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Strengthening the Financing of State Universities and Colleges: Challenges and Opportunities

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Strengthening the Financing of State Universities and Colleges: Challenges and Opportunities

Herisadel P. Flores

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Abstract

State universities and colleges serve as critical pillars of higher education, human capital development, and technological innovation in the Philippines. As publicly funded institutions, they play a vital role in addressing educational disparities, fostering inclusive growth, and advancing research that contributes to national development. This study examines the funding approaches employed by SUCs, assessing their viability amid growing economic pressures and evolving policy landscapes. Traditionally, SUCs rely on direct government appropriations, supplemented by internally generated income from tuition fees, auxiliary services, and entrepreneurial ventures. However, financial constraints, regulatory barriers, and inefficient fund utilization hinder their capacity to achieve long-term sustainability.

Drawing insights from international experiences, particularly from OECD and Southeast Asian economies, this study explores higher education financing models as well as various approaches implemented by public higher education institutions to diversify funding sources. While performance-based funding mechanisms and diversification strategies have gained traction globally, SUCs in the Philippines continue to face challenges in revenue generation due to limited financial autonomy, bureaucratic inefficiencies, and disparities in resource allocation. Government appropriations for SUCs remain unevenly distributed, with significant disparities between institutions in budget allocation and development funding. Further, reliance on state subsidies and SUCs' inability to effectively pursue alternative financing strategies hamper infrastructure investment, research funding, and faculty development.

To address these concerns, SUCs have implemented various initiatives, including the operation of income-generating projects, commercialization of intellectual property, and university-industry collaborations. However, these efforts have encountered difficulties due to the lack of institutional expertise, regulatory complexities, and insufficient investment from private sector stakeholders. The study highlights how financial autonomy, leadership strategies, and institutional governance affect SUCs' capacity to optimize funding opportunities while pursuing academic excellence. Lessons drawn from Southeast Asian experiences, such as Singapore's model of funding public universities, Thailand's policy of higher education decentralization, and Malaysia's entrepreneurial university approach, offer valuable insights into strengthening SUC financing.

Building on international trends and local challenges, this research outlines key policy recommendations for improving financial sustainability among Philippine SUCs. These include rationalizing tuition fees to create more equitable funding structures, expanding university-industry collaboration to boost external revenues, strengthening the commercialization of university-developed technologies, and reforming government budget allocation mechanisms to promote efficiency and innovation. Leveraging a more strategic approach to financing can enhance the competitiveness of SUCs, improve higher education quality, and contribute more effectively to national development. A nuanced policy framework is therefore necessary to balance state support with institutional self-sufficiency and foster a robust higher education sector capable of meeting the demands of the global knowledge economy.

Keywords: state universities and colleges, higher education financing, financial autonomy, financial sustainability, entrepreneurial university, university corporatization, university-industry collaboration, commercialization of intellectual property, endowment funds

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Strengthening the Financing of State Universities and Colleges: Challenges and Opportunities

Herisadel P. Flores*

1. Introduction

State universities and colleges (SUCs) play a crucial role in ensuring access to higher education and developing human capital in the Philippines. These institutions are pivotal in addressing educational disparities and fostering inclusive growth through the public provision of higher and advanced education, research and development (R&D), and extension services. Aside from cultivating the talent and ingenuity of individuals from different socioeconomic backgrounds, SUCs have the potential to become important centers for research and innovation. Knowledge generated by these institutions contributes to technological advancement and enriches the discourse on critical issues concerning the national polity. Furthermore, SUCs serve their communities through extension programs benefiting various segments of society.

Human capital development is a vital component of a vibrant and resilient economy. As the country positions itself to achieve upper-middle-income status in the era of the knowledge economy, a smart and innovative workforce becomes an indispensable catalyst for productivity and competitiveness. Knowledge-based economies place human capital at the center of economic advancement, with knowledge serving as the main engine of growth (ADB 2012). Given its vital role in developing human capital, higher education serves as a crucial driving force for growth in the knowledge economy (Etzkowitz 2004). Acknowledging this essential function, governments worldwide have invariably adopted the public provision of higher education as a matter of policy, albeit in varying forms and degrees. Public investment in higher education and research is perceived as enhancing productivity and stimulating innovation (Pillis and Pillis 2000). Similarly, expanding access to higher education through public provision is viewed as a crucial step toward reducing poverty and inequality. Generally, recipients of higher education have better job opportunities and more stable incomes (Albert, Basillote, & Munoz, 2021). A collegiate diploma can liberate individuals from poverty and improve intergenerational living standards.

Given its economic and social benefits, the government's policy is to ensure access to quality higher education. As a developing country, however, the Philippines faces multiple deep-seated challenges that require equal attention. Pursuing national development objectives necessitates efficiently allocating resources across critical sectors, such as education, health, and infrastructure. Ensuring the quality and accessibility of higher education in the country entails greater investments and more efficient spending. Considering the government's financial limitations, it must strategically allocate funds to ensure access to quality higher education while fulfilling its other equally pressing obligations.

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Expanding access to SUCs has been the government's principal strategy to promote equity and inclusion in higher education. The national government subsidizes education in SUCs by providing financial support to fund personnel, operating, and capital expenditures. As of 2023, there are 117 SUCs operating nationwide (DBM 2023). Several institutions are located in underserved areas outside economic centers, providing educational opportunities to marginalized communities. However, despite their essential role in national development, SUCs are given limited funding and are expected to pursue self-sufficiency by exploring other income sources. For instance, the budget for SUCs in 2023 was PHP 128.4 billion, which is less than 2.5% of the national government's budget. A significant portion (24%) of this amount was allocated to the University of the Philippines System, the national university and the premier higher education institution (HEI) in the country.

The annual budget of SUCs is augmented by their internally generated income (IGI), which may come from two primary sources: (i) income from students, including tuition, miscellaneous fees, matriculation fees, and laboratory fees, and (ii) income from auxiliary services such as dormitories and cafeterias and other income-generating projects (IGPs), such as agricultural production and commercial activities (Manasan & Revilla 2015). Previously, students and their families shared the financial burden of public higher education by paying tuition that varied across academic programs and institutions. Aiming to make higher education more attainable for students from lower-income households, the 17th Congress passed Republic Act (RA) No. 10931, or the "Universal Access to Quality Tertiary Education Act (UAQTEA)," which exempted undergraduate students in SUCs from paying tuition and other school fees. Additionally, as part of the government's efforts to remove barriers to higher education, the Unified Student Financial Assistance System for Tertiary Education (UniFAST) was established in 2015 to harmonize and strengthen the government's various Student Financial Assistance Programs (StuFAPs).

