JSEG

JOURNAL OF SMART ECONOMIC GROWTH

www.jseg.ro ISSN: 2537-141X Volume 11, Number 3, Year 2026

THE PARADOX OF GOVERNMENT-ENABLED AND GOVERNMENT-CONSTRAINED REVENUE DIVERSIFICATION: EVIDENCE FROM KENYAN PUBLIC UNIVERSITIES.

Moses Odero Ouma

The Catholic University of Eastern Africa, Nairobi, Kenya; ORCID. 0000-0002-6735-9996

Cliff Oirere Osoro (PhD),

The Catholic University of Eastern Africa, Nairobi, Kenya; ORCID. 0000-0002-8676-9122

Joseph Ndururi (PhD),

The Catholic University of Eastern Africa.

Abstract: *Revenue diversification has become a crucial strategy for public universities worldwide, particularly amid declining government funding. In Sub-Saharan Africa, universities face pressure to generate alternative income through tuition, research, services, asset utilization, and partnerships. This paper examines the paradox of government policy in Kenya, where the state both promotes and restricts revenue diversification. Using panel data from 22 Kenyan public universities from 2018 to 2023, financial stability was assessed using the Composite Financial Index (CFI) and related ratios. A fixed-effects regression with interaction terms was used to analyze how government policy functions as a moderator. Results showed that income from tuition, research, services, and assets significantly enhanced financial stability, while partnership income had a limited impact. However, government policy reduced the stabilizing effect of income from tuition, research, and assets, while somewhat supporting services and partnerships. These findings support the "enable–constrain paradox," in which governments publicly advocate self-reliance but, in practice, constrain institutional independence. The study expands Resource Dependence Theory by illustrating "managed dependence," refines Agency Theory by emphasizing accountability-driven inefficiencies, and*

adds nuance to Portfolio Theory by demonstrating that diversification benefits are distorted under restrictive policies. Policy recommendations include increasing tuition flexibility, reforming research funding mechanisms, simplifying asset approval processes, and promoting philanthropy. The paper concludes that unless governments adopt a stewardship approach to diversification rather than control, universities will remain financially vulnerable despite their efforts to diversify.

Keywords: revenue diversification, financial stability, public universities, government policy, higher education finance

1. INTRODUCTION

1.1 Background

Higher education systems worldwide have undergone significant changes in financing and governance over the past thirty years. The era of full government support for public universities has given way to a new phase of financial austerity, marked by reduced public funding and heightened competition for limited resources (Altbach & de-Wit, 2020). Universities are encouraged to pursue alternative revenue streams, such as tuition from self-funded programs, commercial research agreements, consulting services, asset utilization, and industry partnerships, to offset declines in government funding (Botlhale, 2023). These diversification strategies are considered essential to enhancing financial stability and ensuring the long-term sustainability of public universities.

A pressing example is evident in Sub-Saharan Africa, where university enrollment has surged. However, limited fiscal space leaves African governments unable to match funding levels to the growing student population (World Bank, 2020). On average, African governments allocate only about 0.5% of their Gross Domestic Product (GDP) to higher education, significantly below the global average of 1.5%. This underfunding contributes to the financial challenges universities face (ADB, 2023). The Kenyan situation exemplifies the financial pressures faced by African universities. Over the past fifteen years, the number of Kenyan public universities has increased by over 500%, from seven in 2008 to thirty-seven in 2023, while student enrollment has risen by 681%, from 85,351 in 2007/2008 to 579,000 in 2023/2024 (KNBS, 2024). As a result, the financial stability of Kenya's public universities has significantly

declined, with the country's eleven largest public universities declared technically insolvent by 2021 (OAG, 2022). Consequently, Kenyan public universities have been forced to find alternative revenue sources.

The Commission for University Education (CUE) and the Ministry of Education (MoE) have repeatedly urged universities to generate "third-stream income" through commercialization, research grants, and partnerships, among other sources, to ensure financial stability. However, the same government that promotes diversification also enforces policies that restrict institutional autonomy. Tuition caps limit fee-setting; procurement regulations delay the effective use of internally generated funds; legal restrictions on investing surplus funds, along with land-use restrictions and asset utilization strategies such as leasing and PPE, require lengthy government approval processes. This dual role of the state, i.e., both as facilitator and restrictor, creates a paradox in which universities are encouraged to diversify yet hindered from fully realizing the financial stability benefits of diversification.

1.2 Problem Statement

While revenue diversification is widely seen as a way to stabilize universities, its success in public universities depends heavily on the policy environment (Johnstone, 2021). In places where governments tightly control pricing, revenue retention, and asset commercialization, diversification may generate income but does not always ensure financial stability. Kenyan public universities clearly illustrate this problem. Despite significant diversification efforts, including self-sponsored programs, consultancies, and income-generating units, most institutions remained financially strained, facing wage arrears and rising debt (Otieno, 2022). Little research has examined diversification strategies in African universities, particularly the paradoxical role of government policy as both an enabler and a constraint (Samuel, 2021; Botlhale, 2023). Even fewer studies have used empirical panel data across multiple revenue streams to assess the overall impact on financial stability. This gap limits our understanding of why diversification often fails to produce the expected stabilizing effects in contexts like Kenya.

1.3 Research Questions

To address these gaps, this study examined the paradox of government-supported yet government-restricted revenue diversification in Kenyan public universities from 2018 to 2023 by posing three research questions:

1. What is the effect of diversified revenue streams, namely from tuition, research, services, asset utilization, and partnerships, on the financial stability of Kenyan public universities?
2. How does government policy enable or constrain the relationship between revenue diversification and financial stability?
3. What are the theoretical and policy implications of understanding how diversified revenue streams affect the financial stability of Kenyan public universities, moderated by government policy?

1.4 Theoretical Contribution

This study is based on three theoretical perspectives. First, Resource Dependence Theory (RDT) (Pfeffer & Salancik, 1978) explains how universities adapt to resource shortages by seeking new revenue streams while still relying on government support. Second, Agency Theory (Jensen & Meckling, 1976) emphasizes the principal–agent issues between the government (the principal) and public universities (the agents), particularly regarding accountability and autonomy in revenue management. Third, Portfolio Theory (Markowitz, 1952) views diversification as a means of spreading risk. By combining these theories, the paper introduces the concept of an "enable–constrain paradox" in higher education finance, thereby advancing discussions of autonomy and sustainability in resource-reliant institutions.

