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Cost Sharing in Zambia's Public Universities: Prospects and Challenges

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This research paper explores the concept of 'cost sharing' which became more prominent in Zambia education with the advent of democratic form of governance in 1991. As a way of responding to the ever diminishing tax revenues, government through the education policy of 1996, allowed higher education institutions including public universities to introduce cost sharing as way of improving financial vibrancy, accountability and cost effectiveness. This paper therefore, uses students' perceptions to examine the cost sharing policy which has now been existence for almost two decades. More specifically, it explores underlying factors which can make cost sharing more effective and sustainable. Recent studies show that the impact of the cost sharing has been modest, though still remains one viable and cost effective way of financing public universities. In exploring these prospects and challenges, a self administered questionnaire based on convenient sampling was used to collect data from 729 respondents in Zambia's three biggest public universities. Data was subjected to Analysis of Variance (ANOVA) and Exploratory Factor Analyses. The findings revealed that the current cost sharing policy was appropriate but lacked the government support in its implementation. The study further highlighted the need for re-engineering the current policy by providing details on the implementation process. The study highly recommends that a true cost-sharing model be implemented in an effort towards making public universities more effective and sustainable.

Key Words: cost sharing; public universities; prospects; challenges; Zambia

Introduction and Current Status

Zambia became an independent nation from Britain in 1964. With no public universities at independence, the government and its citizens contributed enormously to the creation of the first public university three years later (University of Zambia). From inception of the first public university in 1966 to 1996, the government used to sponsor all students admitted to the two public universities arguing that universities costs were substantial and also Zambia urgently needed to develop the human capital for its accelerated development. The University was well financed from 1966 to 1974 while the economy was doing relatively well and had massive revenues from the mining industries. Shortly after 1975, the education system crippled when the economy declined with the dramatic fall in copper prices due to a world economic recession, as well as the closure of the traditional export/import routes and rampant world inflation (Kelly, 1991; Gillies, 2010). With another public university opening in 1987 (Copperbelt University), it added a further strain on government. In order to improve the declining fortunes of public universities, the Zambian government crafted new education policy guidelines regarding financing of higher education based on cost sharing (MOE, 1996). By this policy all students in higher education institutions in Zambia were required to pay fees for tuition, board and accommodation. The higher education system which was highly centralized was now liberalized and decentralized in accordance with democratic principles of local government (MOE, 1996). Private provisions through this policy were also encouraged. For public universities … "financing of public universities will be on the

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shared basis between the government, the institutions themselves, and students" as noted in policy (MOE, 1996 p105).

Currently, the cost sharing policy in the two oldest universities has taken the form of 'dual cost tuition model' where there are two streams of students. In this system, governments decide on the numbers of students it would like to support and pays full tuition for them while the rest pay tuition and fees. Up to date, 80% of students in these two public universities are still sponsored by government and only 20% are self sponsored. While in Zambia's newest public university (Mulungushi university), follows a 'unit cost tuition model', where all students admitted pay economic fees and is operating in a relatively viable and sustainable way compared to the other two traditional universities. It is against this background that this paper seeks to highlight the underlying factors to the current cost sharing policy in public universities since its inception in 1996, thereby highlighting prospects and challenges.

Theoretical Underpinnings and Selected Literature

This study was guided by two influential theoretical perspectives of financing higher education, the human capital underpinnings and the neo-liberal ideologies. World over, there is an argument as to whether tax funding should be used or continue being relied on in the provision of higher education. The other view point is that since tax funding is ever reducing, and higher education accrues benefits that transcend social (private) returns, justifies the need for the beneficiary to pay for it. The first based on the Marxist orientation (famous in Zambia in the 80s and early 90s), advocates for free higher education based on principles high social return, tuition limits access among others, Barr (2005). The second being market ideologies which argues that the private rate of returns to higher education to the individual is very high, and that the beneficiary should contribute toward education and paying tuition ensures the efficiency and accountability of institutions to students and parents among many more other arguments (Atuahene, 2006; Johnstone, 2003).

Woodhall (1997) opines "the concept of human capital refers to the fact that human beings invest in themselves, by means of education, training or other activities which raises their future income by increasing their life time earnings" (p.24). We have to be alive to the fact that economist use the term 'investments' to refer to the expenditure on assets which will produce income in the future, and contrast investment expenditure with consumption, which produces immediate satisfaction or benefits but does not create future income (Mankiw, 2010). Assets which will generate income in the future are called capital. For a long time economists analyst limited their definition of investment and capital to physical capital such as machines, equipment or building which would generate income in the future by creating productive capacity (Woodhall, 1997). However, Adam smith a classical economist was the first to argue that education helped to increase the productive capacity of workers in the same way of purchase of a new machine, or other forms of physical capital (Ibid, 1997). Henceforth, an analogy was drawn between investment in physical capital and investment in human capital.

