the study developed the following models to arrive the unit cost of training one student compared to Government Funding per one student admitted.

\[ \text{Government Funding} = \alpha + \beta_1 \times \text{Development Expenditure} + \beta_2 \times \text{Recurrent Expenditure} + \beta_3 \times \text{Students' Admission} + \varepsilon \]

Where; Uc = the Unit Cost Per Admission, D = Development Expenditure, R = Recurrent Expenditure and A = Admission.

The study identified the following recurrent expenditures independent variables; wages, salaries, grant to government agencies, subsidies and purchase of consumer goods. The dependent variable was Government funding.

HO3: There is no statistically significant relationship between student admissions with the Government Funding in the Public Universities in Kenya.

The independent variable in this hypothesis test was students admitted in the Public Universities between 2004 and 2013 whereas the dependent variable was Government Funding. The following model was used to establish this relationship;

\[ \text{Government Funding} = \alpha + \beta_1 \times \text{Students' Admission} + \varepsilon \]

Where; Y = Government Funding, \( \alpha = \)constant, \( = \)parameter estimates, \( = \)students admission and \( = \)the error of prediction.

The independent variables used to analyze this hypothesis were students’ admission and combined university expenditures (Development and Recurrent) whereas the dependent variable was Government Funding. In order to arrive at the analysis of this relationship, the study developed the following models to arrive the unit cost of training one student compared to Government Funding per one student admitted.

\[ \text{Government Funding} = \alpha + \beta_1 \times \text{Development Expenditure} + \beta_2 \times \text{Recurrent Expenditure} + \beta_3 \times \text{Students' Admission} + \varepsilon \]

Where; Uc = the Unit Cost Per Admission, D = Development Expenditure, R = Recurrent Expenditure and A = Admission.

The study identified the following recurrent expenditures independent variables; wages, salaries, grant to government agencies, subsidies and purchase of consumer goods. The dependent variable was Government funding.

Results

Table 1 indicated the enrollment trends in the Public Universities in Kenya between the years 2004 and 2014.
The study established that University of Nairobi (UoN) had the highest number of enrollment in the trends in all the years except in 2004 when Kenyatta University enrolled the highest number of students. The average enrollment steadily increased from 9.7 in the year 2004 to 24.3 in the year 2013 except in the year 2009 when there was a marginal drop from 16.4 to 16.0. The analysis also mapped the % increase/decrease in the enrollment trends. The highest % increase of 4.0% was recorded in the year 2005, followed with 3.3% increase in the year 2010. For the last 11 years, the Public universities have admitted 1,220,200 students.

Figure 1 was used to predict the admission and enrollment trend in the Public Universities in Kenya. There was a steady increase in both admission and enrollment of students from 60,000 students in 2004 to 150,000 students in 2012. There was a drastic drop in the number of students enrolled compared to those admitted from 145,000 students to 108,000 students in 2013 and 162,000 admitted students compared to 105,000 students who were actually enrolled in the various universities. The trend analysis predicts two important things that the Higher Education Policy makers need to check keenly; first, the number of students enrolling in

---

**Table 1. Students Admission Trends 2004-2014 (in '000)**

<table>
<thead>
<tr>
<th>University</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenyatta</td>
<td>15.8</td>
<td>16.1</td>
<td>15.7</td>
<td>16.8</td>
<td>19.1</td>
<td>19.4</td>
<td>22.8</td>
<td>32.6</td>
<td>41.2</td>
<td>39.4</td>
</tr>
<tr>
<td>Maseno</td>
<td>5.6</td>
<td>5.6</td>
<td>5.5</td>
<td>5.9</td>
<td>5.7</td>
<td>5.8</td>
<td>6.0</td>
<td>5.3</td>
<td>6.0</td>
<td>5.1</td>
</tr>
<tr>
<td>UoN</td>
<td>14.1</td>
<td>33.0</td>
<td>35.0</td>
<td>36.4</td>
<td>37.4</td>
<td>33.7</td>
<td>49.4</td>
<td>44.7</td>
<td>47.5</td>
<td>43.7</td>
</tr>
<tr>
<td>JKUAT</td>
<td>4.7</td>
<td>6.3</td>
<td>5.3</td>
<td>6.3</td>
<td>7.5</td>
<td>8.9</td>
<td>10.3</td>
<td>15.8</td>
<td>16.0</td>
<td>16.1</td>
</tr>
<tr>
<td>MOI</td>
<td>8.7</td>
<td>12.0</td>
<td>12.1</td>
<td>14.1</td>
<td>15.1</td>
<td>15.4</td>
<td>15.7</td>
<td>21.1</td>
<td>26.8</td>
<td>27.5</td>
</tr>
<tr>
<td>Egerton</td>
<td>9.4</td>
<td>9.4</td>
<td>8.5</td>
<td>13.6</td>
<td>13.5</td>
<td>13.1</td>
<td>12.1</td>
<td>13.9</td>
<td>14.0</td>
<td>13.7</td>
</tr>
<tr>
<td>Average</td>
<td>9.7</td>
<td>13.7</td>
<td>13.7</td>
<td>15.5</td>
<td>16.4</td>
<td>16.0</td>
<td>19.4</td>
<td>22.2</td>
<td>25.2</td>
<td>24.3</td>
</tr>
<tr>
<td>% Increase</td>
<td>0.0</td>
<td>4.0</td>
<td>0.0</td>
<td>1.8</td>
<td>0.9</td>
<td>-0.3</td>
<td>3.3</td>
<td>2.8</td>
<td>3.0</td>
<td>-1.0</td>
</tr>
<tr>
<td>Total</td>
<td>58.2</td>
<td>82.4</td>
<td>82.1</td>
<td>93.1</td>
<td>98.3</td>
<td>96.3</td>
<td>116.3</td>
<td>133.4</td>
<td>151.4</td>
<td>145.5</td>
</tr>
</tbody>
</table>

