

From Custodianship to Commercialization: Reconciling Government Oversight and University Asset Utilization in Kenya

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Abstract

Background: Public universities in Kenya face persistent financial pressures stemming from constrained public funding, rising operating costs, and heavy reliance on traditional revenue sources. Although many institutions possess substantial physical and financial assets, public-sector regulatory requirements governing asset management, procurement, land, finance, and commercialization constrain their ability to convert these resources into sustainable income.

Materials and Methods: This study examined the contribution of Asset Utilization Revenue to the financial stability of Kenyan public universities and assessed whether Government Policy moderates this relationship. Drawing on Resource Dependence Theory, Agency Theory, and Portfolio Theory, the study conceptualized universities as operating between two competing imperatives: custodianship of public assets and commercialization for financial resilience. The study adopted a quantitative longitudinal panel design using audited financial statements from 22 public universities covering FY2018–2024. Financial stability was measured using the Composite Financial Index, while asset-utilization revenue was disaggregated into rental revenue, student accommodation revenue, bank-interest income, and other asset-utilization revenue. Government Policy was operationalized through structured documentary analysis of relevant public finance, procurement, land, and public-private partnership legislation. Fixed-effects panel regression was selected following the Hausman specification test. The baseline component model used 125 complete observations, while the moderated model used 101 observations.

Results: Rental revenue had a positive and statistically significant effect on financial stability ($\beta = 5.720$, $p = 0.010$), while student accommodation revenue had the strongest positive effect ($\beta = 6.488$, $p < 0.001$). Bank-interest income was statistically insignificant ($\beta = 0.727$, $p = 0.224$), while other asset-utilization revenue was also insignificant at the 5% level ($\beta = -0.627$, $p = 0.088$). Government policy weakened the positive effects of rental revenue ($\beta = -0.438$, $p = 0.005$) and student accommodation revenue ($\beta = -0.346$, $p = 0.011$), but did not significantly moderate bank-interest or other asset-utilization revenue.

Conclusion: The study concludes that asset commercialization contributes to financial stability selectively rather than uniformly. It proposes a balanced-autonomy framework in which universities receive sufficient managerial discretion to commercialize productive assets while government retains strong accountability, transparency, and public-value safeguards.

Keywords: Asset utilization revenue; commercialization; financial stability; Composite Financial Index; Government Policy; public universities; Kenya.

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I. INTRODUCTION

1.1 Background and Context

Higher education institutions worldwide face intensifying financial pressures that call for a rethink of traditional funding models. In developed and emerging economies alike, universities are urged to explore entrepreneurial strategies that enhance self-reliance while preserving their academic and public missions (Botlhale, 2023; Rossi et al., 2024). In sub-Saharan Africa, particularly in Kenya, the financial landscape of public universities has shifted dramatically over the past two decades. Declining government subventions, ballooning student enrollment, rising salary obligations, and mounting debts have created structural vulnerabilities (ADB, 2023). These pressures underscore the critical need for revenue diversification, with asset utilization emerging as a largely untapped yet potentially transformative avenue.

University assets in Kenya include extensive real estate holdings, agricultural farms, research facilities, training centers, and intellectual property. Although these resources have significant commercial potential, most remain underutilized or dormant. This paradox stems from the historical custodial model, under which universities manage government-owned assets with limited autonomy to optimize their use (Oketch, 2023). The challenge, therefore, is how to reconcile this custodianship with the growing imperative to commercialize and strengthen financial stability.

1.2 Problem Statement

Kenyan public universities face a paradox. On the one hand, they are mandated to generate internal revenue through innovative practices, including commercializing their assets. On the other hand, they operate under stringent government oversight that limits decision-making autonomy. Regulations governing land use, procurement, leasing, and intellectual property commercialization often impede universities' ability to pursue revenue-generating initiatives (Mayaka et al., 2020).

This custodianship–commercialization tension creates inefficiencies: universities hold vast tracts of arable land yet struggle with food insecurity on campus; they maintain hostels and conference facilities yet lack the authority to market them competitively; and they develop research outputs that remain uncommercialized due to restrictive intellectual property policies. Without reconciling oversight with entrepreneurial flexibility, the potential for asset utilization to meaningfully contribute to financial stability remains unrealized.

1.3 Theoretical and Conceptual Anchors

Three theoretical lenses frame this study:

- Resource Dependence Theory (RDT): emphasizes how over-reliance on government transfers exposes universities to vulnerability, necessitating diversification through asset revenues (Pfeffer & Salancik, 1978).
- Agency Theory: highlights the principal–agent dilemma between government (principal) and universities (agents), where accountability and autonomy are constantly negotiated (Jensen & Meckling, 1976).
- Portfolio Theory: suggests that diversifying revenue streams, such as tuition, research, partnerships, and asset utilization, mitigates risk and improves institutional resilience (Markowitz, 1952).

These perspectives offer a conceptual lens for understanding the paradox between custodianship and commercialization.

1.4 Research Gap and Contribution

While studies on university

financing in Kenya emphasize tuition dependence, government subsidies, and research grants (ACU, 2024; Botlhale, 2023), scholarly attention to asset utilization as a pillar of financial sustainability remains limited. By comparison, universities in South Africa, Malaysia, and Europe have demonstrated that strategic asset management, through real estate ventures, innovation hubs, and spin-offs, significantly contributes to institutional revenues (AI-Youbi & Zahed, 2021; Samuel, 2021). This paper addresses this gap by interrogating the Kenyan context, where universities remain highly regulated custodians of state property yet are expected to commercialize to ensure financial survival. It contributes to the higher education finance literature by positioning asset utilization as a critical yet underexplored dimension of revenue diversification, examining the regulatory paradox between government oversight and institutional entrepreneurship, and proposing a governance framework to reconcile custodianship and commercialization.

1.5 Conceptual Framework

Figure 1 presents the conceptual framework, showing public universities as hybrid institutions operating under a dual governance logic: government custodianship and entrepreneurial commercialization. On the one hand, the state exercises regulatory oversight to safeguard public assets, ensure accountability, and preserve the social mission of higher education. On the other hand, universities are increasingly encouraged to commercialize underutilized assets—such as land, infrastructure, intellectual property, and auxiliary enterprises—to generate alternative revenue streams amid declining government funding. This tension creates a structural paradox. Excessive regulation may constrain asset monetization and reduce managerial flexibility, while excessive commercialization without adequate oversight may compromise public value and institutional legitimacy. The framework therefore proposes that stronger financial outcomes are more likely where regulatory governance balances accountability with sufficient discretion for strategic asset utilization. In this balanced state, asset commercialization becomes a complementary revenue strategy that enhances liquidity, diversification, and long-term financial resilience.

