FINANCING PUBLIC HIGHER EDUCATION AND RESEARCH IN SUB SAHARAN AFRICA AS A GLOBAL CHALLENGE: TOWARDS SUSTAINABLE AND REALISTIC MODALITIES

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"Higher education institutions in sub Saharan Africa are the most financially challenged in the world" (Teferra, 2014: 20).

The above quotation presents a realistic picture of the challenges of financing African higher education institutions. Although financing of (public) higher education is currently a global challenge; it is a more critical challenge in sub Saharan Africa because of the application of unsustainable and unrealistic higher education financing modalities. Unrealistic higher education financing modalities have resulted into low expenditures on R & D and the subsequent low research capacity to undertake and publish scientific research in most sub Saharan African higher education institutions. Documentary and research evidences show that research productivity is low in most African public universities with the exception of South African universities where performance-based funding model is applied to fund public universities. Furthermore, documentary and research evidences also show that expenditures on R & D as a percentage of GDP is below the recommended 1% in most African countries (See *World Bank Development Indicators, 2014: Science and Technology Table 5.13).*

Objectives and Thesis of the Paper

In the context of the above introduction, the objectives of this paper are two-fold:

- Discuss the current funding modalities of public higher education in sub Saharan Africa, their strengths and limitations; and
- Propose alternative and sustainable funding modalities of public higher education for improvement of research and institutional productivity.

The major thesis of this paper is that current modalities of funding public higher education are unsustainable and un-realistic in the context of building a vibrant and strong higher education sub sector in Africa which can effectively contribute to the socio-economic and technological development. Therefore, alternative, sustainable and realistic financing modalities of public universities are urgently needed to empower public universities to effectively contribute to Africa's development agenda through the

production of new knowledge generated from scientific research. In the following section current funding modalities of public higher education institutions in sub Saharan Africa, including their strengths and limitations are presented.

Current Funding Modalities of Public Higher Education in sub Saharan Africa: Their Strengths and Limitations

Generally, there are three (3) dominant modalities for funding public higher education institutions in sub Saharan Africa:

- Government funding modality
- Donor support modality; and
- Cost sharing modality

Government Funding Modality

In this modality, public higher education institutions are fully-funded by governments for capital, development and recurrent expenditures under the assumption that higher education is a public good, implying that higher education has more social returns accruing to society than private returns accruing to individual graduates and their families. The concept of higher education as a public good has been challenged by current research which shows that higher education has more private returns (accruing to individual graduates and their families) when compared to benefits accruing to society.

There are three limitations inherent in this model: i) perpetuation of dependence of public universities on government funding because they are unable to internally generate financial resources through revenue diversification; ii) loss of institutional autonomy and academic freedom and late and (at times inadequate) disbursement of financial resources requested by public universities from governments. Documentary evidence shows that there are discrepancies between public universities' budgetary requests (approved by respective university councils), and governments approves and what is financially disbursed to public universities in Africa.

Donor Support Modality

Donor support modality is an alternative dominant funding model for research and development in most African public universities because of inadequate investment in R & D by governments. As observed earlier, less than 1% of the GDP is invested in R & D by African governments, despite the African Union Commission's commitment of investing 1% of the GDP in R & D activities. The donor support modality of funding public higher education operates within donor aid model where the African public universities are recipients and funders of R & D activities are *de facto* donors, currently called "development partners" for political expediency.

The strength of the donor support model lies in its inherent capacity to internationalize research in African public universities mainly through unequal research partnerships and links where donors (mainly North based universities and research institutions and universities) dictates research agenda and consequently research outputs or deliverables. The major limitations of donor support modality are loss of institutional autonomy and research agenda ownership. Researchers in African public universities do not own research agenda and consequently research output. An extension of the above limitation is self-censorship by researchers in African public universities to get access to more research funds to purchase laptops, donor-funded motor vehicles, air conditioners for their offices, travel abroad for workshops etc. These "research fringe benefits" are usually not funded by African governments, although they are important for improved working conditions for researchers in African public universities and are generally related to increased research productivity.

Cost Sharing Modality

This modality is mainly implemented through government-funded student loans schemes (for students in public and private universities) which are not effectively functioning in many African countries where they have been established and through revenue diversification activities. Student loans schemes are not effectively functioning because of resistance by loans beneficiaries to repay loans (resulting in low rates of loans recovery), lack of transparency---particularly in identifying needy students, and politicization of loans schemes. Anecdotal evidences show that African politicians have frequently used higher education student loans schemes to advance their own populist political agenda. The major assumption behind cost sharing policy in higher education in Africa (where it has been implemented) is that higher education is a private good with more private returns accruing to graduates and their families. Therefore, beneficiaries have to contribute to its costs.