1.5 Empirical Contribution

Empirically, the paper examines 154 panel datasets from 22 Kenyan public universities spanning 2018 to 2024. Financial Stability (FS) was measured using the Composite Financial Index (CFI) and related ratios (Prager et al., 2010). Revenue streams were analyzed in disaggregated form, comprising tuition (STR, GTR, TR3), research and innovation (RIR1, RIR2), services (SRC, SRIGU, SRO), asset utilization (AURR, AURSA, AURBI, AUROI), and partnerships (PREF, PRAF, PRCP). Government policy was operationalized as a composite

score that captures the enabling and restrictive effects of government laws on public universities' revenue diversification efforts. The moderation analysis examined how policy changes influence the relationship between revenue diversification and financial stability. This detailed method enhances the higher education finance literature by extending beyond overall revenue analysis to examine both stream-specific effects and the role of government policy in moderating these effects. Few previous studies in Sub-Saharan Africa have applied this level of empirical rigor.

1.6 Significance and Relevance

The findings of this study are significant in three ways. First, they assess whether revenue diversification alone is sufficient to ensure financial stability or whether a supportive policy environment is equally crucial. Second, the study reveals a contradiction between government rhetoric and practice, showing how states may unintentionally weaken the financial resilience they aim to build. Third, it offers broader policy implications that extend beyond Kenya, providing insights for other low- and middle-income countries where governments remain the primary funders while pursuing market-based reforms.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Revenue Diversification in Higher Education

Funding for higher education has increasingly shifted away from reliance on government support toward a diverse range of income sources. Worldwide, universities have sought funding beyond public funding, including tuition fees, commercial research, consulting, and donations (Marginson, 2022). This shift toward diversification is often associated with neoliberal reforms that emphasize institutional independence and entrepreneurial activities (Chikoto, Ling, & Neely, 2022). Research across Europe, North America, and Asia indicates that multiple income streams enhance institutional resilience to financial shocks and provide greater flexibility (Clarke et al., 2020; Ehsan, 2023). In Africa, the need for diversification has become even more urgent due to rapid enrollment growth and ongoing underfunding by the public sector (World Bank, 2020). The World Bank (2020) observed that many African universities face structural deficits because government subsidies have not kept pace with rising demand for higher education. Revenue diversification through self-funded programs, income-generating units,

and research grants has thus become essential for survival (Teferra, 2019). In Kenya, public universities began offering parallel degree programs in the 2000s, which resulted in significant surpluses (Otieno, 2022). Similarly, these universities expanded their efforts to provide consulting services, commercialize research outputs, and lease land for agribusiness or real estate projects (Samuel, 2021). However, while diversification is widely encouraged, outcomes are mixed. Some universities achieve modest financial stability, while others still face deficits. Scholars argue that the success of diversification depends not only on institutional capacity but also on the policy environment in which it occurs (Botlhale, 2023; Rossi et al., 2024).

2.2 Government Policy as Enabler and Constrainer

Government policy plays a dual role in shaping public universities' revenue diversification efforts. On the enabling side, governments can establish legal frameworks for commercialization, provide seed funding, and promote public–private partnerships (OECD, 2021). For example, South Africa's policies on third-stream income support universities in using consultancy and contract research to supplement state subsidies (CHE, 2020). In Kenya, the Ministry of Education has encouraged universities to diversify through research grants, international collaborations, and asset commercialization (Otieno, 2022). Conversely, governments may restrict diversification through tight regulations. Tuition caps limit how much universities can raise fees to keep up with inflation or program costs (Booker, 2021). Procurement laws, designed to ensure accountability, can also hinder the timely use of income from research, consultancies, or service units (Chikoto, Ling, & Neely, 2022). Intellectual property (IP) rules may assign ownership of research outputs to the government, discouraging commercialization (Mabizela & Wangenge-Ouma, 2021). In Kenya, universities face lengthy approval processes for land leasing or joint-venture formation, which reduce the profitability of asset utilization projects. This mix of enabling and restrictive roles is not unique to Kenya. Studies from Ghana, Nigeria, and Uganda reveal similar patterns, in which governments publicly promote financial independence but, in practice, maintain control (Oketch, 2020; Tibarimbasa, 2022). The paradox is that governments attempt to reduce fiscal burdens while maintaining regulatory control. This study examines Kenyan universities as a key case for empirically analyzing this paradox.

2.3 Revenue Streams in Context

Revenue diversification can be disaggregated into several streams, each influenced differently by policy frameworks:

1. Tuition and related revenues (TR). In many settings, tuition remains the primary source of revenue for universities. In Kenya, tuition was divided into three main categories: government tuition, student tuition, and other tuition-related revenues. However, government-imposed tuition fee caps, the unpredictable timing of government tuition fund disbursements, and a declining number of self-sponsored students reduced this impact (Otieno, 2022).
2. Research and Innovation Revenues (RIR) were classified into Research Grants (RIR1) and Research Overheads (RIR2). Competitive research grants present a significant potential source of income for universities. However, low government investment in research and procurement, as well as restrictive financial regulations, often hinder universities' ability to reinvest these funds and fully realize their benefits (Chikoto, Ling, & Neely, 2022).
3. Services Revenues (SR). These included income from student catering services, university income-generating units (IGUs), and other services provided. Here, universities often face fewer policy restrictions, with greater flexibility (Samuel, 2021).
4. Asset Utilization Revenues (AUR). These include income from renting facilities, such as leasing land or developing commercial real estate; student accommodation; bank interest on surplus cash investments; and other ways of using assets to generate revenue. Some of these initiatives, such as land leasing and real estate investment, require government approval. While legal frameworks permit such ventures, bureaucratic delays impede the realization of tangible benefits (Mabizela & Wangenge-Ouma, 2021).
5. Partnership Revenues (PR). This includes collaborations with industry partners, both locally and internationally, as well as with alumni associations. These partnerships are encouraged by government policy, yet bureaucratic hurdles in MoU approvals and ambiguities in the tax treatment of donations often constrain growth (Rossi et al., 2024).

This analysis focused on specific revenue streams, highlighting the uneven effects of government policy across revenue types.