Source: GOK Ministry of Education (2014)

---

**Figure 1:** Development Expenditure, Recurrent Expenditure and Students Admission as Predictor of University Funding
Table 2: Development Expenditure (in Kshs. ‘000,000)

<table>
<thead>
<tr>
<th>Year</th>
<th>X₁</th>
<th>X₂</th>
<th>X₃</th>
<th>X₄</th>
<th>X₅</th>
<th>Mean</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>70</td>
<td>32</td>
<td>70</td>
<td>30</td>
<td>220</td>
<td>84.4</td>
<td>422</td>
</tr>
<tr>
<td>2005</td>
<td>85</td>
<td>27</td>
<td>85</td>
<td>50</td>
<td>210</td>
<td>91.4</td>
<td>457</td>
</tr>
<tr>
<td>2006</td>
<td>100</td>
<td>200</td>
<td>50</td>
<td>20</td>
<td>340</td>
<td>142</td>
<td>710</td>
</tr>
<tr>
<td>2007</td>
<td>90</td>
<td>270</td>
<td>70</td>
<td>40</td>
<td>230</td>
<td>140</td>
<td>700</td>
</tr>
<tr>
<td>2008</td>
<td>100</td>
<td>420</td>
<td>60</td>
<td>70</td>
<td>300</td>
<td>190</td>
<td>950</td>
</tr>
<tr>
<td>2009</td>
<td>285</td>
<td>280</td>
<td>50</td>
<td>70</td>
<td>580</td>
<td>253</td>
<td>1265</td>
</tr>
<tr>
<td>2010</td>
<td>270</td>
<td>290</td>
<td>60</td>
<td>75</td>
<td>600</td>
<td>259</td>
<td>1295</td>
</tr>
<tr>
<td>2011</td>
<td>390</td>
<td>460</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>230</td>
<td>1150</td>
</tr>
<tr>
<td>2012</td>
<td>260</td>
<td>510</td>
<td>10</td>
<td>102</td>
<td>100</td>
<td>196.4</td>
<td>982</td>
</tr>
<tr>
<td>2013</td>
<td>250</td>
<td>590</td>
<td>5</td>
<td>125</td>
<td>95</td>
<td>213</td>
<td>1065</td>
</tr>
</tbody>
</table>

Source: GOK Ministry of Education (2014)

Figure 2: Enrollment and Admission Prediction Trends in Public Universities in Kenya

Public Universities will continue to increase steadily, secondly the students reporting to the universities will continue to drop. According to table 2, = Infrastructure Development, = Acquisition of New Facility, = Human Capital Development, = Marketing Programmes, = Research and Development, D = Total Development Expenditure and Mean was the mean development fund per year. The study established that the universities development fund improved between the years 2009 to 2011 but drastically dropped in the year 2012. The higher performance in these years was contributed more by marketing programme expenditures (See figure 3).

Where; Expenditure on Wages, = Expenditure on Salaries, = Grants to Government Agencies, = Subsidies, = Purchase of Consumer Goods, R = Recurrent Expenditures and mean was the mean recurrent expenditure. The universities incurred higher expenditures on grants to government agencies and salaries especially between the years 2005 to 2011. Averagely, the universities recurrent expenditures increased steadily from 2004 to 2011 when the average fell due to the drastic fall in the salaries in the year 2011.