Closely related to the human capital is the social rate of returns. This framework is based on the assumption that pursuing university or some form of higher education has a positive impact on the reduction of some social menace such as smoking, crime, and many more other vices for the community and society at large. The Baum and Payea (2004) study confirms that the higher the level of education in the society, the higher the likelihood of the reduction of crime in society and smoking among university students. A further investigation as to whether there is an external return to higher level of schooling at the state level in the United States, Acemoglu and Angrist (2001) using compulsory school laws to study the impact of educational level on certain social habits. They found that their analysis showed that the level of incarceration among high school graduates was lower at a probability rate of 0.8 percentage points for white males and 3.4 percentage points for black males. A similar study by Lochner and Moretti (2004) further demonstrates the impact of higher level of education on crime. Using gov-

ernment data on incarceration, arrests and self-reported criminal activities, they easily found that the probability of incarceration in the U.S. is negatively correlated with the level of education (Ibid, 2004). Whereas correlation is not causality per se, it is equally important to point out that in the case of the U.S., where most black males are denied access to higher education (College and University) partly because they cannot afford to pay, it will not be over-statement to state that the high percentage rate of black incarceration, holding other unobserved factors constant, is due to their lower level of education (Lochner and Moretti, 2004).

One of the earliest proponents of market ideologies, Levidow (2005) argues that the ongoing developments in higher education and the pressure on universities to generate additional sources of income have plunged higher education into a terrain for Marketizing agendas. His argument, founded on the neo-liberal ideology, forces universities to adopt marketing strategies to generate income to supplement the diminishing state financial resources earmarked for higher education. The Neo-liberal framework had become the reform agenda of the International Monetary Fund (IMF) and the World Bank (WB) in the early 1990s, which was prescribed to Zambia in the form of Structural Adjustment Programs (SAPs). The basic assumption behind structural adjustment was that an increased role for the market would bring benefits to both poor and rich since systems would be efficient, accountable since the market plays a central role (Gillies, 2010; World Bank, 1994).

With prescriptions of this ideology, higher education was compelled to undergo massive and huge restructuring through a reduction in public sector expenditure, a cutting off perceived unproductive department, and retrenchment of staff and above all privatization of some public services which were seen as for common good (Atuahene, 2006). The consequence of this was a reduction in higher education investment as universities were asked "… to reduce funding of higher education, in the name of both egalitarian and efficiency criteria" (Levidow, 2001, p. 8). In countries like Zambia, the World Bank advocated for more resources to be devoted to Primary and Secondary (basic education) sectors as they were perceived to bring more benefits of human capital to Sub-Saharan Africa. Interestingly, Levidow (2003) contended that the neo-liberal ideology pushed on Africa by IMF and World Bank was designed to "recolonize" African Countries. Actually, the introduction of tuition and fees together with the overall economic ramifications of Structure Adjustment Program (SAP) conditionalities has made higher education most accessible to the bourgeois (upper class) than the proletariat (poor).

The increasing demand for university education or higher education combined with the necessary financial stringency of both public and private institutions and national governments has led to different policy initiatives that involve the reallocation of resources for different and competing social services, including, education, health services, infrastructure and different government ministries such as agriculture, tourism just to mention just but a few (Altbach, 2006; 2009). Among the many other policy alternatives that have been put in place is the introduction of cost recovery or cost sharing, deferred payment of loans, and pressure on universities to diversify resources to generate alternative sources of income just again to mention a few options (Johnstone, 2009). On top of this the controversy about the importance of higher education to the individual and the society as a whole and continuing political debate about the most desirable system for financing higher education in order to reduce government subsidies. Also the need to increase responsibilities and parental involvement in the financing of university education is being debated. To a large extent, in neo-liberal ideologies higher education is increasingly seen as a private good (excludable) to be purchased by a student, who in most cases is redefined as a customer (Wellen, 2005). The result for this is that individuals and institutions start using neoliberal policies and as an economic rationality to make educational decisions, including attempts to treat and govern the university just like any traditional business, its faculty as traditional workers, and its students as customers. This could have serious implication on quality and credibility of universities or higher education institutions (Saunders, 2009; Chaffee, 1998). The question to ask is: What is cost sharing then?