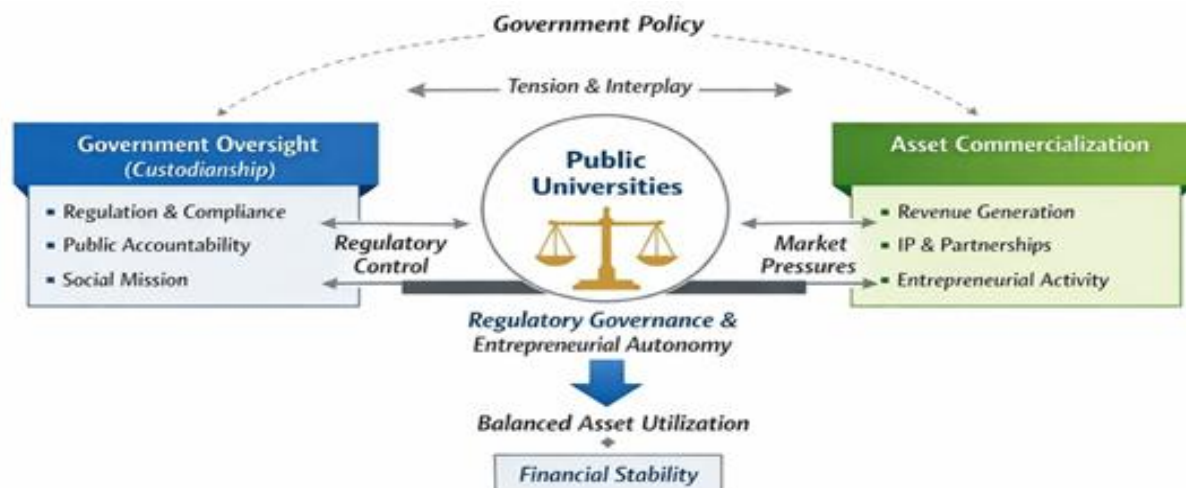


Figure 1: Conceptual Framework- Balancing Government oversight and Asset Commercialization initiatives in Kenyan public Universities

1.6 Study Hypotheses

The study sought to test the following hypotheses:

H₀₁: Asset utilization revenue from rentals has no statistically significant effect on the financial stability of Kenyan public universities.

H₀₂: Asset utilization revenue from Student Accommodation has no statistically significant effect on the financial stability of Kenyan public universities.

H₀₃: Asset utilization revenue from bank interest earned has no statistically significant effect on the financial stability of Kenyan public universities.

H₀₄: Other Asset Utilization Revenue has no statistically significant effect on the financial stability of Kenyan public universities

H_{05a}: Government Policy has no significant moderating effect on the relationship between rental revenue and financial stability.

H_{05b}: Government Policy has no significant moderating effect on the relationship between student accommodation revenue and financial stability.

H_{05c}: Government Policy has no significant moderating effect on the relationship between bank-interest revenue and financial stability.

H_{05d}: Government Policy has no significant moderating effect on the relationship between other asset-utilization revenue and financial stability

II. LITERATURE REVIEW

2.1 Introduction

This chapter reviews theoretical and empirical literature on the relationship among Asset Utilization Revenue (AUR), Government Policy (GP), and the financial stability of public universities. The review is organized around the central theme of this paper, which views public universities as both custodians of publicly owned or publicly accountable assets and institutions under growing pressure to commercialize those assets to strengthen financial stability. The literature review therefore addresses the question of under what governance conditions universities can convert land, buildings, accommodations, financial assets, and other institutional assets into recurring income that strengthens financial stability. The higher-education finance literature increasingly places this matter within a broader context of constrained public funding, rising costs, institutional autonomy, and entrepreneurial transformation. OECD (2025) observes that higher education systems face growing pressure to mobilize resources from multiple sources, while governments remain influential through funding design, fee regulation, accountability rules, and financial management frameworks. The European University Association similarly treats financial autonomy, including the capacity to raise funds, own and manage real estate, borrow, and retain surpluses, as an important dimension of institutional autonomy (Bennetot, Estermann, & Popkhadze, 2023). These debates are directly relevant to public universities in Kenya, which are expected to strengthen internally generated income while remaining subject to public finance, procurement, land, audit, and public-private partnership laws.

2.2 Theoretical Review

2.2.1 Resource Dependence Theory

Resource Dependence Theory (RDT) explains organizational behavior by emphasizing dependence on external actors that control resources required for survival (Pfeffer & Salancik, 1978). Applied to public universities, the theory suggests that reliance on government appropriations, tuition, or a narrow set of external financiers creates vulnerability because institutions have limited control over the timing, adequacy, and conditions attached to these resources. Declining real public funding and increasingly volatile student-related income therefore create incentives for universities to reduce dependence by developing revenue sources over which they exercise greater operational control. Higher-education literature strengthens the relevance of RDT. OECD (2025) reports that higher education institutions in many systems are again experiencing financial turbulence as public subsidies, enrolment patterns, regulatory changes and operating costs become less predictable. The same report notes that, although public funding remains dominant in many public systems, institutions are increasingly expected to assume greater responsibility for their own financial sustainability. OECD (2021) identifies private non-tuition resources, including commercialization of knowledge, service contracts, customized training, and leasing or renting property, as mechanisms through which institutions can supplement public resources. In this sense, asset utilization is not merely a commercial side activity; it is a resource-dependence response in which universities seek to convert resources already within their sphere of control into more predictable revenue.

RDT is particularly useful for explaining why rental facilities and student accommodation may be strategically important. Unlike competitive grants or discretionary government allocations, revenues from occupied hostels, leased facilities or routinely hired assets can be institutionally embedded and recurrent. However, RDT also exposes a limitation central to this paper: ownership or possession of resources does not necessarily imply control over their economic use. Where the state retains authority over leasing, procurement, land conversion, bank accounts, revenue retention, or major commercial partnerships, a university may possess valuable assets but remain externally dependent for permission to monetize them. This is where Resource Dependence Theory connects directly to Government Policy: policy can reduce dependence by enabling universities to mobilize internal resources or reproduce dependence by restricting the conversion of assets into usable income.

2.2.2 Agency Theory

Agency Theory offers the strongest theoretical explanation for the paper's custodianship argument. Public universities act as agents managing resources entrusted to them by the government and, ultimately, by citizens. The government, as principal, has legitimate reasons to impose controls to prevent asset stripping, corruption, unauthorized disposal, imprudent borrowing, conflicts of interest, and diversion of public resources (Jensen & Meckling, 1976). Procurement rules, audit requirements, approval thresholds, restrictions on land transactions, and financial management controls therefore help reduce information asymmetry and agency risk. Yet Agency Theory also predicts that control systems can create costs.

When principals cannot fully observe the operating environment agents face, rules designed to prevent misuse may also constrain timely commercial decisions. This tension is evident in contemporary higher-education autonomy literature. OECD (2020) argues that resource-allocation systems should support institutional autonomy while maintaining accountability, because overly restrictive arrangements can increase transaction costs and reduce institutional leaders' ability to manage efficiently. The World Bank (2022) identifies ownership and management of land and buildings as a component of financial autonomy and notes that the capacity to buy, sell, and develop facilities is linked to institutional strategy and investment decisions (Bennett & Law, 2021).