2.4 Theoretical Perspectives

Resource Dependence Theory (RDT)

RDT suggests that organizations rely on external resources that influence their strategies and power dynamics (Pfeffer & Salancik, 1978). Universities in Kenya remain heavily dependent on the government for funding and regulatory approval. Diversification is an adaptive strategy to reduce vulnerability, but complete independence remains impossible. The government maintains its influence by regulating fee caps and grants, approving the use of assets, and exercising governance and policy control through the appointment of all university council members and chairmen. This study extends RDT by showing that dependence persists even with diversification, owing to the government's dual role as both a financier and a regulator.

Agency Theory

Agency Theory explores the relationship between principals and agents, focusing on issues of control and accountability (Jensen & Meckling, 1976). In higher education, governments act as principals seeking accountability for public funds, while universities serve as agents aiming for autonomy. Conflicts occur when universities pursue revenue opportunities that clash with government priorities or regulations. For example, government restrictions on consultancy income reflect concerns about mission drift, whereas universities see them as unwarranted interference. The enable–constrain paradox can thus be understood as a principal–agent conflict over financial decision-making.

Portfolio Theory

According to Portfolio Theory, diversification improves stability and spreads risk (Markowitz, 1952). To protect themselves from fluctuations in government funding, Kenyan public universities that follow this approach diversify their revenue sources. However, government policy constraints distort the risk-return balance. For example, the stabilizing effect of these streams is diminished by limits on asset use or tuition. This paper, drawing on Portfolio Theory, argues that government-imposed restrictions consistently erode the benefits of diversification at Kenyan public universities.

2.5 Literature Gap

Despite prior research emphasizing the importance of revenue diversification, several gaps remain. First, most studies view diversification as an institutional strategy, with little attention to how government policy shapes its outcomes (Booker, 2021; Botlhale, 2023). Second, empirical research on African universities often relies on descriptive case studies instead of panel data and econometric analysis (Oketch , 2020). Third, the dual role of the government as both a facilitator and a hindrance to diversification remains undertheorized. This study addressed these gaps by:

1. Disaggregating revenue streams to analyze differential policy effects.
2. Employing panel data and moderation models to capture dynamic relationships.
3. Advancing the conceptual idea of an "enable–constrain paradox" that expands Resource Dependency Theory, Agency Theory, and Portfolio Theory into the African higher education context.

2.6 Conceptual Framework

The conceptual framework (Figure 1) treated financial stability (measured by the Composite Financial Index and its ratios) as the dependent variable, drawing on relevant theories and the reviewed literature. The independent variables were the disaggregated revenue diversification streams (TR, RIR, SR, AUR, and PR). Government policy was incorporated in the model as a moderating variable.

JOURNAL OF SMART ECONOMIC GROWTH
JSEG
www.jseg.ro ISSN: 2537-141X Volume 11, Number 3, Year 2026

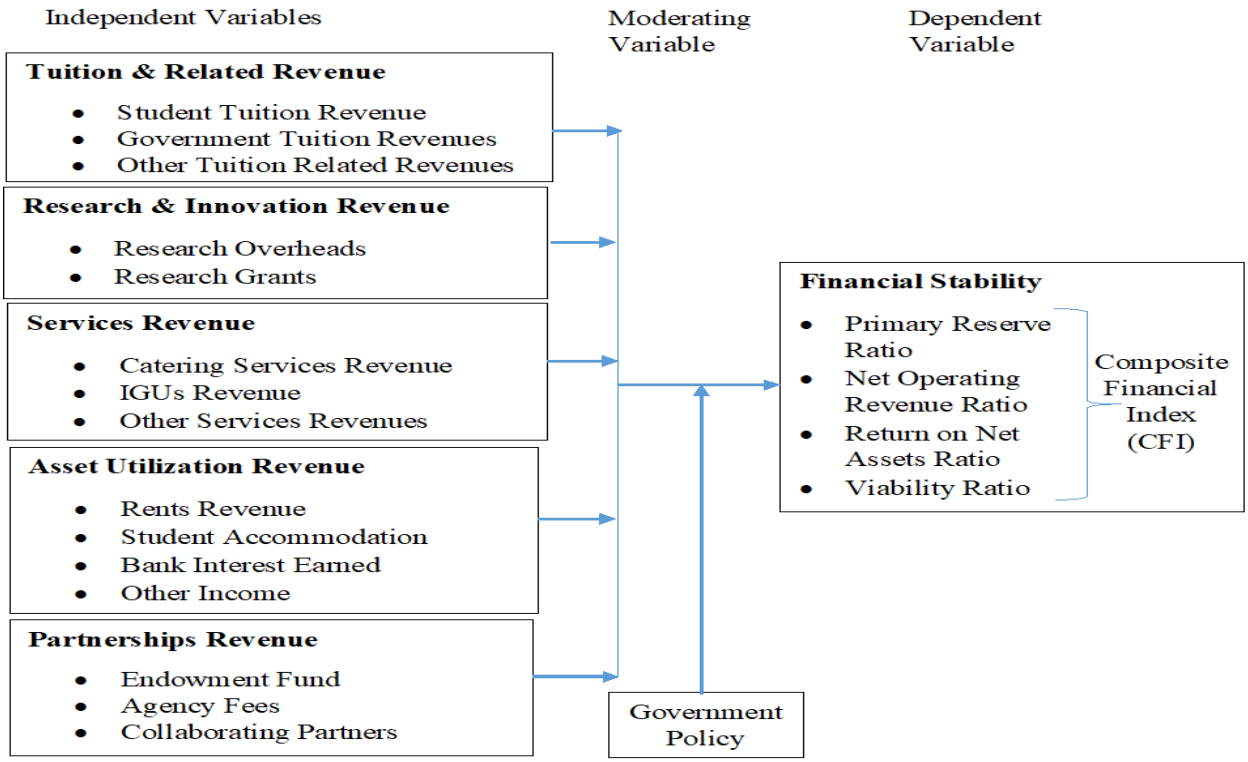


Figure 1. 1 Conceptual Framework

3. METHODOLOGY

3.1 Research Design

Grounded in positivist philosophy, the study adopted a quantitative explanatory research design using a longitudinal panel-data approach to examine the relationship between revenue diversification and financial stability in Kenyan public universities from 2018 to 2024. Panel data analysis was selected because it captures both cross-sectional (across universities) and time-series (across years) variations, enabling more precise estimation of causal relationships while accounting for unobserved heterogeneity (Hsiao, 2014). By combining institutional-level financial data with policy-context variables, the study offers a robust assessment of the paradoxical role of government policy in both enabling and restricting revenue diversification.