Cost sharing is a common phenomenon now in different social disciplines or sectors of the world (Johnestone, 2008). Sectors which in the past were wholly supported by government are now putting emphasis on shared cost. This is also the case with university education. Cost sharing in university education refers to a shift in the burden of university education costs from being borne exclusively or predominately by government, or taxpayers, to being shared with parents and students (Johnstone, 2008). Cost-sharing is most associated with tuition fees and "user charges," especially for governmentally- or institutionally-provided room and board (Johnstone, 2009). Charging tuition and fees policies are more widely practiced than one would imagine based solely on the reading of national constitutions that espouse free education (Shattock, 2001). The financial difficulties on universities in developing countries has led to the de-facto use of aspects of this mixed model, particularly concerning charging fees and tuition, even though there may be constitutional prohibitions and hindrances (Ibid, 2001). In many countries, including Russia and most of Asia, Egypt, the central Asian republics, and most of sub-Saharan Africa, constitutions declare that education is free yet an increasingly larger percentage of the student enrollment in public institutions pays fees (Shattock, 2001)

Scott (2002) made an observation by saying the dual track system developed out of necessity because most governments could not keep pace with the exponentially rising costs of providing higher education, and leaders could not undertake the political expense of attempting legal changes to the policies of financing. "In this compromised approach institutions can offer *additional* seats to fee-paying students (and they can retain a certain percentage of this revenue locally) after they have admitted a predetermined number, by the central authorities, of full scholarship students who qualify based on the national entrance exam" (McNernery, 2009 p.49). The implication of this has been that public universities have become semi-privatized by increasingly depending on fee income as the case is for Zambia now. In some countries the dual-track approach has become very popular to an extent where the percentage of fee-paying students now exceeds merit-based scholarship students like in the former soviet bloc (Shattock, 2001). For Zambia, the opposite is still the case (80% of student in public institution still receive free government support or scholarship).

Most leading scholars in higher education finance advance several categories of arguments that are used to justify and rationalize cost-sharing (the transfer of financial responsibility from the state to parents and students). Most often proponents of tuition and fees typically use three approaches to rationalize this transfer, among others include; comparative analysis studies of similar countries, perceptions of equity in a particular culture, and rates of return analysis based on the Human Capital Theory (Shen and Zinderman, 2007; Barr, 2005). In developing countries like Zambia, there are many factors that have been used to limit the heavy involvement of students and parents in financing higher education. Johnstone (2002) notes that in developing countries the debate about cost-sharing arrangements is politicized and therefore based on special pleadings and vague information, typically anecdotal. Secondly, there is an absence of financing support either in the form of grants or student loans. Consequently students have to find the money up front before they can matriculate and last; if *means testing* is required then there are technical difficulties in verifying parental ability to contribute (Ibid, 2002). Johnstone (2004) examined the rationales for cost-sharing as well as the continuing ideological, political, and technical opposition to it, even in the face of extreme austerity and the virtual inevitability of higher educational revenue diversification in most countries.

In most of the 'Southern African Development Countries' (SADC), unlike in the developed countries, public universities are transforming and attempting to introduce cost sharing measures while private higher education institutions are for profit making owned private individuals or corporations. Inadequacy of funding for higher education is often seen a consequence of weak departments of higher education within ministries of education. A widespread lack of planning and oversight capacity in these ministries sometimes results in universities spending more than they have been allocated, or building up

huge debt burdens (like the case of Zambia) (Pillay, 2008). SARUA (2012) argues in detail why funding to higher education should be given priority since it has a clear link to economic growth and broader social and sustainable development, which had not yet been fully recognised by African governments. What though was clear is that higher education financing in the countries considered was often *Inadequate* and it is *inequitable* and *inefficient* in almost every country (SARUA, 2012). In the face of serious financial resource constraints for higher education, education ministries had responded mainly in two ways. First, there has been a clear shift towards cost sharing in the form of tuition fees in countries such as Namibia, Zambia and Zimbabwe. In some countries (Tanzania, Zambia and Zimbabwe for example), this has taken the form of a dual track system where a fee-paying system co-exists with a free, government-sponsored scheme for some students (SARUA, 2012).