Cost sharing modality of funding public higher education has a great potentiality of significantly generating much needed extra income in public universities if carefully implemented. It has also great potentiality of enhancing institutional autonomy and academic freedom through increased financial autonomy.

The limitations of cost sharing modality of financing higher education as it is currently implemented in African universities include:

- Lack of synchronization and harmonization of income generation activities to align them to missions and visions of universities and national development agenda and goals;
- Tendency of universities to concentrate on income generation activities perceived to be profitable, e.g. the so-called market-driven evening academic programs; and

- Strong resistance (by both students and parents) in African countries used to "free social services" and a misconception of what cost sharing in higher education is. Resistance to cost sharing in higher education is one of the major causes of low loans recovery rates in many African countries where it is implemented.

The challenges of implementing cost sharing policy in African public universities have been documented in detail by Mamdani (2007). In the following section I propose what I consider sustainable funding modalities of public universities in Africa.

Sustainable Funding Modalities of Public Universities in Africa

The following funding modalities are proposed:

- Performance-based funding (PBF)
- Research performance-based funding system (Thomas & Koen, 2016)
- Market model (Kiamba, 2005, Lamptey, 1994, Oketch, 2003)
- Establishment of the Higher Education Development Bank (Ishengoma, 2013 & 2008)
- Establishment of Higher-Education Specific Financing Facilities (Perkinson, 2006)
- Education bonds (Perkinson, 2006.)
- Credit/unit based tuition fee financing (Perkinson, ibd.)
- Diaspora bonds for education (Ketkar & Ratha, 2011, 2012)

Performance-Based Funding

In this funding model, allocation of resources to a university is based on past performance on specified outputs in teaching and learning and research. For example, students' completion rates, number of postgraduate students admitted and graduating, number of research papers published in indexed journals etc.

As part of New Public Management (NPM), performance-based funding promotes institutional accountability in public higher education systems, enhances efficiency and is generally a steering tool to increase transparency and efficiency in public spending by linking it to quantifiable indicators generally associated with improved quality of higher education.

In sub Saharan Africa, performance-based funding of universities has been effective in South Africa, and research evidence shows that the model has *relatively* increased research productivity of South African public universities, when compared with other African public universities.

Research Performance Based Funding System

This system exclusively focuses on research performance or productivity in public universities and public research organizations for improving research performance in terms of quantity and quality of research outputs. Under this system resources are allocated to the best performing public research organizations and universities (Koen & Thomas, 2016).

The system is used as central steering mechanism adopted by the majority of European Union member nations in order to increase the effectiveness and performance of public sector research systems and promote research excellence (Koen & Thomas, ibid.)

The Market Model

The major assumption behind this model is that higher education is composed of different market segments, i.e. stakeholders or consumers/beneficiaries of higher education products, who are willing to pay for higher education if mobilized through dialogue and effective marketing strategies. The market model stresses the injection of the marketing principles and market-driven approaches into financing of higher education to make it fully-self-financing.

The model also requires transformation of the traditional or development university (common in Africa) into a corporate or entrepreneurial university. The stakeholders or consumers of higher education products in the context of the market model are the following:

- *Public higher education institutions*-these can contribute to higher education costs through income generating activities including privatization of research and consultancies, enrollment of privately-sponsored students, sale of patents and research products;
- *Students/parents*-their contribution to higher education costs is through cost sharing;
- *Government*-can provide core funding of universities through direct subventions to public universities and possibly introduction of higher education levy;
- *Private sector*—this is a potential employer of graduates and can contribute to higher education costs through direct donations for capital development, students' sponsorship, funding of professorial chairs, contracted research and consultancies and funding of professional development (e.g. workshops and conferences);
- *External donors*-can provide direct grants to higher education institutions, faculty and schools to fund research and staff development;
- *Financial institutions* are capable of financing public higher education through educational loans to students to pay for tuition and other related costs; and

- *Alumni*-through direct donations and gifts to public higher education institutions to establish endowment and trust funds. Donations and gifts from alumni is one of the traditional sources of income for strong American and European universities, but unfortunately it has not been adopted by African public higher education institutions except for a few public universities in South Africa.

Higher Education Development Bank

Apart from the above modalities of funding public higher education; I am also proposing the establishment of a Higher Education Development Bank through public private partnership modality to replace student loans schemes which are not efficiently functioning in many African countries where they have been established. This proposed bank should provide loans to students at a commercial, market value interest rate to cover tuition fees and other related costs. The proposed bank can also provide loans to academic staff to attend professional conferences and workshops abroad; cover sabbatical leave costs and book publishing costs. Apart from the above items, the proposed can also provide loans to public higher education institutions for capital development and related costs.