3.2 Population and Sample

The population comprised all 37 chartered public universities in Kenya recognized by the Commission for University Education (CUE). Using purposive sampling, a sample of 22 public

universities was selected for the study based on age, with each university at least 10 years old. Data were collected from published, audited financial statements and university annual reports for the period 2018-2023. This period was selected because it captures the most recent period of increased financial stress among universities, coinciding with government funding reforms, fluctuating enrollment levels, the COVID-19 pandemic, and intensified diversification efforts. Complete datasets were available for all 22 sampled universities (100% coverage), ensuring a highly representative sample of the sector.

3.3 Variables and Operationalization

3.3.1 Dependent Variable: Financial Stability (FS)

Financial stability was assessed using the Composite Financial Index (CFI), which combines four ratio-based indicators (Prager et al., 2010): the Primary Reserve Ratio (PRR), measuring liquidity relative to expenses; the Net Operating Revenue Ratio (NORR), assessing operating margins; Return on Net Assets (RONA), indicating institutional profitability and efficiency, and the Viability Ratio (VR), evaluating the ability to cover long-term obligations. Each ratio was standardized and weighted to compute the CFI, with higher scores indicating greater financial stability (KPMG, 2021).

3.3.2 Independent Variables: Revenue Diversification Streams

Revenue diversification was operationalized through five disaggregated revenue categories: The first was the Tuition and Related Revenues (TR), which included government transfers for students (GTR), tuition fees paid directly by students (STR), and tuition-related charges paid directly by students (TR3). The second variable was the Research and Innovation Revenues (RIR), which was subdivided into competitive external research grants (RIR_1) and internally generated research overheads (RIR_2). The third variable was Services Revenues (SR), which comprised income from catering services (SRC), university income-generating units (SRIGU), and all other services-related revenue (SRO). Asset Utilization Revenues (AUR) was the fourth independent variable, comprising rental income (AURR), student accommodation (AURSA), bank interest earned (AURBI), and other sources (AUROI). The fifth and final independent variable was the Revenue diversification, which was operationalized through five disaggregated revenue categories: The first was Tuition and Related Revenues (TR), which

included government transfers for students (GTR), tuition fees paid directly by students (STR), and tuition-related charges paid directly by students (TR3). The second variable was Research and Innovation Revenues (RIR), subdivided into competitive external research grants (RIR1) and internally generated research overheads (RIR2). The third variable was Services Revenues (SR), comprising income from catering services (SRC), university income-generating units (SRIGU), and all other services-related revenue (SRO). Asset Utilization Revenues (AUR) was the fourth variable, including rental income (AURR), student accommodation (AURSA), bank interest earned (AURBI), and other sources (AUROI). The fifth and final independent variable was Partnership Revenues (PR), comprising income from endowment funds (PREF), agency fees charged (PRAF), and income from other collaborating partners (PRCP). All revenue variables were expressed in natural logarithms (ln) to normalize distributions and reduce heteroskedasticity.

3.3.3 Moderating Variable: Government Policy (GP)

Government policy was implemented using a Government Policy Index (GPI) created for this study. The index assessed the supporting versus hindering effects of five legal frameworks within which public universities operate, and how compliance with these laws either promoted or inhibited revenue diversification. The five laws covered different aspects of the university's operations that directly affect its ability to diversify revenue. Since all public universities must comply with all applicable laws without exception, each was assigned an equal score of 20%. These are:

a. Creation, Financing, and Governance of Public Universities, as covered by the Universities Act, No. 42 of 2012.
b. b. Financial Management and commercial autonomy, governed by the Public Finance Management Act No. 18 of 2012.
c. c. Efficiency in procurement of goods, works, and services as provided for in the Public Procurement and Asset Disposal Act, 2015.
d. d. Freedom for land asset management and use, as provided for in the Land Act No. 6 of 2012.
e. e. Freedom to engage with other partners in beneficial partnerships, covered by the Public Private Partnerships No. 15 of 2013.3

Scores were standardized between (0–100) and averaged to produce annual GP indices for each university. Higher scores indicated more enabling policy environments.

3.4 Data Sources

Data were collected from Audited Financial Statements of the Public Universities for the financial years ended June 2018 to June 2024. Data on GP moderation was extracted and standardized from the applicable legal instruments.

3.5 Estimation Strategy

3.5.1 Model Specification

The baseline panel regression model was:

$$FS = \beta_0 + \beta_1 lnTR_{it} + \beta_2 lnRIR_{it} + \beta_3 SR_{it} + \beta_4 lnAUR_{it} + \beta_5 lnPR_{it} + \varepsilon$$

The moderation model incorporated interaction terms as follows:

$$FS = \beta_0 + \beta_1 lnTR_{it} + \beta_2 lnRIR_{it} + \beta_3 SR_{it} + \beta_4 lnAUR_{it} + \beta_5 lnPR_{it} + \beta_6 GP_{it} + \beta_7 GP_{it}*lnTR_{it} + \beta_8 GP_{it}*lnRIR_{it} + \beta_9 GP_{it}*lnSR_{it} + \beta_{10} GP_{it}*lnAUR_{it} + \beta_{11} GP_{it}*lnPR_{it} + \varepsilon$$

Where i = university, t = year, and ϵ = error term.

3.5.2 Estimation Method

Both Fixed Effects (FE) and Random Effects (RE) models were estimated. The Hausman test ($\chi^2 = 14.564$, $p < 0.001$) confirmed that FE was more appropriate, indicating a correlation between university-specific effects and explanatory variables.

3.6 Diagnostic Tests

To ensure robustness, the following tests were conducted: Multicollinearity was assessed using Variance Inflation Factors (VIFs), which ranged from 1.269 to 1.37, well below the threshold of 5. Heteroskedasticity was assessed using the Breusch–Pagan and Levene tests to determine whether the variance of the error terms was constant across the revenue variables. The Breusch–Pagan test results were statistically insignificant for Tuition and Related Revenue ($\chi^2 = 2.098$, $p = 0.147$), Research and Innovation Revenue ($\chi^2 = 1.014$, $p = 0.314$), Services Revenue ($\chi^2 = 0.467$, $p = 0.494$), Asset Utilization Revenue ($\chi^2 = 1.565$, $p = 0.211$), and

Partnership Revenue ($\chi^2 = 2.179$, $p = 0.140$). These results indicated that the data did not exhibit statistically significant heteroscedasticity. The autocorrelation test yielded a Wooldridge F statistic of 0.246 ($p = 0.119$), indicating no serial correlation. For the Unit Root Tests, the ADF panel tests indicated stationarity after log transformation.