Since 2018, the government has been reimbursing the cost of tuition to SUCs, effectively transferring the burden to taxpayers and expanding the state's role in financing higher education. This policy, along with the economic challenges brought about by the COVID-19 pandemic to households, resulted in the exodus of students from private HEIs to SUCs. Increasing enrollment has strained these institutions' already limited resources. As more students opt for SUCs, the need for additional inputs such as instructors, classrooms, laboratories, and dormitories intensifies. The surge in enrollment often outpaces the increase in funding, resulting in overcrowded facilities and strained resources.

SUCs operate various IGPs as permitted by the availability of resources, such as land and facilities, and in alignment with their mandates, priorities, and the needs of the local economy. Those with land grants typically resort to agricultural production, such as piggeries, poultries, fisheries, fruit farms, rice farms, seed production, and food processing, among others. Non-agricultural IGPs usually include the rental of facilities, operation of hostels, cafeterias, catering services, review centers, printing shops, internet shops, souvenir shops, wellness and spas, and the provision of capacity-building programs. Academic activities, such as research and laboratory services, are also familiar income sources. However, many SUCs are unable to optimize their revenue-earning potential. Few SUCs earn significant income from IGPs by utilizing their land grants. Research outputs are seldom developed into intellectual properties (IPs) that can generate additional revenue.

Over the years, various policy reforms have been introduced to enhance the financing and utilization of funds by SUCs. The Higher Education Development Fund (HEDF) was

established in 1994 to promote the development of public and private HEIs and expand their capacity for staff development, facility improvement, research, and scholarship offerings. Further, the "Higher Education Modernization Act of 1997" (RA 8292) corporatized SUCs and broadened their resource base. Corporatization enabled the more effective formulation and implementation of policies, ensuring greater academic freedom in SUCs (Lagrada 2010). They were permitted to generate, retain, and manage their income from tuition fees and auxiliary services. Through more liberal financing strategies and the commercial utilization of available spaces and resources, SUCs are expected to develop the capacity to fund their modernization initiatives (Manasan & Revilla 2015).

RA 8292 allowed SUCs to retain their IGI, which could be utilized for programs and activities approved by their governing boards: the Board of Regents (BOR) for universities and the Board of Trustees (BOT) for colleges. Public institutions of higher learning may also enter into joint ventures with businesses and industries to manage and develop their economic assets. Proceeds from these arrangements can be used to fund the SUCs' development projects. The law also permits the privatization of nonacademic services, management of health facilities, and building and grounds maintenance as long as it benefits the institution.

Nevertheless, the utilization of IGI is subject to limitations and restrictions applicable to government agencies. SUCs must comply with the rules and regulations enforced by the Commission on Audit (COA), including COA Circular No. 2000-02 and Presidential Decree No. 1445, also known as the "Government Auditing Code of the Philippines," among others. They must also follow DBM guidelines on compensation and benefits, creation of positions, and other special provisions of the General Appropriations Act (GAA). Memoranda and circulars issued by the Commission on Higher Education (CHED), particularly CMO No. 20, s. 2011, provide additional guidelines.

Physical assets such as land and facilities can be utilized to generate significant income for SUCs. To provide a common governance framework for developing SUCs' land assets, RA 11396, or the "SUCs Land Use Development and Infrastructure Plan (LUDIP) Act," was enacted in 2019. The law requires SUCs to prepare and implement a LUDIP to ensure the optimal use of resources. All infrastructure projects and land use proposals must be aligned with the LUDIP. Furthermore, the Department of Science and Technology (DOST) and the Philippine Economic Zone Authority (PEZA) issued a joint memorandum circular (JMC) allowing SUCs to establish technology hubs dedicated to robotics, big data, and artificial intelligence. Establishing knowledge, innovation, science, and technology (KIST) parks aims to promote economic growth, job generation, and the commercialization of homegrown innovations. The DOST reviews KIST park proposals according to their alignment with the following research priority areas: biotechnology, food and nutrition, agriculture, engineering, electronics, robotics, renewable energy, transport solutions, data analytics, and artificial intelligence (Subingsubing 2023).

Moreover, RA 11448, or the "Transnational Higher Education Act," was passed in 2019 to "encourage, promote, and accelerate the establishment of transnational higher education [TNHE] programs, the internationalization of higher education in the country, and the development of the [TNHE] sector" (Section 2). The law allows the establishment of various modes of TNHE programs, including academic franchising, articulation, offering of joint and double degrees, online, blended, and distance learning, open distance learning, and twinning arrangements. Validation, where an HEI agrees to award its own degree to students who completed a program from a partner HEI in another country, is also allowed under the law.

Foreign HEIs are permitted to establish branch campuses in the country and offer educational programs and qualifications. TNHE presents public HEIs with the opportunity to expand their academic and extension programs and encourages more research collaborations with foreign HEIs. This can contribute to enhancing the quality of teaching and research in public HEIs by exposing them to international standards.

2. Objectives of the study and structure of the paper

The path toward global and regional economic integration has recently taken an ambiguous turn, but it continues to present a distinctive opportunity for the country to accelerate growth and for individuals to capitalize on both domestic and international labor markets. Consequently, there is mounting pressure for SUCS to meet global higher education standards by upskilling their human resources, upgrading facilities and equipment, and enhancing student support services. SUCs rely on their personnel complement, financial resources, physical facilities, and social assets to fulfill their mandates as vital contributors to human capital development in the country. The quality of education and research output that SUCs produce is critical to achieving national development goals. However, as a crucial component of the country's higher education system, SUCs must carefully navigate the evolving socioeconomic environment along with the issues and challenges of higher education financing to produce graduates who are adequately equipped for the world of work in the knowledge economy. Enabling SUCs to realize their potential as catalysts for economic and social progress requires optimizing funding opportunities and efficiently utilizing financial resources. Determining the right approach to policy and administrative reform is crucial to enhancing the financial health and educational quality of SUCs.

This study aims to contribute to the discourse on capacitating SUCs by investigating the various methods through which these institutions secure vital funding that would enable them to elevate the quality of higher education in the country. Financed primarily through direct state subsidies, SUCs also receive tuition fee payments from the government under RA 10931. Nonetheless, reliance on public funding is not always feasible due to the state's limited financial resources and competing priorities. Consequently, SUCs are expected to explore other sources of income. This paper further examines the various factors that influence the SUCs' ability to optimize funding opportunities. Specifically, the objectives of this study are as follows:

1) Conduct a comprehensive review of income generation models of public HEIs in other countries;
2) Analyze the SUCs' financial statements to investigate patterns over time, analyze other documents and information sources, and compare and contrast the patterns and information gathered;
3) Identify best practices in the selected SUCs and analyze to what extent these practices can be scaled and replicated by other SUCs; and
4) Review the position classification of SUC personnel.