Figure 5 was used to analyze university funding trends between the years 2004 to 2013. The study established that the funding trend was increasing every year. There was a rise in funding in the year 2006 which dropped in the year 2007. The year 2008 showed a sharp rise in the funding which sharply dropped to negative13.7% and thereafter rose again in the year 2010 by 11.4%. The succeeding years showed steady downward trends in the funding of university education. This trend clearly predicts that the percentage of the Government funding of
university education will continue to drop whereas enrollment continues to rise creating a serious funding gap.

HO₁: There is no statistically significant relationship between all the elements of development expenditure with the Government Funding in the Public Universities in Kenya

The R Square was 0.99 indicating that all the data used was close to the fitted regression line. The study established a strong positive relationship of 0.727 with P=0.000<0.05 between acquisition of new facilities expenditure and Government Funding and also a strong positive correlation of 0.446 with P=0.025<0.05 between marketing programmes expenditure and Government Funding. On the other hand, the study established a negative correlation P>0.05 between infrastructural development, human capital development and research and development.

The hypothesis that there is no statistically significant relationship between all elements of development expenditure with the Government Funding in the Public Universities in Kenya was accepted, because the study established a positive significant relationship between the following elements of development expenditure and Government funding; acquisition of new facilities and
marketing programmes. The Government funding did not relate with infrastructural development, human capital development and research and development which are considered core developmental expenditures.

**HO₂**: There is no statistically significant relationship between elements of recurrent expenditure with the Government Funding in the Public Universities in Kenya.

The R Square was 0.95 indicating that all the data used was close to the fitted regression line. The study established a strong positive correlation of 0.637 with $P=0.05$ between expenditure on purchase of consumer goods and Government Funding. On the other hand, the study established weak and negative correlation with $P>0.05$ between expenditures on wages, salaries, grants to government agencies, subsidies.

The hypothesis that there is no statistically significant relationship between elements of recurrent expenditure with the Government Funding in the Public Universities in Kenya was accepted. This was because the study established statistically significant relationship between expenditure on purchase of consumer goods and Government Funding. On the other hand, the study did not establish significant relationship between expenditures on wages, salaries, grants to government agencies, subsidies.

**HO₃**: There is no statistically significant relationship between student admissions with the Government Funding in the Public Universities in Kenya.
### Table 3: University Funding Gap per Students Admitted (’000,000)

<table>
<thead>
<tr>
<th>Year</th>
<th>D</th>
<th>R</th>
<th>A</th>
<th>(D+R)</th>
<th>F</th>
<th>Uc</th>
<th>Uf</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>422</td>
<td>1750</td>
<td>58300</td>
<td>2,172.0</td>
<td>1200</td>
<td>0.037</td>
<td>0.021</td>
<td>(0.017)</td>
</tr>
<tr>
<td>2005</td>
<td>457</td>
<td>2470</td>
<td>82400</td>
<td>2,927.0</td>
<td>1500</td>
<td>0.036</td>
<td>0.018</td>
<td>(0.017)</td>
</tr>
<tr>
<td>2006</td>
<td>710</td>
<td>3730</td>
<td>82100</td>
<td>4,440.0</td>
<td>15100</td>
<td>0.054</td>
<td>0.184</td>
<td>0.130</td>
</tr>
<tr>
<td>2007</td>
<td>700</td>
<td>3550</td>
<td>93100</td>
<td>4,440.0</td>
<td>2270</td>
<td>0.046</td>
<td>0.024</td>
<td>(0.021)</td>
</tr>
<tr>
<td>2008</td>
<td>950</td>
<td>4100</td>
<td>98300</td>
<td>5,050.0</td>
<td>2000</td>
<td>0.051</td>
<td>0.020</td>
<td>(0.031)</td>
</tr>
<tr>
<td>2009</td>
<td>1265</td>
<td>4540</td>
<td>96300</td>
<td>5,805.0</td>
<td>2150</td>
<td>0.060</td>
<td>0.022</td>
<td>(0.038)</td>
</tr>
<tr>
<td>2010</td>
<td>1295</td>
<td>4730</td>
<td>116300</td>
<td>6,025.0</td>
<td>2300</td>
<td>0.052</td>
<td>0.020</td>
<td>(0.032)</td>
</tr>
<tr>
<td>2011</td>
<td>1150</td>
<td>5690</td>
<td>133400</td>
<td>6,840.0</td>
<td>2750</td>
<td>0.051</td>
<td>0.021</td>
<td>(0.031)</td>
</tr>
<tr>
<td>2012</td>
<td>982</td>
<td>2620</td>
<td>151500</td>
<td>3,602.0</td>
<td>3400</td>
<td>0.024</td>
<td>0.022</td>
<td>(0.001)</td>
</tr>
<tr>
<td>2013</td>
<td>1065</td>
<td>2680</td>
<td>145500</td>
<td>3,745.0</td>
<td>3550</td>
<td>0.026</td>
<td>0.024</td>
<td>(0.001)</td>
</tr>
</tbody>
</table>