3.7 Ethical Considerations

The study used publicly available institutional financial reports to ensure compliance with research ethical standards. No confidential or personally identifiable data was involved. Data cleaning and imputation procedures followed transparency protocols.

3.8 Limitations

Three limitations are acknowledged. First, reliance on audited reports means some data may reflect delays or government accounting practices rather than real-time performance. Second, the GP Index, though carefully designed, is partly subjective in weight allocation. Third, the study focuses on Kenyan public universities; therefore, the findings may not be generalized directly to private institutions or to other countries without adaptation.

4. RESULTS

4.1 Descriptive Trends

Kenyan public universities exhibited fluctuating financial stability (FS) scores over the seven years from 2018 to 2024. The Composite Financial Index (CFI) averaged 4.98, decreasing from a high of 5.9 in 2019 to 4.3 in 2024. Tuition and Related Revenues (TR) remained the primary source of income, averaging 91% of total revenue. Research and Innovation Revenues (RIR) accounted for only 2%, Services Revenues (SR) for 4%, Asset Utilization Revenues (AUR) for 3%, and Partnerships (PR) for less than 1%. Revenue Diversification, measured by the HHI, averaged 0.57, with a peak of 0.6 in 2019.

4.2 Correlation Analysis

Correlation analysis revealed positive and significant relationships between FS and four revenue streams: TR ($r = 0.71$, $p < 0.01$), RIR ($r = 0.61$, $p < 0.01$), SR ($r = 0.51$, $p < 0.01$), and AUR ($r = 0.43$, $p < 0.01$). However, Partnership Revenues (PR) showed a weak, non-significant

correlation with FS (r = –0.01, p = 0.95). This suggests that while traditional revenue streams support stability, partnerships among Kenyan public universities remain weak and underdeveloped.

4.3 Regression Results

4.3.1 Baseline Model

Table 1 presents results from the fixed-effects regression of FS on disaggregated revenue streams.

Table 1: Baseline Regression Results (FE Model)

FS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_TR	8.675	1.065	8.146	0.000	6.791	10.558	***
ln_RIR	3.256	0.619	5.260	0.000	2.025	4.488	***
ln_SR	1.701	0.048	35.438	0.000	1.696	1.87	***
ln_AUR	1.983	0.419	4.733	0.000	1.17	2.813	***
ln_PR	0.134	0.164	0.817	0.415	-0.196	0.463	
Constant	122.272	59.564	2.053	0.042	3.587	240.957	**

Mean dependent var	5.139	SD dependent var	2.588
R-squared	0.589	Number of obs	116
F-test	130.997	Prob > F	0
Akaike crit. (AIC)	393.847	Bayesian crit. (BIC)	409.789

*** p<.01, ** p<.05, * p<.1

Interpretation:

Table 1 presents the Fixed-Effects regression results for the baseline model. It indicates that four of the five revenue streams had positive and statistically significant effects on the financial stability of Kenyan public universities. The largest effects were observed for tuition and related

revenue (β = 8.675, p < 0.001), followed by revenue from research and innovation (β = 3.256, p < 0.001), revenue from asset usage (β = 1.983, p < 0.001), and revenue from services (β = 1.701, p < 0.001). These results show that these sources of income significantly improved public universities' financial stability, with tuition and related income remaining the most significant contributor. Conversely, partnership revenue had a positive but statistically insignificant impact on financial stability (β = 0.134, p = 0.415), suggesting insufficient evidence of a quantifiable financial contribution during the study period.

The regression model explained 58.9% of the variation in financial stability (R2 = 0.589) and was statistically significant overall (F = 130.997, p < 0.001). The results indicated that revenue diversification helped maintain financial stability, though its effectiveness varies across revenue streams. While the contribution of partnerships revenue remained relatively weak, tuition, research and innovation, services, and asset utilization all produced notable financial gains. The functional form of the resulting regression equation was as follows, while Figure 1.2 illustrates the regression fidnings:

$$ln_FS = 122.272 + 8.675_{ln_TR} + 3.256_{ln_RIR}, + 1.701_{ln_SR}, + 1.983_{ln_AUR}, + 0.134_{ln_PR} + e$$

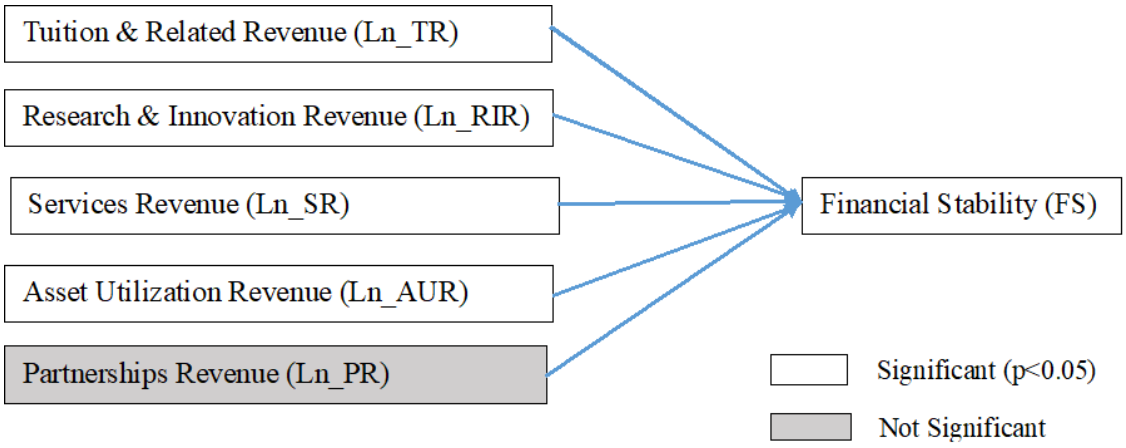


Figure 1.2 Observed significance of the study Variables

4.3.2 Moderation Effects of Government Policy

To test the "enable–constrain paradox," the study examined the moderating effect of government policy on the influence of independent variables, namely TR, RIR, SR, AUR, and PR7, on Financial Stability (FS). Table 2 summarizes the results.