The implication of Agency Theory is therefore not that regulation is undesirable. Rather, the optimal governance problem is to design controls that protect public assets without destroying the incentives and operational flexibility required to make those assets productive. This provides the theoretical basis for the paper's 'balanced autonomy' proposition. A university with unrestricted commercial freedom may create unacceptable principal-agent risk, but a university treated exclusively as a passive custodian may be unable to generate sufficient returns from underutilized assets. Government policy can consequently moderate the AUR-financial stability relationship by changing the degree of discretion available to university managers when transforming assets into revenue.

2.2.3 Portfolio Theory

Portfolio Theory adds a third dimension by focusing on the composition, risk, and reliability of revenue streams. In organizational finance, the central insight is that different assets and income sources have distinct risk-return profiles; resilience therefore depends not only on the number of revenue streams but also on how they

behave together (Markowitz, 1952). Applied to universities, this perspective implies that rental income, student accommodation, bank interest, and one-off asset disposals should not be treated as financially equivalent simply because they all arise from assets. This distinction matters because recurring operating income has different stability properties than passive or episodic receipts. Rental and accommodation revenues may generate repeated cash flows linked to continuing demand, whereas disposal proceeds are non-recurring and bank interest depends on the availability of surplus cash, interest rates, and treasury restrictions. OECD (2025) cautions more broadly that revenue diversification is not automatically a solution to financial sustainability; what matters is the scale, reliability, and cost structure of alternative revenue sources. Portfolio Theory therefore predicts heterogeneous effects within AUR and supports disaggregation rather than reliance on a single aggregate asset-revenue measure.

The theory also complements RDT and Agency Theory. RDT explains why universities seek internal revenue; Portfolio Theory explains why some internal revenues stabilize finances more effectively than others; and Agency Theory explains why universities may not be free to choose or expand the most productive asset strategies. Together, these theories support a conditional proposition: asset utilization is more likely to strengthen financial stability when universities develop recurring, productive asset revenues and when the regulatory environment permits those revenues to be generated, retained, and reinvested under appropriate accountability safeguards.

2.2.4 Theoretical Synthesis: From Custodianship to Commercialization

The three theories converge on a governance equilibrium rather than an either-or choice. Resource Dependence Theory favors greater control over internally generated resources; Agency Theory requires oversight of public assets; and Portfolio Theory favors deliberate development of revenue streams with favorable stability characteristics. The combined theoretical framework therefore conceptualizes the public university as a hybrid institution operating between custodianship and commercialization. At the custodianship extreme, assets are protected but may remain idle, underpriced or administratively difficult to commercialize. At the commercialization extreme, revenue may increase, but weak controls can expose institutions to mispricing, conflict of interest, loss of public assets and mission drift. The theoretically preferred position is balanced autonomy: sufficient discretion to manage assets entrepreneurially, combined with transparent valuation, procurement, audit, reporting and public-purpose safeguards.

2.3 Empirical Literature Review

2.3.1 Entrepreneurial Universities and the Commercialization Imperative

Arroyabe, Schumann, and Arranz (2022), in a text-mining review of 1,110 publications, found that the entrepreneurial-university literature has expanded substantially and is increasingly focused on commercialization, entrepreneurial capability, and university–industry alliances. Cunningham, Lehmann, & Menter (2022) similarly argue that entrepreneurial outcomes depend on organizational architecture and the institutional structures that support different stages of entrepreneurship. Radko, Belitski, & Kalyuzhnova (2023), using panel data from 139 UK universities, show that entrepreneurial outcomes depend on the configuration of internal and external stakeholders and emphasize the government's role as an enabling stakeholder through policy, incentives, and infrastructure. These studies matter because they shift the focus of commercialization away from a narrow emphasis on patents and spin-offs toward a broader institutional capacity to recognize, structure, and exploit opportunities. Nevertheless, much entrepreneurial-university research still privileges knowledge commercialization, technology transfer, and university–industry engagement.

Physical and financial assets such as land, buildings, hostels, conference facilities, farms, parking, equipment, and short-term investments receive far less empirical attention as sources of financial resilience. This imbalance is especially consequential in African public universities, where valuable physical assets may be more readily monetized than high-technology intellectual property. African evidence reinforces both the opportunity and the institutional challenge. Doh, Jauhiainen, and Boohene (2022), examining entrepreneurial patterns in universities across three African sub-regions, found that African universities increasingly pursue entrepreneurial transformation in response to financial austerity, massification, and capacity constraints. Iwara and Kilonzo (2022) similarly note that pathways from traditional to entrepreneurial universities in Africa remain under-researched and institutionally constrained. The literature therefore supports commercialization as a strategic response to financial pressure but does not establish that every form of commercialization yields comparable financial-stability benefits.

2.3.2 Asset Utilization as a Revenue Strategy

Asset utilization holds a distinct place in the broader commercialization literature because it converts existing institutional resources into income rather than relying entirely on new academic products or external funding. OECD (2020) explicitly identifies leasing or renting property as one of the private non-tuition resources

available to higher education institutions. Its 2025 financial-sustainability review further argues that institutions need realistic, context-sensitive revenue strategies because alternative income cannot be assumed to compensate for weak core funding. This suggests that the financial contribution of university assets should be assessed empirically rather than inferred from their existence.

Research on international autonomy also highlights the strategic importance of real estate. Bennetot et al. (2023) treat the ability to own, buy, sell, and develop land and buildings as a dimension of financial autonomy. Their comparative evidence shows substantial variation across systems: some universities can transact in real estate relatively freely, others require external approval, and some cannot own or dispose of property independently. This variation is analytically significant because it shows that asset productivity is partly institutionally determined. A university may hold substantial property, but its financial value depends on whether the regulatory framework permits redevelopment, leasing, disposal, borrowing against assets, or reinvestment of proceeds.

The Kenyan context makes this distinction especially important. The Office of the Auditor-General's summary report on public universities for FY 2023/2024 identified unresolved ownership-document issues affecting assets valued at approximately KSh 19.55 billion across twelve public universities (OAG, 2025). The report also documented ongoing financial strain, including six universities that recorded aggregate annual deficits of approximately KSh 3.20 billion. These findings do not, by themselves, prove that stronger commercialization would eliminate financial distress, but they show that asset governance and financial sustainability problems coexist in the sector.

2.3.3 Heterogeneity within Asset Utilization Revenue

A major weakness in the existing literature is the tendency to aggregate internally generated or commercial revenues into broad categories such as 'income-generating activities', 'third-stream income', or 'own-source revenue'. Such aggregation can obscure the financial characteristics of specific asset streams. In the present study, Asset Utilization Revenue is disaggregated into rental revenue, student accommodation revenue, bank interest income, and other asset-utilization income. This disaggregation responds directly to Portfolio Theory and to the empirical need to distinguish recurring operating income from passive or non-recurring receipts.