The study's multifaceted objectives necessitate a careful and comprehensive examination of the issues related to SUC financing. This report comprises several sections that discuss the various aspects of the study. Section 1 describes the vital role of SUCs in providing equitable access to higher education and reviews recent policies and initiatives aimed at enhancing the financing of SUCs. The objectives of the study and the structure of the report are described in this current section. Section 3 examines the financing strategies for higher education across

various countries, highlighting government adaptation policies in response to resource constraints to ensure accessibility and efficiency. Section 4 surveys higher education financing reforms across selected Southeast Asian (SEA) nations, detailing the various approaches adopted by these countries to balance state funding, private sector involvement, and institutional autonomy in sustaining and improving public universities. The sources and patterns of SUC funding are discussed in Section 5, underscoring disparities in budget allocations, utilization rates, and revenue-generating capacities. Section 6 reveals the factors affecting income generation among SUCs and the key challenges they face in securing adequate funding to support their operations and development goals. Section 7 examines issues related to the organizational structure, staffing, and position classification of SUCs while exploring strategies employed to balance financial limitations with the need for human resource development. Section 8 highlights key insights into reform areas and good practices of SUCs in strategic budgeting, income generation, and international collaborations, aiming to strengthen institutional sustainability and global competitiveness. The penultimate section provides a summary of the report and some concluding remarks. Section 10 lays down the report's recommendations.

3. International perspectives on higher education financing

3.1. The role of the state

Mobilizing state resources has long been part of the government's strategy to ensure access to higher education (Ortiz, Melad, Araos, Orbeta Jr., & Reyes 2019). While pursuing the appropriate mix of government and private financing is a continuing goal of policy reform in the Philippines and abroad, views on the state's role in higher education differ across countries. Some advocate for greater government intervention, while others push for more reliance on market forces. A study by Zatonatska et al. (2019) on the sources of higher education funding in Organisation for Economic Co-operation and Development (OECD) countries revealed that public funding had a larger share, at 68.4% in 2000, which increased further to 78.6% in 2010.

For instance, higher education in Germany remains largely publicly funded, despite previous attempts to increase private contributions that were short-lived. After a brief period of introducing tuition fees, the policy was eventually rescinded (Teichler 2016). Germany is typical of European higher education systems characterized by strong government intervention and state planning (Herbst 2007; Vught 1997). While some countries, such as Germany and the Netherlands, have experimented with following the market model, public funding remains a primary feature of European higher education (Mayer & Ziegelee 2009; Vught 1997). Some governments allocate sufficient funding to support HEIs' operations, making private funding no longer necessary and almost non-existent, as seen in the case of the Nordic countries–Denmark, Finland, and Norway–where private sources account for only 5% of total spending in higher education (Zatonatska et al. 2019). On the other hand, private funding comprises around 40% in Australia, Canada, Israel, Japan, and the United States (US), and as high as 70% in Chile, Korea, and the United Kingdom (UK). Higher education financing in the UK underwent a remarkable shift from dependence on public funding (67.7% in 2000) to the dominance of private sources (74.8% in 2010) within just a decade (Zatonatska et al.2019).

Adherents of government provision of higher education emphasize its economic and social benefits, as well as the nature of knowledge as a public good. Additionally, considering the

high risks and uncertain rewards associated with some disciplines and research undertakings, higher education might be undersubscribed or even inaccessible to some individuals without public subsidies (Weisbrod 1998; James & Rose-Ackerman 1986). On the other hand, the main argument against an extensive government role is the high private return of higher education relative to its social benefits, justifying substantial self-investment by the recipient (Jongbloed 2004). In the 21st century, many countries have subscribed to this principle, which has characterized the US model, by resorting to market or market-like mechanisms (Dill 2003).

Australia, for example, reduced government funding to induce universities to seek alternative income sources and adopted reward-based incentives and competitive grants to redistribute financial resources based on performance (Lovegrove & Clarke 2008). In the UK, higher education reforms emphasized promoting competition among institutions and expanding student choices through vouchers (Finkelstein & Grubb 2000). Public HEIs also raise funds by tapping private capital markets through the issuance of bonds. These bonds are placed on stock exchanges, and HEIs must get credit ratings from leading rating agencies. Since 2007, Moody's has employed a university rating methodology for HEIs in Canada, the UK, and the US (Zatonatska et al. 2019).

However, most OECD countries rely on household out-of-pocket spending as the primary source of private higher education funding, except for Canada, the US, and Australia, where donations and endowment funds are the primary sources of private funding (Zatonatska et al. 2019). Likewise, public HEIs in SEA charge tuition fees to supplement government funding. This cost-sharing approach helps alleviate the financial burden on the government while ensuring that students contribute to the cost of their education. However, tuition fees are often kept relatively low to maintain accessibility for students from diverse socio-economic backgrounds.

Cost sharing is based on the economic rationale that human capital, accumulated through education and training, should be considered a form of investment for its potential to enhance productivity (Schultz 1971; Becker 1994). As such, its value should be measured in terms of relative costs and benefits to the recipient (ADB 2012). Relying on market mechanisms marks a significant departure from the view that higher education is a public good necessitating government funding. Consequently, the cost of higher education is gradually transferred to students and their families, effectively reclassifying it as a private commodity.

Remarkably, allowing market forces to play a more expanded role has resulted in the massification of higher education in many countries. However, this has also led to a growing access gap between individuals from different socioeconomic backgrounds. Even in advanced economies such as the US and Europe, higher-income individuals have better access to higher education than their less privileged counterparts (Zatonatska et al. 2019). ADB (2012) warned that financing higher education cannot rely solely on business efficiency principles, noting that such a policy could result in inequitable access. Although public funds should be used efficiently, the lack of inclusivity sacrifices both the quality and efficiency of higher education.

It is essential to consider the policy context of higher education financing by recognizing that there is no one-size-fits-all model for countries with diverse development backgrounds (Zatonatska et al. 2019). Developing countries often lack the resources to allocate significant funding to higher education compared to their developed counterparts. For this reason, Joshi

(2007) observed that the majority of HEIs in the Philippines are private and do not receive government funding. The Philippine higher education system (HES) has evolved primarily from private funding and is now showing a reverse trend, where public funding is gradually gaining more importance. Indeed, the ADB (2012) cited the Philippines as a unique case among SEA countries. Although this system has the advantage of being market-oriented, where academic programs offered are determined by labor market conditions, its overdependence on tuition fees hinders the development of the HES in the absence of adequate public investments (Zatonatska et al. 2019).