Table 2: Moderation Model (Fixed Effects with Interaction Terms)

FS	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_TR	4.768	1.913	2.492	0.014	0.935	8.597	**
ln_RIR	1.457	0.547	2.664	0.009	0.359	2.549	**
ln_SR	0.428	0.164	2.610	0.010	0.092	0.763	**
ln_AUR	0.462	0.163	2.834	0.005	0.136	0.786	***
ln_PR	0.086	0.184	0.467	0.641	-0.272	0.442	
ln_GP_Mod	-1.992	0.397	-5.018	0.000	-2.783	-1.197	***
ln_TR_GPMod	-1.474	0.567	-2.600	0.010	-2.562	-0.384	***
ln_RIR_GPMod	-0.389	0.187	-2.080	0.039	-0.733	-0.039	**
ln_SR_GPMod	-0.479	0.887	-0.540	0.590	-2.2	1.243	
ln_AUR_GPMod	-0.089	0.036	-2.472	0.015	-0.15	-0.022	***
ln_PR_GPMod	0.67	0.567	1.182	0.239	-0.485	1.827	
Constant	56.295	18.187	3.095	0.002	19.864	92.699	***

Mean dependent var	5.145	SD dependent var	2.589
Overall r-squared	0.726	Number of obs	120
F-test	79.043	Prob > F	0
R-squared within	0.45	R-squared between	0.545

*** $p<.01$, ** $p<.05$, * $p<.1$

Interpretation:

When the Fixed Effects Regression was conducted with interaction terms representing government policy, Government Policy (GP_Mod) showed a negative and statistically significant direct effect on financial stability ($\beta = -1.992$, $p < 0.001$), indicating that the current policy climate was linked to limitations on public university financial stability when considered separately. Moreover, financial stability was statistically significantly affected by Tuition and Related Revenue (TR), Research and Innovation Revenue (RIR), Services Revenue (SR), and Asset Utilization Revenue (AUR). AUR ($\beta = 0.462$, $p = 0.005$), SR ($\beta = 0.428$, $p = 0.010$), RIR

(β = 1.457, p = 0.009), and TR (β = 4.768, p = 0.014) had the largest coefficients. Partnership Revenue (PR), on the other hand, had a statistically insignificant but favorable impact (β = 0.086, p = 0.641).

The interaction results provide strong evidence of the moderating role of government policy. The relationships between TR and financial stability (β = −1.474, p = 0.010), RIR and financial stability (β = −0.389, p = 0.039), and AUR and financial stability (β = −0.089, p = 0.015) are all significantly and negatively moderated by government policy. These findings indicate that government policy reduces the positive financial contributions of tuition and associated revenue, research and innovation revenue, and asset utilization revenue. However, government policy does not interact statistically with SR (β = −0.479, p = 0.590) or with PR (β = 0.670, p = 0.239). Therefore, there is insufficient evidence that government policy substantially alters the effects of services or partnership earnings on financial stability.

The moderation model was statistically significant (F = 79.043, p < 0.001) and explained 72.6% of the variation in financial stability (R^2 = 0.726). The within R^2 of 0.450 indicated that 45.0% of the variation in financial stability among universities over time was explained. The between R^2 of 0.545 showed that 54.5% of the variation between universities was explained. This evidence strongly suggested that government policy affected the revenue–financial stability relationship, but not uniformly across all revenue sources. The policy environment limited the financial advantages from tuition, research and innovation, and asset utilization revenues. However, it didn't have statistically significant moderating effects on services and partnership revenues. This supported the study's enable–constrain view, indicating that government policies aimed at regulating and supporting public universities might also restrict their capacity to convert certain revenue-generating activities into better financial stability. The resulting regression equation, with government moderation as interaction terms, was as follows:

$$FS = 56.295 + 4.768TR + 1.457RIR + 0.428SR + 0.462AUR + 0.086PR - 1.992GPMod - 1.474TR*GPMod - 0.389RIR*GPMod - 0.479SR*GPMod - 0.089AUR*GPMod + 0.67PR*GPMod + \varepsilon$$

5. DISCUSSION

5.1 Overview of Key Findings

This study aimed to investigate the impact of revenue diversification on financial stability in Kenyan public universities and to examine how government policy moderates this relationship. The findings confirm that diversification through tuition, research, services, and asset utilization significantly improves financial stability, while partnerships remain marginal. However, the moderation analysis revealed a paradox: government policy, although intended to encourage diversification, limits the stabilizing effect of core revenue streams (tuition, research, and assets) while only slightly supporting services and partnerships. This section situates these results within broader theoretical and empirical debates.

5.2 Revenue Diversification as a Driver of Financial Stability

The positive impact of tuition, research, services, and asset revenues on financial stability aligns with a growing body of research that views diversification as essential to the sustainability of higher education. Studies in Europe and North America indicate that diversified institutions are better prepared to handle fiscal shocks than those relying on a single source (Clarke, 2020; Marginson, 2022). Research from Africa similarly emphasizes that self-funded programs, consulting services, and asset-based ventures have become crucial for survival (Teferra, 2019; Botlhale, 2023). In Kenya, tuition revenues remain the cornerstone of institutional financial health, consistent with Booker (2021), who found that tuition regulation directly affects institutional solvency. Although modest, research revenues are important, as Chikoto et al. (2022) argue, because grant income not only enhances academic capacity but also boosts institutional resilience. Services and asset utilization, often underestimated, are significant contributors, echoing Samuel (2021) on the sustainability potential of university conference centers. The insignificance of partnerships underscores the underdevelopment of alumni giving, philanthropy, and industry collaboration in Kenya, consistent with Rossi et al. (2024), who noted that African universities lag behind their global counterparts in leveraging partnerships.

5.3 The Enable–Constrain Paradox of Government Policy

While revenue diversification was broadly beneficial, the results confirmed the central paradox: although revenue diversification (especially TR, RIR, SR, and AUR) played a significant role in ensuring financial stability, government policies affected these relationships in opposing ways.