Rental revenue can be attractive because it can transform underused land, buildings, offices, laboratories, conference facilities, and equipment into recurring cash flows. Student accommodation has similar characteristics but is more closely tied to the institution's core student market and may therefore combine commercial and academic-service functions. By contrast, bank interest depends on the university having investable cash balances and on the regulatory rules governing investment and banking arrangements. Other asset income, including disposals and miscellaneous receipts, may be irregular and difficult to reproduce. The existing literature offers conceptual reasons to expect different effects across these streams, but little longitudinal evidence directly compares their contributions to an integrated measure of university financial stability.

2.3.4 Asset Utilization and Financial Stability in Kenyan Public Universities

Kenyan research on university finance has largely focused on funding adequacy, tuition dependence, government capitation, research grants, donor funds, and broader income-generating activities. Mbugua, Gatawa, and Waweru (2024) examined income-generating activities and donor funds in relation to liquidity in Kenyan public universities, highlighting growing interest in internally generated revenue. Kabisa and Wanyonyi (2026) reviewed funding models and the sustainability of Kenyan public universities and concluded that dependence on government allocations and tuition remains linked to liquidity constraints and debt accumulation, while institutions with broader income sources appear more financially resilient. However, their study relied on descriptive analysis and content review rather than longitudinal, component-level panel estimation. This literature is useful but leaves three unresolved issues.

First, broad 'income-generating activity' measures do not identify which physical or financial asset-use contributions most strongly support institutional stability. Second, liquidity or annual financial performance is not equivalent to overall financial stability because it does not capture operating performance, reserves, asset productivity, and debt capacity simultaneously. Third, the studies generally treat the regulatory environment as contextual background rather than testing whether it alters the strength of the relationship between internally generated revenue and financial outcomes. These limitations are important because an institution may generate asset income yet still fail to improve financial stability if regulatory costs, revenue-retention restrictions, approval delays, or weak reinvestment incentives reduce the net financial contribution.

2.3.5 Government Policy, Institutional Autonomy and Asset Commercialization

The moderation argument in this study is grounded in a growing international literature showing that public policy shapes university financial performance. OECD (2025) emphasizes that even formally autonomous institutions operate within public-policy frameworks that influence funding, fees, accountability, expenditures, and institutional adaptation. OECD (2020) similarly argues that public funding and regulatory design should enable institutions to manage resources efficiently while preserving probity and accountability. The key implication is that financial autonomy is not the absence of regulation; rather, it concerns the scope of managerial discretion within an accountability framework.

The European University Association's 2023 evidence is especially relevant to asset utilization because financial autonomy includes the ability to manage estates and make major financial decisions. Restrictions on real-estate transactions, borrowing, surplus retention, and investment can affect both the feasibility and the timing of commercialization. In Kenya, the institutional environment is particularly layered. The Public Finance Management Act governs public financial management, revenue, banking arrangements, and the investment of public money; the Public Procurement and Asset Disposal Act governs procurement and disposal processes; the Land Act establishes rules for the administration and use of land; and the Public Private Partnerships Act Regulations 2021 establish procedures for private-sector participation in infrastructure and development projects. Each framework serves legitimate public objectives, but their combined application can affect the speed, discretion, and transaction costs associated with university asset commercialization.

This creates a theoretically and empirically testable moderation mechanism. When policy enables universities to retain proceeds, enter leases efficiently, undertake transparent partnerships, reinvest surpluses, and manage facilities strategically, asset revenue should translate more strongly into financial stability. When the same processes require multiple approvals, impose rigid procedural thresholds, delay transactions, or limit institutional discretion over internally generated resources, the positive asset-revenue effect may be weakened. The literature therefore suggests that Government Policy should not be modeled merely as an additional direct predictor; it can alter the slope of the relationship between AUR and financial stability.

2.4 Critical Synthesis of the Empirical Literature

The reviewed literature presents a consistent yet incomplete picture. First, international research strongly supports the strategic importance of entrepreneurial behavior, non-tuition income, and institutional autonomy. Second, comparative policy research shows that real estate ownership and management are central to university financial autonomy. Third, African studies show increasing pressure for universities to become entrepreneurial, while Kenyan studies demonstrate ongoing financial distress and interest in alternative income generation. Yet the empirical connection among these strands remains weak.

Four methodological limitations are particularly evident. Much of the entrepreneurial-university literature focuses on knowledge commercialization rather than physical-asset monetization. Studies of own-source revenue often aggregate heterogeneous income streams, making it difficult to identify the most productive asset categories. Many African and Kenyan studies rely on cross-sectional, descriptive, or perception-based approaches, which are poorly suited to distinguishing persistent university characteristics from changes over time. Finally, Government Policy is often discussed as a constraint or an enabling condition but is rarely operationalized quantitatively and tested as a moderator of the revenue–financial stability relationship.

There is also a measurement gap. Existing studies frequently use liquidity, surplus/deficit, profitability, or individual accounting ratios as outcomes. These measures capture important dimensions of financial performance but do not provide an integrated assessment of institutional financial condition. The present study uses the Composite Financial Index, which combines reserve strength, operating results, return on net assets, and debt capacity. This allows a stronger test of whether asset-derived income contributes to broader institutional financial stability rather than merely improving a single short-term accounting indicator.

2.5 Empirical Gap and Contribution of the Study

The study addresses a specific empirical gap at the intersection of higher-education finance, asset management and public governance. Existing literature establishes that universities need alternative income, that entrepreneurial capabilities matter, that institutional autonomy varies, and that Kenyan public universities experience persistent financial pressure. What remains unclear is whether identifiable forms of asset-utilization revenue strengthen the overall financial stability of Kenyan public universities, which asset components matter most, and whether Government Policy changes those relationships.

The first gap is conceptual: previous studies often subsume asset income within broad categories of commercialization or income-generating activities. This study isolates Asset Utilization Revenue and further disaggregates it into rental revenue, student accommodation, bank interest income, and other asset-based income. The second gap is methodological: rather than relying on cross-sectional perceptions or single-year ratios, the study uses longitudinal panel data and a fixed-effects estimator to control for time-invariant institutional heterogeneity. The third gap concerns the dependent variable: financial stability is measured by the Composite Financial Index rather than a single liquidity or performance ratio. The fourth and most distinctive gap is regulatory: the study operationalizes Government Policy and tests interaction terms to determine whether regulation strengthens or weakens the contribution of each asset-revenue stream.

The contribution therefore lies not in repeating the broad claim that universities should diversify. It lies in demonstrating whether commercializing specific university assets yields measurable financial-stability benefits under the governance conditions faced by public universities. This directly advances the custodianship–commercialization argument. If asset revenues are positive but their effects decline as policy constraints intensify, the policy problem is not whether to abandon oversight but how to redesign oversight so that public assets remain protected while universities gain sufficient operational discretion to generate sustainable returns. Conversely, if some asset streams remain insignificant even under more enabling policy conditions, universities should not assume that all asset monetization is financially productive. The study thus reframes asset strategy around productive commercialization and balanced autonomy rather than simple revenue expansion.