Zatonatska et al. (2019) documented three basic models of higher education financing in OECD countries: *bureaucratic*, *collegial*, and *market* models. *Bureaucratic* financing relies solely on the use of public funds. The government mainly funds *collegial* models but allows HEIs to generate income from private sources, such as tuition fees and research contracts. Finally, the *market* model involves close cooperation among all stakeholders in higher education, allowing HEIs to explore alternative funding sources. Based on a comparative analysis of the advantages and disadvantages of these models, the *market* model was found to be the most efficient and flexible, allowing HEIs to diversify their sources of funds, access additional resources from financial markets, and attract endowments by ensuring donors' continued influence over their contributions. For instance, Nagy, Kováts, and Németh (2014) studied best practices in higher education financing among European universities and found that they can access private funding through partnerships with industry, donations, and grants.

Regardless of the financing mix between public and private, the general opinion of scholars is that the government should determine the agenda for higher education development, while HEIs should be afforded a certain level of autonomy in utilizing funds obtained from private sources (Zatonatska et al. 2019).

3.2. Government strategy and adaptation mechanisms

Schiller & Liefner (2007) argue that the relationship between a government and a state-funded HEI can be viewed through the lens of Principal-Agent Theory. The government, as the principal, provides funding to the institution so that it can perform the tasks of teaching and research. The HEI, as the agent, utilizes the funds to carry out its duties. As the government seeks to allocate its resources efficiently, it can partially reduce the funding of HEIs and allow new principals—students paying tuition fees and firms outsourcing research—to fill the gap. As long as the objectives of these stakeholders collectively align with societal goals, the government can be assured that their increased influence on the services they pay for can encourage HEIs to continually improve their performance.

Alternatively, the state can design incentive schemes to stimulate HEIs to align with its objectives by tying funding to performance (Schiller & Liefner 2006). With the emergence of the New Public Management (NPM) paradigm, governments have increasingly emphasized efficiency, transparency, performance measurement, and accountability in agency operations (Di Carlo et al. 2019; Hood 1991; Woelert & Yates 2015). The government may pursue either one or a combination of these options. In both cases, there are potential efficiency gains by motivating HEIs to improve performance and maintain state support or, as an alternative, attract students and private research funding.

Declining government financial support, coupled with increasing performance expectations, compels public HEIs to search for alternative funding sources through revenue diversification.

The Resource Dependency Theory (RDT) posits that organizations are highly dependent on their external environments to access essential resources (Jaafar et al. 2021). This theory emphasizes three influential factors in attaining organizational effectiveness, namely the ability to obtain essential resources (Pfeffer & Salancik 2003), the efficient management of these resources (Hodge & Piccolo 2005), and the flexibility to adapt to volatile conditions and critical situations (Omondi-Ochieng 2019). Maintaining independence requires organizations to manage their relationships with critical resource providers effectively. In addition, they must explore alternative sources of funds to diversify their revenue streams and minimize their dependency on government funding (Froelich 1999; Greening & Gray 1994; Hodge & Piccolo 2005).

According to the RDT, HEIs seek to minimize their reliance on increasingly unstable government funding (Froelich 1999; Hodge & Piccolo 2005). Fully exploiting their own resources, such as physical assets and human resources, can give them an advantage in an intensely competitive environment where public and private HEIs vie for students and research funding (Barney 1991; Dollinger 1999; Grant 1991; Wernerfelt 1984). For public HEIs, this may come in the form of monetizing physical resources and utilizing the academic expertise of staff through consultancies, short courses, lifelong learning programs, and the commercialization of intellectual property (Nik Ahmad et al. 2019). Diversifying revenue streams to include non-governmental sources is crucial to achieving institutional autonomy (Wangenge-Ouma 2011). Diversification has been widely accepted by nonprofits as a reliable strategy to achieve financial sustainability (Chang & Tuckman 1994; Yan 2011). However, if the majority of a public HEI's funding comes from the government, its ability to strategize and diversify revenue streams will be limited by how much autonomy it has been granted (Hodge & Piccolo 2005).

3.3. Financial autonomy

Financial autonomy is a critical aspect of public HEI financing. Public service institutions require an optimal and flexible financial management system that facilitates productivity, efficiency, and effectiveness. The European University Association (EUA) defines financial autonomy as a university's ability to decide freely on its internal financial affairs, noting that the freedom to manage its funds independently enables an institution to determine and achieve its strategic goals (Eastermann & Nokkala 2009). It encompasses the ability and freedom of public HEIs to accumulate reserves, keep surpluses, set tuition fees, borrow money from financial markets, invest in financial products, issue shares and bonds, and own land and buildings. Financial autonomy, therefore, can be understood as the ability to decide how best to generate income and utilize available financial resources (Wan Saiful 2017).

Although financial autonomy is not the only factor determining the success of a public HEI, it is one of the most influential factors affecting institutional performance and competitiveness. The Economist (2005) attributed the success of American universities in consistently leading global institutional rankings to three principles, namely limited intervention from the federal government, a competitive environment, and a commitment to creating social benefits. In the US, universities themselves employ their academic staff rather than the federal government, and university spending is not subject to government control (Wan Saiful 2017).

There is also a strong correlation between financial autonomy and research excellence, as demonstrated by the relatively smaller number of French and German universities in the

Shanghai Jiao Tong University's Academic Ranking of World Universities (ARWU), considered the most credible global ranking of higher education institutions (Wan Saiful 2017). In a report by Altbach & Salmi (2011), it was found that although funding per student is positively correlated to universities' rankings in the ARWU, only budget autonomy has a positive correlation with research performance among different governance indicators. Universities in France and Germany receive equal treatment from the government regarding budgeting and staffing, resulting in minimal competition and making it difficult for any individual institution to recruit the best researchers (Altbach & Salmi 2011). Findings from this study emphasize that while budget size matters, autonomy in the utilization of funds is more important in determining universities' research performance. Additionally, non-intervention by the government in university budget allocation allows them to fund research areas that the state may not prioritize at the time (Wan Saiful 2017).

3.4. Entrepreneurial universities

The rising influence of global and regional university rankings, such as the QS World University and Times Higher Education reports, exerts pressure on public HEIs to perform better on increasingly sophisticated sets of key performance indicators (KPIs). Given the invaluable role of higher education in society, the requirement to become more financially self-sufficient means that cuts in government funding come with the expectation that public HEIs achieve the same, if not better, results.

Grant (1996) warns that traditional state universities will become obsolete unless they transform into entrepreneurial universities. Entrepreneurial universities or colleges have innovation-oriented governance that is more compatible with the competitive environment of the present and the future (Clark 2003; Etzkowitz 2003; Etzkowitz 2004; Kirby 2006; Gibbs & Haskins 2013; Fayolle & Redford 2014). It is, therefore, no longer a choice for policymakers but rather a political imperative to expand institutional autonomy and corporatize public HEIs (The HEAD Foundation 2017).