- Constraining role: Government policy diminished the stabilizing effect of tuition, research, and asset revenues. Tuition caps limited universities' capacity to adjust fees to inflation, undermining long-term sustainability. Research grants were constrained by limited government funding and bureaucratic delays that affected third-party grants. Lengthy approval procedures and restrictions on land leasing and engagement with private partners slowed asset utilization projects. These findings align with Otieno's (2022) documentation of how delayed state capitation and rigid procurement procedures have exacerbated financial distress.
- Enabling role: In contrast, services and partnerships benefited from relatively flexible policy frameworks. Universities were allowed to offer consultancies, professional training, continuing education, and other service offerings for revenue with minimal interference. The government also promoted partnerships through PPP frameworks and donor engagement platforms, although practical gains remain modest. These findings align with international observations that governments selectively liberalize certain revenue domains while maintaining tight control over others (OECD, 2021; Tibarimbasa, 2022).

This duality constituted the enable–constrain paradox, in which governments simultaneously promote and suppress the effects of diversification, producing a tension between rhetoric and reality.

5.4 Theoretical Implications

5.4.1 Resource Dependence Theory (RDT)

RDT recommends that organizations reduce their reliance on dominant external players by diversifying their resource base (Pfeffer & Salancik, 1978). Kenyan public universities sought to diversify their funding sources to reduce vulnerability to declining government support. However, the findings show that dependence persists because the government controls pricing,

overhead costs, and approvals. Therefore, even as diversification increases, universities remain structurally connected to the state. This extends RDT by illustrating managed dependence, in which the leading actor both supports and restricts diversification to maintain control.

5.4.2 Agency Theory

Agency Theory highlights conflicts between principals (the government) and agents (public universities) over autonomy and accountability (Jensen & Meckling, 1976). The negative moderating effects reveal principal–agent tensions: universities seek financial flexibility, whereas governments impose restrictions to ensure public accountability. For example, capping research overheads addresses concerns about misuse but limits universities' ability to cross-subsidize research infrastructure. This illustrates an agency dilemma in which policy tools intended to protect the principal unintentionally hinder the agent's performance, thereby reducing overall system stability.

5.4.3 Portfolio Theory

Portfolio theory treats diversification as the spread of risk across multiple revenue sources (Markowitz, 1952). In theory, diversifying into tuition, research, services, assets, and partnerships should help stabilize finances. However, the results show that government policy distorts the expected risk–return balance. Restrictions on tuition and asset revenues lessen their stabilizing effects, while limited policy support hinders the development of partnerships. The main point is that diversification in restrictive policy environments yields only partial portfolio benefits, thereby limiting the effectiveness of risk mitigation.

5.5 Empirical Contributions

The study offers an empirical contribution in three ways. First, it disaggregates revenue streams, revealing distinct effects on financial stability, an improvement over typical aggregate analyses in African higher education research (Oketch, 2020). Second, it develops a new Government Policy Index (GPI) to measure enabling versus constraining effects, thereby enabling empirical testing of the moderation hypothesis. Third, it shows that government constraints weaken the financial benefits of revenue diversification, supporting the enable–constrain paradox.

5.6 Policy Implications

The findings have important policy implications.

1. Revisiting tuition regulation: While affordability concerns are valid, rigid tuition caps erode financial sustainability. Introducing flexible fee bands tied to inflation and program costs would strike a balance between access and viability.
2. Enhancing research funding flexibility: Raising research grants and streamlining grant disbursement would enable universities to reinvest in research infrastructure.
3. Supporting asset utilization: Developing standardized approval processes for land leasing and PPP projects would reduce delays and unlock significant revenue potential.
4. Strengthening partnerships: Clarifying tax incentives for donations and simplifying MoU approvals would accelerate alumni giving and industry collaboration.

At the systemic level, the government must shift from a control-based to a stewardship-based approach, thereby enabling universities to exercise greater financial autonomy while maintaining accountability.

5.7 Comparative and International Relevance

Although this study focuses on Kenya, the findings align with broader trends across Sub-Saharan Africa and beyond. In Ghana, Nigeria, and Uganda, governments similarly encourage diversification while imposing restrictive controls (Oketch, 2020; Tibarimbasa, 2022). In middle-income countries such as South Africa, governments explicitly support third-stream income, yet universities still face regulatory barriers (CHE, 2020). Globally, even in OECD nations, tensions between autonomy and accountability persist, though often within more supportive policy frameworks (OECD, 2021). Therefore, Kenya exemplifies a broader phenomenon: the paradox of government acting as both an enabler and a gatekeeper of diversification.

5.8 Limitations and Future Research

This study has limitations. The Government Policy Index, although innovative, relies in part on subjective weighting and publicly available data. Future research could improve this measure through expert surveys or stakeholder consultations. Additionally, the study examined only public universities; extending the analysis to private institutions would provide

comparative insights. Finally, conducting longitudinal research across multiple African countries would enhance understanding of how the enable–constrain paradox functions in different policy contexts.

6.0 CONCLUSIONS

This study examined the paradoxical role of government policy in shaping revenue diversification and financial stability in Kenyan public universities from 2018 to 2024. The results showe that revenues from tuition, research, services, and asset utilization significantly enhance financial stability, while partnerships remain underdeveloped. However, the government's moderating role is contradictory: it encourages diversification in some areas, such as services and partnerships, but restricts it in others, especially in tuition, research, and asset utilization. These findings support what this paper calls the enable–constrain paradox—a situation in which the government, while rhetorically endorsing financial independence, also enforces regulations that limit the stabilizing effects of diversification. This paradox helps explain why, despite extensive diversification efforts, Kenyan public universities continue to face financial challenges.

Theoretically, the study extends Resource Dependence Theory (RDT) by demonstrating how dependence persists even during diversification when the dominant resource holder (the government) controls access conditions. It enhances Agency Theory by highlighting how accountability-driven constraints, intended to protect the public interest, can actually undermine institutional performance. It also clarifies Portfolio Theory by showing that diversification cannot eliminate financial risk if external factors distort the expected risk–return relationship. Collectively, these insights offer a more nuanced understanding of higher education finance in resource-limited settings.

Empirically, the study makes a significant contribution by analyzing panel data from 22 universities over six years, decomposing revenue streams, and developing a Government Policy Index (GPI). Few prior studies in Sub-Saharan Africa have integrated these elements into a single framework. The results strongly suggest that diversification strategies should be evaluated not in isolation but in relation to the policy environment.