The Problem and Questions Guiding the Research Paper

The policy on higher education finance in Zambia is guided by the national policy on education, 'Educating Our Future' (1996). This document is anchored on education provision which encourage cost sharing in higher education especially at public universities. Through the introduction of cost sharing and revenue diversification policy, the ministry and other concerned stakeholders wanted the universities to become more efficient, prudent and sustainable. When this policy was introduced, the public universities were expected to improve on rationalisation of resource mobilisation and utilisation (MOE, 1996). The reality of the situation in Zambia's public universities is that facilities have remained unexpanded since most of these institutions were established decades ago. For instance, the University of Zambia was established in 1966 to fewer than 4,000 students and is now admitting over 15000 students to study in different disciplines. Student accommodation continues to face the most pressure. Room arrangement in the student halls of residence that were initially designed to accommodate two people are now made to accommodate more students. Lecture halls are overstretched across all public universities (Masaiti, 2012). In order to arrest the menace, Sikwibele (2007) advocates for comprehensive higher education financial reforms which would be effective and sustainable. This study probes student perspectives on the current cost sharing policy in public universities, there by identify and deduce the underlying factors which can improve its viability and effectiveness. More specifically the study answers three questions:

i) Does the perception of male and female respondents differ on the effectiveness of cost sharing policy of public universities?
ii) What challenges is the current cost sharing policy facing in public universities finance?
iii) What underlying factors can influence the current cost sharing policy to make public universities viable and sustainable?

Methodology Employed

In methodological perspective, the student respondents came from different public universities and disciplines. They were either government or self supported. The student status varied from Bachelor to Master degree pursuing, though majority were bachelor. A convenient sample was considered in the study. Initially 1000 questionnaires were given for and only 729 (72.9%) were received and completed. all the respondents came from any one of the three big public universities in Zambia (University of Zambia, Mulungushi university and Copperbelt university). The primary technique for collecting data was a self-developed questionnaire, containing self-assessment items, measured on the 5-point Likert type, and open-ended questions.

In data analysis, the mean differences of each scenario for the male and female respondents were carried out by one way ANOVA (Analysis of Variance). The level of concern and perception was

done between different sexes for each of the items under cost sharing. The Means and Standard Deviation of each scenario was given. A sample t-test was performed to compare the mean differences of two sets of respondents to check the level of significance of each. Further, Exploratory Factor Analysis (EFA) was used to analyze the components of the policy based on views collected. Factor analysis is a statistical procedure especially used to basically identify a small number of factors that can be used to represent relationships among sets of interrelated variables. In other words it is a method which is used to examine how underlying constructs influence the responses on a number of measured variables.

Results of the Research Paper

Perception to Cost Sharing Based on Gender

Respondents were asked to rate the level of agreement about each of the 22 cost sharing items using a 5 point scale, with 1=strongly disagree, 2=disagree, 3=moderate, 4=agree and 5= strongly agree. The policy on cost-sharing states that: 'Financing of public universities will be on the shared basis between the government, the institutions themselves, and students'. As shown in) Appendix 1 male respondents scored 11 high perception agreement items greater than 3.3 on the 5-point scale. Government to provide clear and detailed guidelines on cost sharing (M=4.46, SD=0.83) was the highest among 22 cost sharing item which indicate the level of concern for the government to provide a detailed and well crafted policy concerning cost sharing. This was followed by the current cost sharing policy to be adjusted (re-engineering) (M=4.15, SD=0.96), here the students strongly want the cost sharing policy to be adjusted or re-engineered to make it more meaningful and relevant. This was then followed by, government paying tuition for students in public universities (M= 4.03, SD=1.12), government should mostly finance capital project (M=4.01, SD=1.19), students contribution to public universities should be subsidized (M=3.92, SD=1.14), cost sharing among stakeholders must be encouraged (M=3.87, SD=1.13), some on government bursaries can afford economic fees (M=3.75, SD=1.11), cost sharing is a good policy option (M=3.71, SD=1.18), poor implementation of cost sharing policy has increased debt in public universities (M=3.66, SD=1.21), cost sharing can improve university finance (M=3.65, SD=1.14). The male student respondents were least in agreement with these survey items: Zambian parents can afford tuition and fees (M=1.52, SD=0.92), followed by bursaries committee should be abolished (M=1.66, SD=1.17), free bursaries to students in public universities should be abolished (M=1.70, SD=1.10).