In Singapore, the goal of becoming a regional education hub has inspired initiatives to create entrepreneurial universities through reforms in funding and governance, quality assurance, internationalization, and corporatization (Lee & Gopinathan 2008). Since the 1990s, these reforms have enhanced the quality and international standing of Singaporean universities, including the National University of Singapore (NUS), Nanyang Technological University (NTU), and Singapore Management University (SMU).

Corporatization involves decentralizing governance and authority to public HEIs. Corporatized public universities have greater flexibility in pursuing their development objectives and enjoy more freedom in mobilizing and utilizing resources obtained from both public and private sources. For Singaporean universities, this greater autonomy is accompanied by increased accountability to the government and the general public, ensuring that value for money invested in higher education is maximized (Lee & Gopinathan 2008).

3.5. Performance-based funding

Performance-based funding has emerged as a strategy to enhance the efficiency and competitiveness of public HEIs. Following the examples of their European and US counterparts, several SEA governments have adopted performance-based funding models to

incentivize public HEIs to focus on outcomes and improve performance. Establishing transparent, performance-based funding and budgeting systems requires the formulation of objectively verifiable indicators. Usually, a portion of the funding is tied to specific performance indicators, such as graduation rates, research productivity, and employability of graduates. Several countries use the number of graduates, the amount of research grant money, and the number of publications as KPIs. Schiller & Liefner (2007) warn of the weaknesses in these indicators, as they tend to focus on quantities rather than quality and short-term outputs rather than long-term outcomes.

In 2021, Indonesia's Ministry of Education, Culture, Research, and Technology established a league system for universities that promotes competition based on KPIs. The best-performing universities receive significant incentives, including increased operational funding and prestigious awards, which help to elevate their reputation and attract further support. Reflecting a broader global trend in which competitive mechanisms determine public funding allocation, this initiative emphasizes the importance of evaluating project proposals and the past performance of researchers as key criteria for funding decisions (Jongbloed & Vossensteyn 2001). The philosophy underlying this approach suggests that providing resources to the top performers fosters a culture of excellence and motivates all institutions to improve their outcomes (Auranen & Nieminen 2010).

4. Reforming higher education financing: The Southeast Asian experience

Financing quality higher education systems challenges both developed and developing countries. Over the past few decades, significant reforms have occurred in HES worldwide, particularly in financing and performance-based funding. Entrepreneurial universities, budget cuts, revenue diversification, and the commercialization of research and instruction are prominent strategies for reforming higher education finance. These concepts have been explored and contemplated in Europe, the US, and, more recently, in developing countries as well (Clark 1998; Etzkowitz 2001; Stankiewicz 1986; Williams & Loder 1991). While there is debate on the efficacy and appropriateness of various financing schemes, it is generally accepted that a certain degree of commercialization is necessary to meet increasing demands, given the reduction in government funding.

The Philippines can learn from international experiences in reforming higher education financing as it finds the appropriate scope of state intervention. Policy options for strengthening the financing of Philippine SUCs may be informed by the experiences of its SEA neighbors, such as Singapore, Malaysia, Thailand, Indonesia, and Vietnam, in reforming their respective HES. Except for Singapore, these countries are middle-income economies like the Philippines, albeit at various stages of industrialization and HES development.

Faced with financial challenges during the global financial crisis of the late 2000s, these countries' governments, except for Singapore's, tried to reduce the operating costs of public HEIs by increasing student-teacher ratios, lowering the real value of academic salaries, neglecting facility maintenance, hiring less qualified instructors, and cutting the funding for libraries and laboratories (ADB 2012). Public HEIs in the region were experiencing significant budget cuts and an increased expectation from the government to raise funds while competing with a growing number of private institutions. In varying degrees, these countries implemented cost-sharing schemes that shifted the financial burden of education to students and their families (ADB 2012). The declining quality of higher education in the region, resulting from government efforts to decouple institutional funding mechanisms, has

consequently drawn attention to the need for new financing strategies that can reverse this trend.

4.1. Government policy

As mentioned above, Singapore has taken a different approach from other SEA countries by sustaining public financial support for higher education. Guided by the assumption that public investments promote quality and international reputation, Singapore has consistently invested in its universities. Government spending on higher education has increased steadily in the past four decades, gradually enhancing its quality to become, at present, a key export industry that attracts a multitude of international students and contributes to national wealth. Singapore's strategy partly relies on providing block grants and adopting a three-year recurrent budget planning cycle (Lee & Gopinathan 2008).

In Singapore, the state plays a vital role in shaping the development of higher education through policy planning and decision-making (Tan 2004). It played a crucial role in merging the University of Singapore and Nanyang University to form the National University of Singapore (NUS) in 1980. The city-state's HES was also restructured based on the core principles of purposive specialization and constructive competition, promoting long-term development. The Singaporean government instituted purposive specialization to eliminate the wastage of resources due to overlapping discipline offerings. Although several universities can offer popular courses like business management and engineering, there is rigorous control over the offerings of disciplines such as education, journalism, law, medicine, and social work. This enabled individual public universities to optimize resources and specialize in their niche disciplines (Lee & Gopinathan 2008).

Another important feature of Singapore's HES is the significant autonomy afforded to its public universities. The NUS and NTU are granted autonomy regarding financial and personnel matters, including setting tuition fees. Singaporean universities can also establish salary structures and compensation packages to attract the best instructors and researchers worldwide (Wan Saiful 2017). Financial management liberalization, accompanied by strengthening accountability mechanisms, was perceived to result in the efficient utilization of public funds and the achievement of desired higher education outcomes (Lee & Gopinathan 2008).

Enhancing the autonomy of public universities also served as a central component in the reform agenda of other SEA countries, but variations in policy design have yielded mixed outcomes. In Thailand, the government adopted the policy of decentralizing the education sector to promote quality through increased competition and reliance on market forces. The National Education Act of 1999 opened the door to an accelerated increase in private HEIs, resulting in excessive supply (Scott & Guan 2023). As the country's population growth continued to slow down, many institutions faced insolvency due to intense competition, even as students increasingly turned to universities abroad as alternatives. Universities are forced to reduce tuition fees while increasing marketing expenditures (Scott & Asavisanu 2021). Maintaining financial viability necessitated cost-cutting strategies that included hiring fewer instructors and allowing instructor burden to increase (Jacobson 2016). Much focus was given to perceived value rather than actual education quality (Savatsomboon 2015). The government was slow to provide an adequate policy response, as systematic resistance by education stakeholders and politicians hindered the introduction of new policies (Goodman 2013).