The results of this study have several implications for policymakers, university managers, and development partners. Tuition remains the primary source of revenue, but strict government fee caps and delays in government transfers weaken its stabilizing role. To balance affordability and sustainability, policymakers should introduce flexible tuition bands indexed to inflation and the costs of delivering academic programs, allow universities to set different fees for various professional, postgraduate, and international programs, and ensure timely disbursement of student funding, whether loans to students or government capitation to universities, to minimize cash flow issues. The reforms should protect access to university education while also helping universities recover the actual costs of providing education.

Research and innovation revenues have significant potential, but current policies limit their effectiveness. Streamlining procurement and grant distribution would improve the use of research income. Policymakers should also clarify intellectual property (IP) rights, ensuring universities can commercialize their outputs while sharing benefits fairly with researchers and the government.

Regarding Asset Utilization, Kenyan universities have valuable land and facilities that could generate significant income through rentals, public-private partnerships (PPPs), and commercialization. However, lengthy approval processes and collateralization restrictions limit this potential. The government could establish a standardized asset-leasing code with model contracts and clear approval timelines, thereby enabling universities to monetize their assets responsibly. Permitting controlled collateralization for viable projects would unlock funding for student housing, renewable energy, and innovation hubs.

Service revenues were among the least constrained by policy and had positive effects on stability. Universities should strategically expand these offerings by aligning with labor market needs, leveraging digital platforms, and forming partnerships with industry and government agencies. Policymakers can support this by offering accreditation flexibility for professional training programs and encouraging universities to participate in national capacity-building initiatives.

Partnership revenues remained low. The government should offer tax incentives for alumni contributions and corporate donations, simplify approval processes for MOUs supporting international collaborations, and establish a matching endowment program to encourage philanthropy. Universities should also enhance alumni relations and donor engagement efforts, professionalize fundraising offices, and develop long-term financial pipelines.

Ultimately, revenue diversification remains crucial to the survival of public universities in Kenya and beyond. However, diversification without autonomy is only a partial solution. Unless governments shift from controlling diversification to supporting sustainability, universities will remain trapped in a cycle of dependency, limited innovation, and weak finances. The lesson is clear: diversification strategies must be paired with supportive policy reforms if public universities are to attain financial stability and achieve their developmental goals.

7.0 CONFLICTS OF INTEREST AND PLAGIARISM:

The authors declare no conflict of interest and plagiarism.

REFERENCES

Botlhale, E. (2023). Higher education financing in Africa: Diversification strategies. *Studies in Higher Education, 48*(7), 1392–1407. doi:https://doi.org/10.1080/03075079.2022.2149235

Johnstone, B. (2021). Higher education finance in comparative perspective. *Higher Education Quarterly, 75*(3), 445–462. doi:https://doi.org/10.1111/hequ.12294

Pfeffer, J., & Salancik, G. (1978). The external control of organizations: A resource dependence perspective. *Harper & Row*.

Prager, F., Tahey, P., Salluzzo, R., Mezzina, L., & Cowen, C. (2010). *Strategic financial analysis for higher education.* Copenhagen: Prager, Sealy & Co.

ADB. (2023). *African Development Bank Group Annual Report 2022.* Tunis: African Development Bank Group.

Altbach, P., & de Wit, H. (2020). Post-pandemic outlook for higher education. *International Higher Education, 102*, 3–5. doi:https://doi.org/10.6017/ihe.2020.102.10959

Booker, J. (2021). Tuition Regulation and Higher Education Finance in Africa. *Higher Education Policy, 34*(3), 421–439.

CHE. (2020). *VitalStats: Public Higher Education 2018.* Johannesburg: CHE.

Chikoto, G., Ling, Q., & Neely, D. (2022). Research funding and institutional sustainability in emerging economies. *International Journal of Educational Development, 90*, 102573. doi:https://doi.org/10.1016/j.ijedudev.2021.102573

Clarke, M. (2020). Financing higher education: International comparisons. *Higher Education Quarterly, 74*(2), 179–198.

CUE. (2023). *Universities Authorised to Operate in Kenya.* Nairobi: Commission for University Education.

Ehsan, E. (2023). Global Perspectives on Financing Higher Education: A Comparative Analysis. *International Journal of Innovation Management and Organizational Behavior, 3*(2), 42–50.

Hsiao, C. (2014). *Analysis of Panel Data:.* Cambridge: Cambridge University Press.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics, 3*(4), 305–360.

KNBS. (2024). *Kenya Facts and Figures 2024.* Nairobi: GoK.

KPMG. (2021). *Financial Health Benchmarks for Higher Education Institutions.* London: KPMG International.

Mabizela, M., & Wangenge-Ouma, G. (2021). Intellectual Property and Commercialization in African Universities. *International Journal of Educational Development*, 102–422.

Marginson, S. (2022). Public-Private Dynamics in Global Higher Education. *Studies in Higher Education, 47*(2), 227–240.

Markowitz, H. (1952). Portfolio selection. *The Journal of Finance, 77*(1), 77–91.

OAG. (2022). *Report Of The Auditor-General On The Financial Statements For The Year Ended 30 June, 2020.* Nairobi: Government Press.

OECD. (2021). *Education at a Glance 2021: OECD indicators.* Paris: OECD Publishing.

Oketch, m. (2020). Financing higher education in sub-Saharan Africa: Trends and challenges. *International Journal of Educational Development*, 102–244.

Otieno, W. (2022). Financing higher education in Kenya: Challenges and prospects. *African Journal of Higher Education Policy, 1*, 21–40.

Rossi, F., De Silva, M., Pasquale, P., Ainurul, R., & Nick, K. Y. (2024). Proximity and impact of university–industry collaborations. *Studies in Higher Education, 49*(2), 210–229. doi:https://doi.org/10.1080/03075079.2023.2215732

Samuel, M. (2021). An exploration of university conference centres: Toward financial sustainability. *Sustainability,, 13*(13), 7194. doi:https://doi.org/10.3390/su13137194

Teferra, D. (2019). Funding higher education in Africa: State, market, and society. *International Higher Education*, 13–15.

Tibarimbasa, A. (2022). University financing reforms in Uganda: Autonomy and constraints. *Journal of Higher Education in Africa, 20*(1), 55–74.

World Bank. (2020). *Financing higher education in Africa.* Washington: World Bank.