Based on the literature reviewed, this paper's empirical model is directly informed by these theories. Resource Dependence Theory predicts a positive relationship between productive internally generated asset revenue and financial stability because such income reduces reliance on externally controlled resources. Portfolio Theory predicts heterogeneity across AUR components because recurrent rental and accommodation income should differ from passive interest or irregular miscellaneous receipts. Agency Theory predicts that Government Policy will condition these relationships because the state regulates how public assets may be managed, leased, invested, disposed of, and partnered with private actors. The resulting conceptual expectation is that Asset Utilization Revenue contributes positively to financial stability, but the size of that contribution depends on both the type of asset revenue and the enabling or constraining character of the policy environment. Accordingly, the empirical analysis tests direct effects for the four AUR components and interaction effects between each component and Government Policy. This specification transforms the custodianship–commercialization debate into a testable proposition: the financial value of university assets is not determined by ownership alone but by the interaction between asset productivity and the governance framework within which commercialization occurs.

III. METHODOLOGY

3.1 Research Design

This study adopts a quantitative explanatory research design supported by panel data econometrics. The design is appropriate for analyzing the relationship between asset utilization revenues and financial stability while accounting for heterogeneity across universities and over time (2018–2024). An explanatory approach allows for testing theoretically derived propositions grounded in Resource Dependence Theory, Agency Theory, and Portfolio Theory.

3.2 Population and Sample

The population of interest comprises all 37 chartered public universities in Kenya. From this, 22 universities were purposively selected based on data availability, completeness of audited financial statements, and continuous operation during the seven-year study period. The underlying study dataset comprised a potential 154 university-year observations (22 universities × 7 years). Because some universities did not separately report all asset-utilization components, the component-level regression models were estimated using complete observations available for each specification. The unmoderated model therefore used 125 observations and the moderated model used 101 observations.

3.3 Data Sources

The study relied on secondary data from audited financial statements (FY 2018–2024), which provided disaggregated income streams (tuition, services, partnerships, research, and asset utilization). Supplementary reports from the Ministry of Education and the Auditor General validate asset governance, regulatory compliance, and stewardship challenges.

3.4 Variable Operationalization

3.4.1 Dependent Variable: Financial Stability (FS)

Financial stability was proxied by the Composite Financial Index (CFI), derived from four key ratios adapted from the higher education finance literature (Prager et al., 2010). The four ratios capture different aspects of the university's financial position, namely, the Primary Reserve Ratio (PRR), which measures expendable resources relative to total expenses; the Net Operating Revenue Ratio (NORR), which indicates the operational surplus or deficit; the Return on Net Assets (RONA), which assesses long-term financial health; and the Viability Ratio (VR), which measures the ability to cover long-term debt. The ratios were standardized and aggregated into a CFI index for robustness.

Each ratio captures a distinct yet interrelated dimension of financial health, including liquidity, operational performance, asset efficiency, and debt capacity. Together, these metrics provide a multidimensional view of how universities generate, manage, and sustain financial resources over time. The strength of the CFI framework lies in its integrative capacity, enabling stakeholders to move beyond fragmented assessments toward a holistic evaluation of institutional financial condition (Prager et al., 2010; OECD, 2024). Each ratio was converted into a standardized strength factor and weighted using the established CFI methodology. The weighted scores were then aggregated to obtain the institutional Composite Financial Index.

3.4.2 Independent Variable: Asset Utilization Revenue (AUR)

Asset utilization revenue was disaggregated into four categories:

1. Rental Revenue (AURR) – Staff Rental Housing, Lease of land, machinery and equipment, rent of commercial buildings, parking spaces, facilities, etc.
2. Student Accommodation revenue (AURSA) – Student hostels and accommodation income.
3. Bank Interest earned (AURBI) – Interest earned on short-term cash and other liquid assets investments.
4. Other Asset Utilization Revenue (AUROI) – comprising asset disposal proceeds and other miscellaneous asset-derived income

3.4.3 Government Policy (GP) as a Moderating Variable

Government Policy was operationalized as a moderating variable based on the regulatory provisions of the Public Finance Management (PFM) Act, Public Procurement and Asset Disposal Act (PPADA), Land Act, and Public Private Partnerships (PPP) Act, which collectively govern the acquisition, management, commercialization, leasing, disposal, development, and use of university assets. The study identified and assessed relevant statutory provisions in these laws based on their policy objectives, effects on asset utilization, interactions with other regulatory requirements, and whether they enabled or constrained universities' ability to generate revenue from their physical assets. Enabling provisions received positive scores, while constraining provisions received equivalent negative scores. We considered only provisions and amendments in force during each year. The study incorporated the resulting annual policy score into the panel regression as the moderating variable (GP_Mod). We estimated its moderating effect separately for each asset-utilization component through the interaction terms $\ln_AURR \times GP_Mod$, $\ln_AURSA \times GP_Mod$, $\ln_AURBI \times GP_Mod$, and $\ln_AUROI \times GP_Mod$. A positive interaction coefficient indicated that the regulatory environment strengthened the contribution of asset utilization revenue to financial stability, whereas a negative coefficient indicated that the regulatory framework weakened this relationship.

3.5 Model Specification

The empirical analysis proceeded in two stages. First, a fixed-effects panel model estimated the direct contribution of the four asset-utilization revenue components to financial stability:

$$FS_{it} = \beta_0i + \beta_1 \ln AURR_{it} + \beta_2 \ln AURSA_{it} + \beta_3 \ln AURBI_{it} + \beta_4 \ln AUROI_{it} + \varepsilon_{it}$$

where FS_{it} is the Composite Financial Index for university i in year t ; β_0i captures time-invariant university-specific effects; $\ln AURR$, $\ln AURSA$, $\ln AURBI$ and $\ln AUROI$ are the natural logarithms of rental, student accommodation, bank-interest and other asset-utilization revenues; β_1 – β_4 are slope coefficients; and ε_{it} is the error term.

Secondly, Government Policy and the four interaction terms were introduced to estimate conditional effects:

$$FS_{it} = \beta_0i + \beta_1 \ln AURR_{it} + \beta_2 \ln AURSA_{it} + \beta_3 \ln AURBI_{it} + \beta_4 \ln AUROI_{it} + \beta_5 GP_{it} + \beta_6 (\ln AURR \times GP)_{it} + \beta_7 (\ln AURSA \times GP)_{it} + \beta_8 (\ln AURBI \times GP)_{it} + \beta_9 (\ln AUROI \times GP)_{it} + \varepsilon_{it}$$

The moderation hypotheses were evaluated from β_6 – β_9 , with statistical significance being assessed at the 5% level. Because interaction models make the coefficients of the constituent terms conditional on the moderator's reference value, the study used the interaction coefficients to determine whether policy strengthened or weakened each asset-revenue–financial-stability relationship.