On the other hand female student respondents also gave government to provide clear and detailed guidelines the highest mean score of 4.53(SD=0.90) over the 22 cost sharing items advanced in the study. This was followed by government should mostly finance capital project (M=4.19, SD=1.10), then cost sharing is a good policy option (M=4.06, SD=1.15), cost sharing policy should be re-engineered or adjusted (M=3.97, SD=1.11),cost sharing among stakeholders should be encouraged (M=3.89, SD=1.13),government should pay tuition for students in public universities (M=3.87, SD=1.26), public universities should subsidize students (M=3.76, SD=1.17), cost sharing can improve university finance (M=3.75, SD=1.15), some on government bursaries can afford economic fees (M=3.74, SD=1.23), government should pay fees for students in public universities (M=3.73, SD=1.21), poor implementation of cost sharing has increased debt in public universities (M=3.63, SD=1.22). The females were least in agreement with the items, bursaries committee should be abolished (M=1.53, SD=1.08) and Zambian parents can afford tuition and fees (M=1.57, SD=0.89).

The result also show that both the male and female were commonly concerned with issues related to university financing of administrative and personal emolument (M=3.05, SD=1.25) for males and (M=3.13, SD=1.24) for females. However, it is interesting to note that among the 22 cost sharing item, the females had a slightly higher mean on 13 of them.

A sample *t-test* was performed to compare the student mean differences of each cost sharing item between males and females on their perceptions to cost sharing. The analysis shows that the mean differences of the two sets of respondents show that 9 items were statistically significant at the confidence level of 0.05 while other 13 other items were not statistically significant as shownAppendix 1. Cost sharing is a good policy option and the current policy of cost sharing has been effective were significant at p<0.001.

Further Analysis Using Factor Analysis to Underlying Factors

Initially, the factorability of the 22 cost sharing items was examined. Several well-recognised criteria for the factorability of a correlation were used. Cost sharing items correlated at least .3 with at least one other item, suggesting reasonable factorability. Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was .70, above the recommended value of .5, and Bartlett's Test of Sphericity was significant ($\chi^2 = 2555.362$, $p < .05$ in fact, p was significant at <0.001). The diagonals of the anti-image correlation matrix were all over .5, supporting the inclusion of each item in the factor analysis. Finally, the communalities were all above .3, further confirming that each item shared some common variance with other items. Given all these overall indicators, factor analysis was conducted with all 22 items.

Principle components analysis was used because the primary purpose was to identify and compute composite coping scores for the factors underlying the cost sharing policy as it appears in the current Zambia policy documents. The initial eigenvalue showed that the first factor explained 12.2% of the variance, the second factor 11.7% of the variance, and a third factor 9.5% of the variance respectively. Then the fourth 7.1% fifth was 5.6 %the other factors sixth and seventh had eigen values of just over one, each factor explaining 4%. From the table of 'initial solution', the 'eigenvalue' is the variance explained by each factor. Any factor that has eigenvalue of less than one does not have enough variance explained to represent a unique factor, and therefore disregarded. In this analysis, we have to note that component 8 going down have eigenvalues less than 1.0, so they have been eliminated from the analysis (8 to 22 eliminated) though together represent a variance of slightly above 40%.

A Principal Axis Factor (PAF) with a Varimax (orthogonal) rotation of 22 of the Likert scale questions from this attitude survey questionnaire was conducted on data gathered. The pattern matrix for varimax rotation reports the factor loadings for each variable on the components of factors after rotation. The path analysis, showed seven topic factors as shown in Appendix 2. After performing exploratory factor analysis on all the 22 cost sharing items, the path analysis, showed seven topic factors as shown below:

Three items were loaded onto factor 1. These items were related to respondents perception about the nature of the current cost sharing policy, what it can do for public universities and whether should be encouraged among stake holders. This factor was labeled as "Positive perception to cost sharing being a good policy option" (Q.8, 9, & 17). Four item loads onto factor 2 are related to implementation, sustainability and effectiveness of the current cost sharing policy. This related to students making an assessment as they see the current policy needed to be adjusted. This factor was labeled as "Favorable perception to re-engineering cost sharing to make it effective and sustainable" (Q. 20, 13, 16 &10). The three item load onto factor 3 relates to soliciting student views as to whether government should play a central role in paying both fees and tuition for especially poor students. This factor was therefore labeled as "Government to continue sponsoring students in public universities through loans" (Q. 12, 11 & 18). The three item load into factor 4, probes student views on abolishment of the bursary scheme, free grants and the involvement of parents in paying the cost in public universities. The factor was labeled as "Negative perception to self sponsorship" (Q. 24, 22 & 23). Three items loading onto factor 5 related to lack of detailed explanation on how cost sharing should be executed especially when it comes to student share. The factor was labeled as "Need for clear guidelines on current cost sharing policy"

(Q.19, 21 & 25). Three items loaded for factor 6 related to what government should sponsor/fund in the current policy of cost sharing model. The factor was labeled "Government to mostly finance capital project" (Q. 26, 29 & 27) and Factor 7 constituted on items which stipulate in what is expected of public universities in terms of funding/cost. This factor was labeled "Universities to mostly finance administrative and personal emolument" (Q.15, 14 & 19).