Thai universities were previously categorized into three types based on institutional ownership: autonomous, public, and private. Autonomous universities are public institutions granted a significant degree of operational autonomy. While the government still provides financial support, funding for autonomous universities comes in the form of block grants that can be allocated with greater flexibility (Scott & Guan 2023). In 2003, the government instructed all public HEIs to pursue financial self-sufficiency and upgrade academic staff standards to achieve autonomous status (Crocco 2003).

Currently, public universities in Thailand are considered independent legal entities. Universities, whether public or private, are self-governed (Punyasavatsut 2022). The Ministry of Higher Education, Science, Research and Innovation (MHESI) was established in 2019 to regulate public and private HEIs. Public universities can access funding from the MHESI and receive subsidies in support of specific programs. The National Higher Education, Science, Research, and Innovation Policy Council drafts a higher education fund, which the MHESI submits to the Ministry of Finance and the cabinet for approval. The fund is designed to support higher education programs that can enhance the quality of graduates, accelerate the growth of new industries, enhance scientific and educational capacity, promote lifelong learning, and contribute to national development. Most of the budget is allocated to operating costs and personnel salaries, with the remaining amount used to assist talented students in line with national priorities (Punyasavatsut 2022).

Similarly, attaining efficiency in higher education remains a challenge for Indonesia, where even some leading universities struggle to manage their resources and translate them into high-quality outputs. The Operational Aid for Public Universities was established to address the budget deficit of public universities; however, no clear mechanisms were put in place for its implementation (Priyono & Ahmad 2018). The program encountered difficulties achieving its goal due to burdensome bureaucratic procedures and unresponsive budget allocation. Government funding for higher education in Indonesia covers operating costs, educational development, investment in human resources, infrastructure and facilities, research and extension, scholarships for underprivileged students, and other academic activities.

The proportion of public universities to private institutions in Indonesia is broadly similar to that in the Philippines. There are around 3,500 HEIs in Indonesia, and only 150 are public (Moeliodihardjo 2013). Indonesia established a system of classifying public universities into three categories: autonomous public universities, public universities granted a degree of financial management flexibility, and public universities considered as government implementing units, which have the lowest level of autonomy. A separate set of financial management regulations governs autonomous public universities, giving them more flexibility. Autonomous public universities can independently determine academic fees and have complete freedom to manage their finances. The grant of autonomy was accompanied by a reduction in government financial support, which has been limited to personnel salaries. Consequently, some parties see this autonomy as restricted to financial management only (Moeliodihardjo 2013), which falls short of institutional autonomy defined by the EUA to encompass financial, staffing, organizational, and academic freedom (Estermann and Nokkala 2009).

In Vietnam, the government provides support to public universities in the form of funds, assets, and facilities. However, public investment in higher education is still considered inadequate to support global competitiveness goals in research and instruction (Le and Hayden 2017). Public HEIs earn 40% to 45% of their budgets from collecting various fees (ADB

2012). Autonomous in their operations, public universities compete to attract students. However, the relative demand for university education has decreased recently, partly due to changing perceptions among secondary school students and their families regarding the value of a university education compared to its cost. Vietnam's gross enrollment rate (GER) in tertiary education is among the lowest in East Asia at 28% (Parajuli et al. 2020). The perceived reasons for the low higher education participation rate are strikingly similar to the Philippine situation: "a) absence of a clear financing plan, b) fragmented higher education system of universities, colleges, and vocational education and training managed by multiple ministries, c) inconsistent regulatory framework that did not encourage private sector expansion, d) insufficient student financial aid coverage for low-income students, e) underdevelopment of alternative modes of education including e-learning and massive open online courses (MOOCs); and f) low quantity and low-quality pipeline of secondary school graduates due to low levels of access and learning for children from disadvantaged backgrounds" (Parajuli et al. 2020, p. 3).

Box 1. Pursuing Academic Quality through Institutional Autonomy: The Case of Autonomous Universities in Thailand

Thailand implemented a policy granting autonomy to public higher education institutions, enabling universities to generate revenue more flexibly while reducing their reliance on government budget allocations. Additionally, autonomy was expected to enhance institutional capacity for international competitiveness. As of 2016, 16 universities in Thailand have attained autonomous status (Jarernsiripornkul 2018).

Research indicates that increased autonomy has provided universities with greater freedom in governance, academic management, financial administration, and personnel oversight (Jarernsiripornkul 2018; Panitcharoen 2017). Thai universities now have the authority to appoint their university council members and select their presidents independently, without political interference (Suwanwela 2008). The university council is responsible for strategic direction and policy oversight, including budget approval and operational supervision (Jarernsiripornkul 2018; Suwanwela 2008), while the university president acts like a chief executive officer (CEO) of a private corporation (Jarernsiripornkul 2018). Furthermore, universities possess the authority to make investment decisions, enter into joint ventures, and establish legal entities (Suwanwela 2008). However, empirical findings suggest that outcomes have varied across institutions, with some struggling to reconcile competing priorities (Panitcharoen 2017). The preservation and enhancement of academic freedom, a foundational principle of Thai higher education, remains an essential concern (Lao 2015).

University autonomy can be defined as the ability of institutions to independently manage key internal affairs, including: (i) academic governance, such as curriculum development and organizational structuring; (ii) personnel administration, encompassing recruitment policies, compensation frameworks, and benefits management; and (iii) financial operations, including budget formulation and procurement systems (Krissanapong, 2004). Importantly, autonomy does not imply the cessation of government financial support; rather, it necessitates innovative approaches to budget allocation and expenditure monitoring (Lao 2015). To navigate fiscal constraints, the Thai government has adopted a "block grant" system for universities wherein they receive lump-sum funding instead of line-item allocations. This mechanism grants institutional leaders the discretion to distribute financial resources in a manner that optimizes operational efficiency while minimizing external interference (Jarernsiripornkul 2018).

Under the block grant system, universities submit budget proposals to the Budget Bureau, detailing projected expenditures. Upon approval, funding is allocated as a lump sum, allowing universities the

flexibility to reallocate resources according to their institutional priorities. If specific budgeted items are deemed non-essential, funds may be redirected toward alternative expenditures as determined by university leadership (Lao 2015). Nevertheless, the policy leaves adequate room for policy alignment between the central government and the universities. For instance, the Thai government's emphasis on knowledge generation and innovation, as well as universities' drive to improve their performance in international rankings, has led to a significant increase in research budgets (Jarernsiripornkul 2018).