**Source:** GOK Ministry of Education (2014)

The R Square was 0.84 indicating that all the data used was close to the fitted regression line. The study established a strong positive correlation of 0.914 with $P=0.00<0.05$ between students enrollment and Government Funding. The study established statistically significant relationship between students' admission, university combined expenditures with the Government Funding in the Public Universities in Kenya.

**Hypothesis of study:**

**H0:** There is no statistically significant relationship between student admissions, university combined expenditures with the Government Funding in the Public Universities in Kenya.

**Where:**

- $D =$ Development Expenditure
- $R =$ Recurrent Expenditure
- $A =$ Admission
- $Uc =$ Unit Cost Per Admission
- $Uf =$ Government Funding per Student Admitted
- $G =$ the funding gap

The R Square was 0.84 indicating that all the data used was close to the fitted regression line. The study established a strong positive correlation of 0.914 with $P=0.00<0.05$ between students enrollment and Government Funding. The study established a strong positive correlation of 0.914 with $P=0.00<0.05$ between students enrollment and Government Funding.

The study established statistically significant relationship between students' admission and Government Funding.

**Where:**

- $D =$ Development Expenditure
- $R =$ Recurrent Expenditure
- $A =$ Admission
- $Uc =$ Unit Cost Per Admission
- $Uf =$ Government Funding per Student Admitted
- $G =$ the funding gap

The hypothesis that there is no statistically significant relationship between student admissions, university combined expenditures with the Government Funding in the Public Universities in Kenya, the study establish significant relationship between students admission and
Government Funding on one hand and on the other hand, there was no statistically significant relationship between combined University Expenditure and Government Funding. The Government of Kenya only considers students admission but not both development expenditures and recurrent expenditures when modeling Public university Funding.

Discussions

This section presents discussions on the findings discussed above in reference to determinants of Public University Funding Model in Kenya. First, the trends in University admission, developmental and recurrent expenditures as government response through appropriate funding model is still a challenge in Kenya. The study established that the admission trend in Public universities in Kenya will continue to increase uncontrollably which in turn automatically increase the universities' developmental and recurrent expenditures whereas government funding will continue to be on downward trends, an indication that the Kenya Governments will not have financial capacity to fund university education proportionate to the increasing admission trends.

Second, the study established a positive significant relationship between the following elements of development expenditure and Government funding; acquisition of new facilities and marketing programmes but did not relate with infrastructural development, human capital development, research and development which are considered core developmental expenditures. Although the study established statistically significant relationship between expenditure on purchase of consumer goods and Government Funding there was no significant relationship between expenditures on wages, salaries, grant to government agencies, subsidies and Government funding which are key cost centres as far as university expenditures are concern, which should have been factored in coming up with the unit cost in funding university education. The study established statistically significant relationship between students’ admission and Government Funding which is the fundamentally indicates that the Government looks at its overall budget allocation based on the number of students without looking other key variables like development and recurrent expenditures.

Recommendations

The study recommends that; more private-public partnership on university education needs to be adopted to manage the funding gap that this study established. Universities should have a close partnership with industries so that the industries can appreciate cause of getting involved as partners towards funding university education. In this partnership, the issues around funding models from both the private and public sectors should be dealt with. Universities should be centers of entrepreneurship excellence apart from centres of knowledge transfer. Public Universities should establish industries within their programmes where competitive products and services are created for the existing markets. For example, Structural engineering department should consult on buildings, designs and advisory services as a means of income generation. This new innovative perspective can make universities generate income that they can use to finance their programmes. The innovations in different academic departments should be geared towards the contributions towards funding models. Till to-date, there is no clear model of university funding in Kenya. This situation naturally introduces wastage and mis-directed funds. The Ministry of Education should develop an economic financing model of public universities which should be based on all the demand side of university education including the factoring in of all the expenditures and the supply side of Government Funding and also by looking at all the elements required in coming up with the unit cost of training a student.

References


(Daily Nation June 21, 2011)