Reliability is the extent to which results are consistent over time and accurately represent the total population under study. If the same results can be reproduced using similar methodology, then the research instrument is considered to be reliable. Cronbach's alpha is a measure of internal consistency. A high of alpha probably above 0.6 is generally accepted though other researchers prefer it to be between 0.7 and 1. Under cost sharing, Cronbach's alpha for the seven factors were 0.802, 0.782, 0.631, 0.602, 0.774, 0.815 and 0.739 respectively. This Cronbach's alpha indicates a moderate to acceptable and good internal consistency though some items needed strengthening to improve their loadings.

Discussion

Based on the findings, the discussion presented is on three key considerations: first, on how the perceptions of male and female respondents differ on the effectiveness of cost sharing policy in public universities. Secondly, on a further discussion focusing on the challenges of the policy and lastly on the underlying factors to the current cost sharing policy. Consistent with other studies, respondents generally agreed that the higher education is increasing experiencing financial austerity as well as the emergency robust policy changes (Johnstone, 2009; Zinderman, 2007; World Bank, 2010; Atuahene, 2006). Most of these changes are in the area of cost sharing intervention as a key in making public universities effective and viable, thereby bringing about much needed sustainability. The awareness of the problem should generate greater willingness to change the current practice which has not helped in improving tertiary education, especially in Zambia's public universities.

One of the objectives of this study was to compare the similarities and differences to policy of financing public universities perception between male and female respondents. For Cost sharing, it was found that the two gender groups for both students and lecturers held similar perceptions on different cost sharing items. All respondents were more concerned about: the need for government to provide clear and detailed guidelines to the current cost sharing policy. This item had the greatest support among all the respondents, followed by the need to re-engineer the cost sharing policy, then was followed by government to mostly finance capital project. Other items which were also highly ranked included: cost sharing is a good policy option with and also the need to subsidize student had relatively high support. Two items which were least supported (disagree) by all categories of respondents were: Zambian parents have the capacity to pay tuition and fees (above 85%) and Bursaries committee should be abolished (above 84%). Students were only going to accept the abolishment of the bursaries, if government introduced the loan scheme especially for needy students. They strongly indicated that a big proportion of Zambian parents had no capacity of paying economic fees.

This is consistent with the world wide trend where stakeholders are concerned about the onset of cost sharing mechanisms in higher education. Sometimes parents are worried of ever increasing neoliberal ideologies and fear that higher education will only be accessed by the elites especially in developing countries like Zambia. Most respondents want more clarity in these cost sharing policies and in some cases demand some changes. Generally, the cost sharing policies have a lot of support in higher education finance world over, though some stakeholders are worried about the extreme form of cost sharing (McNernery, 2009; Scott, 2002). In theory, there has been a justification of cost sharing since graduates also receive significant private benefits, in terms of, higher earnings, more satisfying jobs

and/or greater enjoyment of leisure, making it efficient and equitable that they bear some of the costs (Barr, 2008).

The policy of cost sharing from policy states that: 'Financing of higher Education (universities) will be on the shared basis between the government, the institutions themselves, and students' (MOE, 1996). The introduction of multiparty politics in 1991 meant that the government was no longer centralized but rather decentralized. In principle cost sharing was based on decentralization, democratic principles of efficiency, equity, accountability and cost effectiveness. Cost sharing in university education refers to a shift in the burden of university education costs from being borne exclusively or predominately by government, or taxpayers, to being shared with parents and students. In most cases, cost sharing is most associated with tuition fees and "user charges," in especially government supported institutions (Levin & Belfied, 2003). All categories of respondents indicated that the current cost sharing policy was not meeting and reflecting the requisite needs of public university education. The current status core is still skewed to almost complete reliance on the state funding with only a small percentage of students captured in truly cost sharing model. The public universities are not given the real autonomy needed for them to operate cost sharing arrangements. The universities are still dependent on government in financing of different aspects of their budgets, including capital projects and staff emoluments. Of all the public universities, Mulungushi University is the only public university which was implementing a true cost sharing model, all students at Mulungushi University pays relatively commercial fees which are used for daily operation such as payment of faculty and other administrative costs. Capital projects are catered for by the government. The university was also busy in entrepreneurial activities. Other public universities were operating the dual track tuition model where the majority of students were still receiving free government bursaries.