3.6 Data Analysis and Diagnostic Tests

Data analysis combined descriptive statistics, pairwise correlations, and panel regression. Descriptive statistics included minimum, maximum, mean, standard deviation, skewness, kurtosis, and the Jarque–Bera normality test. Pairwise correlations provided preliminary evidence on the direction and strength of associations between FS and the asset-utilization components. Multicollinearity was assessed using the Variance Inflation Factor (VIF), with values substantially below 5 indicating no material collinearity problem. We considered fixed- and random-effects specifications and used the Hausman specification test to select the preferred estimator. The reported Hausman statistic ($\chi^2 = 16.985$, $p < 0.001$) supported the fixed-effects specification. Model fit was assessed using the F-statistic and R-squared.

3.7 Validity, Reliability and Ethical Considerations

Construct validity was strengthened by aligning the asset-utilization categories with identifiable revenue items in audited university financial statements. A standardized extraction schedule and consistent classification rules reduced measurement inconsistency. Financial stability was measured using the established CFI framework rather than a single ratio, thereby capturing complementary dimensions of institutional financial condition. Government Policy was measured using a predefined documentary coding framework, applied consistently to relevant legislation and amendments in force each year. The study relied on secondary institutional and public regulatory data. Appropriate research authorization was obtained for the broader dissertation study, sources were acknowledged, and data were used for scholarly purposes. Because the analysis did not rely on respondent-generated psychometric scales, internal-consistency measures such as Cronbach's alpha were not applicable.

IV. RESULTS, ANALYSIS AND DISCUSSION

4.1 Descriptive Statistics

Table 1 presents the distribution of aggregate Asset Utilization Revenue and its four components. Overall, $\ln_AUR$ had a mean of 10.1070 and a standard deviation of 1.3703, indicating moderate variation across university-year observations. Student accommodation revenue recorded the highest component mean (9.7751) and the lowest standard deviation (1.1104), suggesting that accommodation income was comparatively more established and less dispersed across the sampled institutions. Rental revenue had a mean of 8.8648 but greater variability ($SD = 1.9043$), while bank interest had a lower mean of 7.3897. Other asset-utilization income displayed the greatest dispersion ($SD = 2.3944$), consistent with the heterogeneous and episodic character of miscellaneous asset monetization.

Table 1: Descriptive statistics on asset utilization revenue

Variable	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis	JB	p-value
$\ln_AUR$	5.6393	13.6154	10.1070	1.3703	0.0557	0.2890	1.891	0.391
$\ln_AURR$	4.4773	12.6169	8.8648	1.9043	-0.0323	-0.3433	1.028	0.988
$\ln_AURSA$	7.1515	12.3512	9.7751	1.1104	-0.1187	-0.3419	1.835	0.735
$\ln_AURBI$	2.6936	10.9090	7.3897	1.8233	-0.4320	-0.0894	1.377	0.573
$\ln_AUROI$	0.6931	13.2326	5.7973	2.3944	0.3837	1.2514	2.712	0.258

The table further indicates that Skewness was modest for all variables, ranging from -0.4320 to 0.3837 , while the reported Jarque–Bera p-values were all above 0.05. The null hypothesis of normality was therefore not rejected for any asset-utilization variable. This supports the suitability of the transformed variables for the subsequent parametric analysis.

4.2 Correlation Analysis

Table 2 presents the correlation analysis results, showing that the financial-stability contribution of university assets differs materially by asset type. Rental revenue was moderately and positively correlated with FS ($r = 0.473$, $p < 0.01$), while student accommodation revenue had the strongest positive correlation ($r = 0.564$, $p < 0.01$). Bank-interest income was essentially unrelated to FS ($r = 0.015$), and other asset-utilization income was negatively associated with FS ($r = -0.243$), although no significance marker was reported for that coefficient. These results suggest that recurring operating uses of physical assets, particularly accommodation and rentals, are more closely associated with financial stability than passive interest earnings or miscellaneous asset income.

Table 2: Correlation analysis results

Variable	FS	ln AURR	ln AURSA	ln AURBI	ln AUROI
FS	1.000				
ln AURR	0.473***	1.000			
ln AURSA	0.564***	0.097	1.000		
ln AURBI	0.015	0.070	-0.067	1.000	
ln AUROI	-0.243	0.387**	0.337*	0.163	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

The correlations among the explanatory variables were modest. The largest reported inter-component correlation was 0.387 between ln_AURR and ln_AUROI, followed by 0.337 between ln_AURSA and ln_AUROI. These values are well below levels normally associated with severe multicollinearity.

4.3 Multicollinearity and Model Selection

The VIF results, presented in Table 3, confirmed the absence of problematic multicollinearity. Individual VIF values ranged from 1.246 to 1.874, with a mean of 1.572. The corresponding tolerance values ranged from 0.534 to 0.803. The explanatory variables therefore contained sufficient independent variation for joint estimation.

Table 3: The VIF test results

Variable	VIF	1/VIF
ln AURR	1.367	0.732
ln AURSA	1.800	0.556
ln AURBI	1.246	0.803
ln AUROI	1.874	0.534
Mean VIF	1.572	—

Further, the Hausman specification test yielded $\chi^2 = 16.985$ with $p < 0.001$. The null hypothesis that the random-effects estimator was appropriate was therefore rejected, supporting the use of the fixed-effects estimator. This result is substantively plausible because persistent university-specific characteristics, such as location, age, asset endowment, institutional scale, and managerial structures, may be correlated with both asset-revenue generation and financial stability.

4.4 Fixed-Effects Regression Before Government Policy Moderation

Table 4 reports the fixed-effects estimates of the four asset-utilization components before Government Policy moderation. The model was statistically significant ($F = 12.823$, $p < 0.001$) and explained 53.9% of the variation in financial stability ($R^2 = 0.539$) for the 125 complete observations used in this specification.

Table 4-Fixed Effect Regression Results before Government Policy Moderation

Predictor	Coef.	Std. Err.	t	p-value	95% CI
ln AURR	5.720	2.199	2.601	0.010	0.821 to 10.625
ln AURSA	6.488	1.179	5.503	<0.001	4.230 to 8.840
ln AURBI	0.727	0.595	1.222	0.224	-0.597 to 2.047
ln AUROI	-0.627	0.365	-1.718	0.088	-1.439 to 0.186
Constant	-69.743	34.904	-1.998	0.048	reported: -147.507 to 8.025

Rental revenue had a positive and statistically significant coefficient ($\beta = 5.720$, $p = 0.010$). Holding the other asset-utilization components constant, higher rental income was therefore associated with stronger financial stability. Student accommodation revenue produced the largest coefficient ($\beta = 6.488$, $p < 0.001$), indicating that accommodation was the strongest asset-based predictor of FS in the unmoderated model. These findings show that assets that generate recurring, demand-linked operating cash flows contribute more consistently to financial stability.

Bank-interest income was positive but statistically insignificant ($\beta = 0.727$, $p = 0.224$), providing insufficient evidence that passive earnings on cash balances independently strengthened FS. Other asset-utilization income was negative ($\beta = -0.627$) and significant only at the 10% level ($p = 0.088$), suggesting that miscellaneous or episodic asset income was not a robust stabilizing source at the conventional 5% threshold. The results therefore reveal substantial heterogeneity within AUR: the financial value of asset utilization depends on how institutional assets are monetized.