The shift toward institutional autonomy has mitigated bureaucratic inefficiencies by exempting universities from stringent government regulations and administrative approvals previously mandated by the Ministry of Education and other agencies (Suwanwela 2008). By establishing independent governance structures, universities have been able to modernize management practices, fostering operational efficiency and educational excellence. The removal of centralized control, which historically favored uniformity across institutions, has granted universities the flexibility to innovate (Suwanwela 2008). Moreover, obsolete regulations that hindered institutional adaptability have been replaced by management systems that support diversity and responsiveness. Internal decentralization has further enhanced institutional effectiveness, particularly for universities with diverse departments and interdisciplinary programs. Consequently, autonomous universities are better positioned to meet global higher education demands and minimize opportunity losses in the knowledge-based economy (Suwanwela 2008).

While autonomy has enabled universities to diversify revenue streams, government subsidies to autonomous universities have continued to rise over time rather than decrease (Panitcharoen 2017). Additionally, an excessive emphasis on profit generation and external performance metrics risks undermining core principles of higher education (Suwanwela 2008). The imperative to market universities aggressively has, in some instances, led to misinformation and the overpromotion of institutional achievements. The growing fixation on global university rankings has also raised concerns about the erosion of social responsibility in higher education. Pressure to meet international benchmarks has prompted university administrators to incentivize faculty publication output, fostering an environment in which universities operate as "publication factories" (Lao 2015). Instead, Lao (2015) asserts that universities should prioritize locally relevant research and contribute to community development while striving for academic excellence based on substantive quality rather than quantity of publications.

Thus, autonomy alone does not ensure academic quality. Persistent challenges, including constrained leadership vision, unequal resource distribution, and disproportionate attention to global rankings, continue to affect autonomous Thai universities (Lao 2015). Effective autonomy should translate into enhanced academic freedom, underscoring the crucial role of leadership in ensuring institutional quality. The capacity of universities to achieve financial self-sufficiency varies based on available assets (Jarernsiripornkul 2018; Lao 2015); large institutions with land holdings, hospitals, and demonstration schools possess significant revenue-generating potential, while smaller institutions may face financial constraints. Ultimately, the sustainability of Thailand's higher education sector depends on visionary leadership, equitable resource allocation, and a commitment to fostering high-quality research beyond international ranking considerations.

4.2. Higher education financing schemes

The funding structures of public HEIs across the selected SEA countries reveal an evolving strategy to reduce reliance on government budgets by diversifying revenue streams. In Singapore, state support and endowment funds serve as the primary means of funding public HEIs. Singaporean universities leverage external funding sources by launching fundraising

campaigns participated in by private donors, government-linked corporations, and foundations. The Singaporean government supports these efforts by providing matching grants that boost the universities' endowment funds (Lee & Gopinathan 2008).

In Indonesia, public universities strive for financial sustainability by leveraging both academic and non-academic revenue streams. Academic income primarily comes from tuition fees, while non-academic revenues are generated through research grants and business activities. The Indonesian government actively encourages universities to establish business units, enabling them to generate additional income and reduce their reliance on state funding. This reflects a broader government effort to create a more self-sufficient higher education sector, where universities are not solely reliant on public funds (Ismanto 2014).

Meanwhile, in Vietnam, public universities rely on a more varied array of funding sources, reflecting a more complex financial structure. Although state budget allocations play a critical role, universities also benefit from the income generated through non-business service activities, fees, legal transactions, financial transactions, and student contributions (Wang et al., 2021). Vietnamese institutions further supplement their budgets with grants, loans, and aid from both domestic and international donors. The country's higher education sector also receives significant support from government ministries, social unions, economic groups, and provincial authorities, creating a multi-layered funding landscape that sustains its public universities.

While the methods and sources of funding may vary across these countries, the common thread is a strategic shift toward reducing reliance on state budgets. By fostering a mix of private donations, business ventures, and government support, these countries are reconfiguring the financial foundation of public HEIs. Among developing SEA countries, the Philippine case is unique in that private sources have traditionally dominated higher education financing. It is only recently that public funding started gaining ground with the policy of free tuition in SUCs. Even socialist Vietnam's public universities have increasingly shifted the financial burden of education onto students through tuition fee policies aimed at achieving greater financial autonomy. The Vietnamese government granted self-financing universities the autonomy to raise tuition fees. This was further reinforced by a state policy promoting full cost recovery for universities by 2020, thereby reducing their reliance on government subsidies (Võ & Laking 2018). Since 2011, fees for various programs have steadily increased, with diploma registration fees rising by 29.35% and undergraduate tuition fees increasing by 27.54% (Nguyen & Cicea 2019).

4.3. Scholarship programs

With the increasing reliance on tuition fees to finance higher education, SEA governments provide scholarships and financial aid to support students from disadvantaged backgrounds. These programs aim to ensure that financial constraints do not prevent students from obtaining higher education. For example, the government of Indonesia, alarmed by the disparity in access to higher education, established several scholarship programs targeting poor students with good academic records in their final year of secondary school. The scholarship provides tuition and a living allowance for eight semesters for a bachelor's degree or six semesters for a three-year diploma program (Moeliodihardjo 2013).

Likewise, Vietnam acknowledges poverty as a hindrance to participation in higher education and has devised strategies to address the issue (ADB 2012). Although it does not have a

nationwide scholarship program for university students, the government mandates that public universities offer scholarships to at least 10% of their students. Targeted tuition exemptions or reductions are also provided to specific groups, such as students from minority ethnic groups, poor or near-poor households, and those enrolled in disciplines identified by the government as aligned with national interests (Parajuli et al. 2020).

4.4. Student loans

Another approach to enhancing the accessibility of higher education is the introduction of student loans. Student loans can be classified into two basic kinds: mortgage and income-contingent (ADB 2012). Many countries have adopted mortgage-type loans in the past. Under this scheme, the borrower pays off the principal and interest over a specified period. A grace period may be offered to allow graduates to make their first payment after securing employment. The term may be extended if the borrower has difficulty completing repayments during the specified period. In income-contingent loans, however, loan repayment begins only when the borrower has started earning an income above a designated threshold (ADB 2012).

The experiences of various Asian countries in providing student loans have been disappointing (Ziderman 2003; 2004). As a case in point, Thailand introduced a student loan program in the 1990s. However, inadequate funding and oversubscription resulted in the dwindling size of individual loans available to students from year to year. The scheme also suffered from minimal planning and weak control, as well as lax loan eligibility and repayment conditions. The unplanned growth in loan recipients led to unsustainable government financial obligations (Ziderman 2003).