For future prospects, it is important for the beneficiaries of university education to contribute towards it especially in the environment where government resources are strained. Looking at worldwide trend, this is the best and appropriate way of making universities effective and sustainable. This argument is supported by Johnstone (2009) who argues that through cost sharing the graduates are contributing to the cost of their degree. Barr (2009) in agreeing argues that higher education creates benefits beyond those to the individual and further indicate these benefits may be in terms of growth, the transmission of values, and the development of knowledge for its own sake, graduates also receive significant private benefits, in terms of, higher earnings, more satisfying jobs, greater enjoyment of leisure, making it efficient and equitable that they bear some of the costs (Barr, 2009). In Zambia's case, graduates in two public universities are trained at great cost (given grants) and are not in any way compelled to pay back to government or institutions. This kind of support is increasingly becoming unsustainable as tax funding has become limited especially with the current 'massification' in higher education and also competing needs (Masaiti, 2012). Government support in public universities was still crucial but not in giving grants to students.

Previous studies shows and confirms the importance of cost sharing which put emphasis on the distribution of educational costs between governments (taxpayers) and the individual participants in higher education and their families. The theory of "cost-sharing" is based on the assumption that if students benefit and gain from higher education, it is fair that students should pay parts of the costs (Atuahene, 2006; Barr, 2008). The satisfaction scale was extracted from developed questionnaires from previous research, in which some items were used to develop and identify the underlying factors related to cost sharing in higher education. 22 cost sharing items were identified. A sample *t-test* was performed to compare the student mean differences of each cost sharing item between males and females on their perceptions to cost sharing. The analysis on the mean differences of the two sets of respondents showed that 9 items were statistically significant at the confidence level of 0.05. From the responses of students and lecturers, it was clear that both the human capital and neoliberal theories were supported.

Conclusion

In conclusion, the paper has established that the cost sharing in Zambia's public universities needs to be strengthened especially in its implementation. Clearly, the cost sharing full potential is yet to be realized in these two public universities. The biggest challenge and hindrance is government which still sponsors students at subsidized rates which are not commensurate with the actual operational costs. Hence this has increased austerity in these institutions. As a future prospect, government should consider introducing the student loan scheme which will carter for only needy students while others should pay as the case is at Mulungushi University. Zambia's newest public university, Mulungushi University (opened in 2008), operates on the 'unit cost tuition model' even though government supports it only for capital projects. It is autonomous in decision making and operates like a business (Masaiti, 2012). All services provided by the institutions are provided for at cost and are borne by the consumer. All students pay economic fees in this university. This is the only public university which has been relatively successful though it is operating on the trial model.

Recommendations

- It is highly recommended that government through the ministry of should avoid unbridle interferences in terms of the determination of cost sharing, releasing grants, determining tuition fees and engineering the election of university administration and council. Decision-making should truly be decentralised and public universities be allowed to charge economic fees, among other actions. Government could consider granting university-level institutions autonomy to charge cost recovery fees, while ensuring measures to allow access to university education for needy and deserving students.
- It is recommended that a true cost-sharing model be implemented in an effort toward making public universities more effective and sustainable. The current practice where government sponsors about 80% of students in public university is unsustainable. Currently, the model exists only on paper and has never been fully implemented for more than 16 years. All stakeholders, especially the government, need to review the current policy and formula for financing public universities.

Limitations

A study concerning cost sharing should not only focus on public universities but be extended to private universities. This helps in giving a clear picture of higher education finance in terms of cost sharing. This was a clear limitation to this study. A consideration of only student respondents can give biased findings. The study should have expanded its sample to include many other stakeholders such as: the lecturers, administrators and parents so that a clear and comprehensive picture is given.