4.5 Government Policy Moderation

Table 5 presents the moderated fixed-effects model, after introducing GP_Mod and four asset-revenue interaction terms. The model remained jointly significant ($F = 13.734$, $p < 0.001$) and reported an overall R^2 of 0.599, with within R^2 of 0.352 and between R^2 of 0.678. The estimation used 101 complete observations. Government Policy itself had a negative and statistically significant coefficient ($\beta = -11.567$, $p = 0.003$),

indicating that, at the reference values of the asset-revenue variables, higher values of the policy measure were associated with lower financial stability. The interpretation of interaction coefficients follows the direction of the final policy index used in estimation; higher index values represent greater enabling orientation and vice versa.

Table 5: Fixed Effects Regression analysis results with GP Moderation

Predictor	Coef.	Std. Err.	t	p-value	95% CI	Sig.
ln AURR	1.015	0.354	2.867	0.005	0.312 to 1.718	***
ln AURSA	1.456	0.607	2.399	0.018	0.243 to 2.664	**
ln AURBI	0.118	0.264	0.447	0.656	-0.397 to 0.631	
ln AUROI	-0.666	0.699	-0.953	0.342	-2.036 to 0.706	
ln GP Mod	-11.567	3.856	-3.000	0.003	-19.294 to -3.834	***
ln AURR×GP	-0.438	0.154	-2.844	0.005	-0.745 to -0.135	***
ln AURSA×GP	-0.346	0.135	-2.563	0.011	-0.618 to -0.072	**
ln AURBI×GP	-0.078	0.513	-0.152	0.879	-1.079 to 0.928	
ln AUROI×GP	0.457	1.346	0.340	0.735	-2.177 to 3.092	
Constant	56.289	18.176	3.097	0.002	19.867 to 92.696	***

The key finding is that Government Policy significantly moderated the two asset streams that were the strongest direct predictors of financial stability. The interaction between rental revenue and GP was negative and significant ($\beta = -0.438$, $p = 0.005$), while the interaction between student accommodation revenue and GP was also negative and significant ($\beta = -0.346$, $p = 0.011$). Thus, as the policy measure increases in the direction represented by the index, the positive contribution of rental and accommodation revenue to financial stability declines.

By contrast, the interaction terms for bank interest ($\beta = -0.078$, $p = 0.879$) and other asset-utilization income ($\beta = 0.457$, $p = 0.735$) were statistically insignificant. There is therefore no evidence that Government Policy systematically altered the relationship between these two revenue components and financial stability. This selective moderation matters: regulation does not affect all asset-based revenue in the same way. It appears most consequential where universities must actively deploy, lease, price, maintain or commercially operate physical assets.

4.6 Hypothesis Testing

Table 6 summarizes the decisions regarding the study hypotheses. The direct-effect results indicate that H01 and H02 were rejected because rental revenue ($\beta = 5.720$, $p = 0.010$) and student accommodation revenue ($\beta = 6.488$, $p < 0.001$) had positive, statistically significant effects on financial stability. H03 was not rejected because bank-interest revenue had an insignificant effect ($\beta = 0.727$, $p = 0.224$), and H04 was also not rejected because other asset-utilization revenue was statistically insignificant at the 5% level ($\beta = -0.627$, $p = 0.088$).

Regarding moderation, H05a and H05b were rejected because Government Policy significantly moderated the relationships between rental revenue and financial stability ($\beta = -0.438$, $p = 0.005$) and between student accommodation revenue and financial stability ($\beta = -0.346$, $p = 0.011$). The negative interaction coefficients indicate that the policy environment weakened these positive relationships. H05c and H05d were not rejected because the interaction terms for bank-interest revenue and other asset-utilization revenue were statistically insignificant.

Table 6 Hypothesis Test Results Summary

Hypothesis	Relationship	β	p-value	Decision
H01	Rental revenue $\rightarrow$ FS	5.72	0.01	Reject H01
H02	Student accommodation $\rightarrow$ FS	6.488	<0.001	Reject H02
H03	Bank interest $\rightarrow$ FS	0.727	0.224	Fail to reject H03
H04	Other asset-utilization revenue $\rightarrow$ FS	-0.627	0.088	Fail to reject H04
H05a	AURR $\times$ GP $\rightarrow$ FS	-0.438	0.005	Reject H05a
H05b	AURSA $\times$ GP $\rightarrow$ FS	-0.346	0.011	Reject H05b
H05c	AURBI $\times$ GP $\rightarrow$ FS	-0.078	0.879	Fail to reject H05c
H05d	AUROI $\times$ GP $\rightarrow$ FS	0.457	0.735	Fail to reject H05d

4.7 Discussion of Findings

The results support the paper's central custodianship–commercialization argument. Public universities possess assets capable of producing recurring income, but the strongest financial-stability benefits arise when those assets are deployed in structured commercial activities. Rental and student accommodation revenues were consistently positive in the correlation and regression analyses. This pattern is consistent with Resource

Dependence Theory: internally controlled assets can reduce dependence on uncertain external transfers by creating recurrent revenue under institutional control.

The stronger performance of accommodation and rental income also accords with a portfolio perspective. These streams are tied to tangible assets and recurring demand and may therefore provide more predictable cash flows than incidental disposals, miscellaneous asset income or passive interest. The insignificant bank-interest coefficient indicates that merely holding cash-generating financial assets is not equivalent to strategically deploying the university's productive asset base. Likewise, the weak performance of other asset income suggests that one-off monetization does not necessarily translate into durable financial resilience.

The moderation findings provide the strongest evidence for the Agency Theory dimension of the study. Government oversight is necessary because university assets are public resources and their use must remain accountable. However, the negative and significant interaction terms for rentals and student accommodation indicate that the regulatory environment can reduce the financial return universities obtain from active asset commercialization. Approval requirements, procurement rules, restrictions on retaining and using internally generated funds, land-use controls, and lengthy transaction procedures may protect public assets while reducing managerial flexibility and commercial responsiveness. The evidence therefore favors neither unrestricted commercialization nor rigid custodianship; it supports a balanced-autonomy approach in which accountability safeguards coexist with sufficient operational discretion to use assets productively.

The findings summary established that asset-utilization revenue is not a homogeneous source of university revenue. Descriptive and correlation results showed significant differences across its components. The unmoderated fixed-effects model explained 53.9% of the variation in FS and identified rental revenue and student accommodation revenue as positive and significant predictors. Bank-interest income was insignificant, while other asset income was not significant at the 5% level. After Government Policy was introduced, rentals and accommodation remained positive and significant, but their interaction terms with GP were negative and significant. Government Policy therefore weakened the contribution of the two most productive asset-revenue streams, while no significant moderation was found for bank interest or other asset income.

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The study examined whether the utilization of university assets contributes to financial stability and whether Government Policy moderates that contribution. The descriptive results showed that asset-utilization revenues varied considerably across public universities, particularly for miscellaneous asset income. Correlation analysis identified positive relationships between FS and both rental revenue ($r = 0.473$, $p < 0.01$) and student accommodation revenue ($r = 0.564$, $p < 0.01$), while bank interest was virtually unrelated to FS and other asset income showed a negative association.