There are documentary evidences to suggest that the establishment of Higher Education Development Bank is a feasible proposal. For example, in Nigeria, the Nigerian Education Bank (EDUBANK), fully subscribed to by the Federal Government of Nigeria, was established in 1993 after the Nigerian Students Loans Board was dissolved after its failure to recover loans (Chuta, 1998). The EDUBANK (now defunct) had the following prescribed functions:

- Approve and disburse funds for educational purposes;
- Provide loans to students to finance their education in higher education institutions;
- Recover loans disbursed;
- Provide short-term loans to individual members of academic staff;
- Promote mobilization of savings and grants from the public and private sectors for educational development; and
- Accept deposits from individuals and institutions to finance education investment (Chuta, ibid.)

Other functions of the EDUBAK related to the core functions of universities included:

a) Provision of financial advice in educational matters to institutions of higher education, parents, students and educational investors;

b) Promote development of viable research, consultancy services and relevant ventures within institutions of higher education, research institutes and centers; and

c) Aid authors in higher education institutions by providing them with loans for the purpose of financing printing and publishing educational books (Chuta, op. cit.).

Establishing a Higher Education Specific Financing Facility

The proposed facility should provide loans to public higher education institutions (repayable at market rate interest) for purchasing new technologies, research and development projects, computer equipments and software, development and upgrading of EMIS, laboratory equipment and where possible construction of new university campuses and university colleges to carter for expansion of student enrollment. This modality of financing higher education has been successful in Mexico through the support of the International Finance Corporation (IFC) and it enabled many higher education institutions to access the much needed capital for expansion of higher education infrastructure to expand enrollment (Perkinson, 2006).

(Higher) Education Bonds

Documentary evidence shows that education bonds have successfully worked in Chile as a sustainable modality of funding both public and private universities (Perkinson, ibid.). Under this modality well-established strong African public and private universities with stable and sustainable tuition cash flows and solid governance structures can float bonds in the market and use profits from bond investment to finance critical institutional development programs, for example, expansion of the universities' infrastructure.

Apart from Chile, documentary evidence show that an increasing number of universities in US, Australia and UK have resorted to issue bonds to finance their debts or investments. As Katsomistros (2018) observe; "as global educational institutions find it increasingly difficult to come by public funding, many are looking for to the bond market to plug the gap. Higher education is the new frontier for the bond market." The value bonds issued by education providers worldwide increased from $ 2.2 billion in 2007 to $ 6.4 billion in 2017 (Katsomistros, op.cit). In sub Saharan Africa, public funding of universities has been declining over time; therefore higher education bonds can become an optional modality of funding both public and private universities.

Credit/Unit-Based Tuition Fee Financing

Charging of tuition fees on credit or unit basis instead of the whole degree program is another option for funding public or private higher education. According to Perkinson (op.cit.), this modality of funding higher education has been successful in Vietnam since 2005. This modality of funding higher education is a part of paradigm shift in Vietnam's higher education system from traditional and elite campus-based higher education delivery to mass and egalitarian based delivery of higher education, which is essentially pro-poor. There are two advantages of credit/unit based tuition fee financing of higher education:

1) The modality enables students (particularly from low income and poor families) to pay for their higher education in smaller, affordable amounts, implying expanded access to higher education; and
2) The modality is flexible because it allows students to study at their own pace while accumulating higher education at work.

Embedded in this modality is the principle of economies of scale for higher education institutions; because of expanded enrollments at lower costs and potential increased products in terms of increased number of graduates. However, for many cash-strapped African public universities (both public and private), this modality of funding higher education might not work.

Diaspora Bonds for Funding Higher Education

Diaspora bonds (although they are not widely known and understood in Africa) are potential alternative modality for funding higher education in Africa. Documentary evidence shows that millions of Africans live and work in the US and other European countries and they make substantial remission of funds to their families. African diasporas communities can be mobilized by their respective governments to raised large-scale funding to support national budgets including support of higher education through bonds. Research evidence shows that Israel has since 1951 raised over US $34 billion from diaspora bonds; while India has since 1991 raised over US$ 11 from diaspora bonds by 2011 (Ketkar & Ratha, 2011). Given the potentiality of diaspora bonds in raising large scale funding for development projects; diaspora bonds could be an important innovative higher education funding modality worth introducing in African countries. There have been some attempts by some African governments to encourage diasporas to invest in economic development projects (e.g. in Tanzania) but not in higher education, which is an engine for economic development. Unfortunately this “encouragement” has not been supported by a coherent national policies on diaspora investment in respective countries.

Conclusion

I conclude by reiterating the thesis of this paper/address that: current funding modalities of public higher education are unsustainable (some of them have failed) in the context building a vibrant and strong higher education sub sector which can effectively contribute to the socio-economic and technological development of Africa in the 21st century. Therefore, alternative higher education financing are urgently needed. The proposed modalities of funding higher education have been tested and proved to be successful in other countries in the world. There is no reason to doubt their success in Africa if tried.

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