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Appendix 1. Questionnaire Results: Student Perception to Cost Sharing

Student perception to Cost Sharing	Males (N= 403)		Female (N=326)		*t-test*	
	Mean	SD	Mean	SD	*t-value*	sig.2-tailed
Q8a Cost Sharing is a good policy option	3.71	1.18	4.06	1.15	-3.96	0.000
Q9. Cost Sharing can improve University finance	3.65	1.14	3.75	1.15	-1.13	0.021
Q10. The current policy on Cost Sharing has been effective	2.22	0.93	2.49	1.16	-3.41	0.000
Q11. Govt. should pay tuition for students in public universities	4.03	1.12	3.87	1.26	1.87	0.062
Q12. Govt. should pay fees for students in public universities	3.68	1.22	3.73	1.29	-0.56	0.573
Q13. The current Cost Sharing policy is well implemented	2.16	1.01	2.22	0.99	-0.87	0.383
Q14. Public universities should finance their own budgets	2.25	1.24	2.43	1.30	-1.96	0.041
Q15. Cost Sharing policy should be adjusted (re-engineered)	4.15	0.96	3.97	1.11	2.37	0.018
Q16. Cost sharing has made public universities sustainable	2.61	1.12	2.78	1.18	-2.01	0.045
Q17. Cost-sharing among stakeholders should be encouraged	3.87	1.13	3.89	1.13	-0.29	0.774
Q18. Students in public universities should pay own costs	2.00	1.09	1.87	1.11	1.57	0.117
Q19. Public universities should be subsidize students	3.92	1.14	3.76	1.17	1.83	0.008
Q20. Universities are effectively implementing the C.S policy	2.46	1.01	2.56	1.12	-1.14	0.255
Q21. Govt. to provide clear and detailed guidelines on C.S	4.46	0.83	4.53	0.90	-1.09	0.277
Q22. Free bursaries to students in public university be stopped	1.70	1.10	1.68	1.15	0.29	0.771
Q23. Zambian parents can afford tuition and fees	1.52	0.92	1.57	0.89	-0.78	0.439
Q24. The Bursaries committee should be abolished	1.66	1.17	1.53	1.08	1.53	0.127
Q25. Some on govt. bursaries can afford economic fees	3.75	1.11	3.74	1.23	0.05	0.959
Q26. Poor implementation of C.S policy has increased debt in public universities	3.66	1.21	3.63	1.22	0.25	0.802
Q27. Government should mostly finance Capital projects	4.01	1.19	4.19	1.10	-2.08	0.038
Q28. Students should finance their direct costs	2.80	1.15	2.59	1.19	2.41	0.016
Q29. Universities to finance admin. and personal emolument	3.05	1.25	3.13	1.24	-0.82	0.431

Appendix 2. Factor loadings and communalities based on a principle components analysis with Varimax rotation for 22 items from the cost sharing policy

Rotated Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
Q8a Cost Sharing is a good policy option	.824		-.110				
Q9. Cost Sharing can improve University finance	.804						
Q17. Cost-sharing among stakeholders should be encouraged in public universities finance	.620	.140	.134		.295		.136
Q26. Poor implementation of Cost Sharing policy has been the cause of declining financial fortunes in public universities	.356	-.253		.103	.280	.319	-.216
Q20. Universities are effectively implementing the current Cost Sharing policy		.753		.105			.118
Q13. The current Cost Sharing policy is being well implemented		.746			-.155		-.110
Q16. The current Policy of Cost sharing has made public universities sustainable	.268	.629			.130		-.197
Q10. The current policy on Cost Sharing has been effective		.472	.118		-.380	.285	.102
Q15. The current Cost Sharing policy should be adjusted (re-engineered)	.124	-.375	.151		.258	.195	.367
Q12. Government should pay fees for students in public universities	-.113		.828				
Q11. Government should pay tuition for students in public universities			.798		.159		
Q18. Students in public universities should pay their own costs	-.166		-.529	.250	.215	.166	-.171
Q28. Students should mostly finance their direct costs in public universities	.145	.132	-.379	.269	.203	.205	.270
Q24. The Bursaries committee should be abolished				.766			
Q22. Free government tuition grants to most students in public universities should be stopped			-.238	.730			
Q23. Zambian parents have the capacity to pay both tuition and fees for their children		.108		.729			
Q25. Some on government bursaries can afford economic fees (Fees at market value)					.729		
Q21. Government should provide clear and detailed guidelines on Cost Sharing	.310				.585		
Q29. Public universities should mostly finance other administrative and personal emolument (Salaries &related)						.710	-.165
Q27. Government should mostly finance Capital projects (such as cost for buildings/infrastructure) in universities	.193			-.199		.649	.170
Q14. Public universities should finance their own budgets		.148		.119	.242	.210	-.698

Q19. Students Contribution to public universities should be subsidized	.178	.381	.105	.527

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged. in 14 iterations
Note: Factor loadings < .1 are suppressed