The fixed-effects regression before moderation confirmed that rental revenue ($\beta = 5.720$, $p = 0.010$) and student accommodation revenue ($\beta = 6.488$, $p < 0.001$) significantly enhanced financial stability. Bank interest income was not significant ($\beta = 0.727$, $p = 0.224$), and other asset income was not significant at the 5% level ($\beta = -0.627$, $p = 0.088$). The model explained 53.9% of the variation in FS. After Government Policy was introduced, rental and accommodation revenue remained positive and significant, but GP had a significant negative direct effect ($\beta = -11.567$, $p = 0.003$). More importantly, GP significantly weakened the rental revenue–FS relationship ($\beta = -0.438$, $p = 0.005$) and the accommodation revenue–FS relationship ($\beta = -0.346$, $p = 0.011$). Moderation was insignificant for bank interest and other asset income.

5.2 Conclusions

The study concludes that asset utilization can materially strengthen the financial stability of Kenyan public universities, but the effect depends on how assets are commercialized. Recurring operational uses of physical assets, especially rental facilities and student accommodation, provide the clearest financial-stability benefits. Passive or episodic forms of asset income do not demonstrate the same stabilizing effect. The findings therefore support rejection of H_{01} and H_{02} , confirming that rental and student accommodation revenues significantly strengthen financial stability. H_{03} and H_{04} were not rejected because bank-interest and other asset-utilization revenues did not demonstrate statistically significant effects at the 5% level.

The study further concludes that Government Policy is an important boundary condition on university asset commercialization. The significant negative interaction effects for rental and accommodation revenues demonstrate that the policy environment can weaken universities' ability to convert productive assets into financial stability. The moderation results support rejection of H_{05a} and H_{05b} , while H_{05c} and H_{05d} were not rejected. Government Policy should consequently be understood as selectively conditioning the financial productivity of university assets rather than exerting an identical effect across all asset-revenue categories.

These results resolve the custodianship–commercialization paradox by showing that public accountability and commercial productivity need not be mutually exclusive. Universities remain custodians of

public assets, but custodianship that prevents timely, economically rational deployment of those assets can undermine the institutional sustainability that public oversight is intended to protect. A balanced-autonomy model is therefore more appropriate: government retains strong accountability, transparency, and value-for-money safeguards, while universities receive sufficient delegated authority to develop, lease, price, maintain, and reinvest in productive assets.

The study concludes that asset utilization is a viable yet underexploited pathway to stronger financial stability in Kenyan public universities. Evidence shows that the most valuable asset strategies generate recurring operational income, particularly from rentals and student housing. Yet government policy significantly shapes these streams. Sustainable reform therefore requires a dual shift: universities must manage assets more commercially and professionally, while the government must regulate them to safeguard public value without unnecessarily constraining productive use. The appropriate destination is neither unregulated commercialization nor passive custodianship, but accountable commercial autonomy.

5.3 Recommendations

Public universities should establish comprehensive asset-commercialization strategies that distinguish productive recurring assets from non-performing or incidental ones. Priority should be given to student housing, staff and commercial rentals, conference facilities, laboratories, farms, recreational facilities, and other assets that can generate predictable cash flows. Each institution should maintain an up-to-date asset register linked to utilization rates, maintenance requirements, market values, revenue yields, and lifecycle investment plans.

Universities should professionalize the management of their housing and rental portfolios. This includes market-based yet mission-sensitive pricing, occupancy management, preventive maintenance, transparent leasing, performance contracts for commercial units, and ring-fenced reinvestment of a reasonable share of asset income into the assets that generate it. The objective should be to shift asset management from passive custodianship to measurable financial productivity without compromising public purpose.

The government should review how PFM, procurement, land, and PPP frameworks apply to public universities, with the aim of creating differentiated and proportionate approval pathways for routine commercial use of institutional assets. High-risk disposals and major long-term concessions should remain subject to stringent oversight, while lower-risk leasing, facility hire, accommodation operations, and revenue-retention decisions could be governed by delegated thresholds, standard templates, and time-bound approvals.

A revenue-retention and reinvestment framework should be developed for internally generated asset income. Universities need credible incentives to commercialize and maintain assets; when internally generated income is overly restricted or cannot be reinvested predictably, the incentive to optimize assets weakens. Such a framework should preserve Treasury oversight while enabling transparent, audited reinvestment in the maintenance, refurbishment, and expansion of income-producing assets.

University councils and management should strengthen governance safeguards for commercialization. Commercial proposals should be supported by feasibility studies, lifecycle costing, conflict-of-interest controls, competitive processes where required, independent valuation, and periodic performance reporting. This would address the Agency Theory concern that greater autonomy without accountability could expose public assets to misuse.

Finally, universities should avoid treating asset disposal or miscellaneous asset receipts as substitutes for recurring operating income. One-off proceeds may improve short-term liquidity but do not necessarily strengthen long-term financial stability. Disposal decisions should therefore be driven primarily by portfolio optimization and replacement strategy rather than by short-term cash pressure.

5.4 Contribution to Theory, Policy and Practice

Theoretically, the study integrates Resource Dependence, Portfolio, and Agency perspectives to show that asset ownership alone does not reduce resource dependence; financial resilience arises when assets are converted into recurring, productive revenue streams under an enabling governance structure. The findings also extend Portfolio Theory by demonstrating heterogeneity within a single revenue category: rentals and accommodation behave differently from bank interest and miscellaneous asset income.

For policy, the study provides empirical evidence that regulation can measurably moderate the financial productivity of public university assets. This shifts the debate from whether universities should be regulated to how regulation can preserve accountability without stifling productive commercialization. The proposed balanced-autonomy approach offers a practical policy principle for reconciling public custodianship with financial sustainability.

In practice, the results guide university managers toward asset classes that demonstrate financial stability and underscore the need to measure asset performance rather than merely maintain asset registers. The study therefore supports a transition from administrative asset custody to strategic asset portfolio management.

5.5 Limitations and Areas for Further Research

The study relied on audited secondary financial data, and the component regressions used fewer observations than the broader balanced panel because some universities did not consistently report all asset-revenue components. The findings should therefore be interpreted in light of the 125 observations in the unmoderated component model and the 101 in the moderated model. In addition, the Government Policy measure captures the formal regulatory environment; implementation practices and institution-specific administrative delays may vary even under the same legislation.

Further research should assess asset-utilization efficiency using asset values, occupancy rates, maintenance expenditures, and net operating returns, rather than relying on gross revenue alone. Future studies could also distinguish among land, buildings, farms, intellectual property, and specialized research infrastructure, and test whether institutional governance quality, location, or university size affects their financial returns. Comparative studies of private universities or public universities in other Sub-Saharan African countries would help determine whether the observed policy effects are specific to Kenya's public-sector governance framework.

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