4.5. Sources of public HEI funding

4.5.1. Enterprises and other income-generating projects

Government policy to promote financial autonomy and self-sufficiency urged public HEIs in the selected SEA countries to explore alternative funding sources. Institutional efforts to generate additional income usually include operating various enterprises, ranging from the provision of student auxiliary services such as campus housing, dining, publishing, and conference facilities to the establishment of spin-off companies managing cutting-edge R&D. In Singapore, setting up spin-off companies provides an alternative for universities to earn additional financial resources for research. Both NUS and NTU have established several R&D enterprises. Companies under the NUS umbrella include Aromatrix Private Limited and BioMedical Research and Support Services Private Limited, which aim to commercialize research findings and technologies for the development of biotechnology in Singapore. At NTU, spin-off companies specialize in e-commerce, information technology, electronics, and manufacturing processes. Managed by NTU Ventures Private Limited, these companies undertake R&D and provide consultancy services to industry and business (MITA 2000).

Universitas Negeri Semarang, one of Indonesia's leading public universities, has developed various strategies to increase its income beyond traditional tuition fees (Mahmud et al. 2022). One significant approach is optimizing its study programs, research centers, and laboratory services. By promoting products developed by lecturers in areas such as learning media, financial consulting, and appropriate technology, the university generates revenue through seminars, workshops, and training programs. Additionally, journal publications and

laboratory fees provide supplementary income. The university's efforts to diversify its income sources include tapping into various components, such as IP, alumni resources, and campus facilities, which are seen as key areas for future revenue growth. Beyond developing new income streams, the university also enhances existing ones, such as selling laboratory equipment and establishing contracts with industries to commercialize research outputs. Long-term income-generating operations, like legal aid services and psychology program services, demonstrate that as these services mature, they can substantially contribute to the university's financial base (Mahmud et al. 2022).

In Malaysia, some universities have established business subsidiaries to raise additional revenue by selling products or services to external customers. However, some of these businesses were forced to cease operations due to financial losses. Many enterprises that closed down are not part of the core expertise of the universities that started them. Several ventures that eventually failed include businesses with low barriers to entry that serve captive markets, such as cleaning, printing, and facilities management services. The lack of necessary skills and expertise in running these businesses within the university contributed to their failure. A key lesson that can be derived from these experiences is to avoid forcing institutions to enter ventures that are outside their core expertise solely for the sake of generating additional revenue (Wan Saiful 2017).

Effective management supervision is essential for successfully executing income-generating projects in educational institutions. Numerous schools and universities encounter challenges in these initiatives due to inadequate supervisory procedures, which often result in the failure to generate substantial income from activities such as canteen rentals and business unit development (Mahmud et al. 2022). Additionally, a lack of transparency, professionalism, and accountability among staff involved in income-generation efforts further compounds these issues, leading to suboptimal financial outcomes. Research indicates that management qualifications, including staff age, educational background, and participation in professional development training, have a direct impact on the efficacy of these projects. Moreover, the active involvement and support of the broader academic community are crucial to the successful implementation of income-generating programs. Without robust supervisory mechanisms, professional staff engagement, and comprehensive support from the academic community, income-generating initiatives in educational institutions are likely to encounter significant financial difficulties.

4.5.2. Research grants and contracts

Another vital strategy is securing research grants and contracts from government agencies, international organizations, and business firms. Grants and proceeds from research contracts can fund projects that address community, industry, and national challenges, while also contributing to the institution's reputation and financial health. Increased research funding is pivotal for enhancing university performance and global rankings. For instance, substantial funding from the National Research Foundation (NRF) has pushed Singaporean universities toward becoming generators of knowledge and economic capital (Alfaro & Ketels 2016; Mok 2010; Sharma 2017). This support has facilitated the success of institutions in global rankings, as competitive bidding for flagship research projects has been prioritized.

In Malaysian universities, the drive to raise significant revenues from research grants transformed academic staff from primarily lecturers into researchers (Kasim 2011). University faculties are incentivized to publish books and articles to ensure a continuous flow of income

from research grants. Another objective of incentivizing research is to facilitate knowledge transfer and upskill university employees (Ahmad, Ng, & Ngeoh 2015). However, the scarcity of experienced researchers is a critical constraint on some universities' aspirations to generate revenue from research, consultation, and commercialization initiatives.

Universities in Indonesia and Vietnam face significant challenges in accessing research grants due to insufficient funding. Indonesia allocates a relatively small portion of its GDP for research, resulting in lower research outputs and patent filings compared to neighboring countries such as Malaysia, India, and China (Moeliodihardjo 2013). Similarly, Vietnam's universities, which house a majority of highly qualified R&D personnel, receive only a small share of state budget allocations for research, limiting their capacity for interdisciplinary and innovative work (Parajuli et al. 2020). The minimal budget for research in these countries hinders universities' ability to maximize their potential as key players in national R&D systems.

4.5.3. University-industry collaboration

As universities evolve beyond teaching and research into engines of economic growth, partnerships with industry are crucial for maintaining a competitive advantage. Initiatives promoting direct connections between firms and public institutions exemplify the government's commitment to fostering innovation and problem-solving (Lee & Gopinathan 2008). The Singaporean government encourages collaboration between universities and industry through initiatives like the Technology Transfer Office Fund, which provides matching grants for R&D. This strategic engagement enhances universities' ability to attract external funding while incentivizing industry participation through tax deductions and grants. Despite increased funding for the tertiary education sector, the direct correlation between academic engagement and funding remains unclear, as most grants do not mandate industry collaboration (Hagen 2002). Nevertheless, the private sector serves as a vital funding source, supplementing government resources for research and student internships, especially in times of reduced public funding (Lee 2000).

However, Schiller & Liefner (2007) contend that the concept of an 'innovation system' hardly applies to developing countries, where the knowledge absorption of technologies developed in advanced economies predominates–what could be called 'learning systems.' In learning systems, universities can better fulfill the role of building human capital and upgrading the population's skills to facilitate the absorption of ideas from developed countries. University faculty are more engaged in providing expert advice to government and industry rather than in producing new knowledge.

Lall et al. (1992) break down the development of higher education systems into three stages according to universities' capabilities to perform the functions of instruction, research, and extension: basic, intermediate, and advanced. Basic capabilities primarily involve the absorption and straightforward adaptation of knowledge and ideas from external sources. Intermediate capabilities are demonstrated through the incremental improvement of existing knowledge that can be transferred to other actors. Lastly, advanced capabilities refer to the ability to innovate and produce new knowledge and ideas. As such, university-industry collaboration can take a different form in developing countries than is commonly understood in developed economies.

Studying university-industry collaboration in Thailand in the 2000s, Schiller & Liefner (2007) observed that these partnerships were limited to several areas where there was a convergence between academic and industrial capacities, such as agriculture and food processing. Government initiatives to stimulate partnerships included the establishment of science parks, which attracted universities to establish business incubators with government support. A more recent study by Opassuwan and Wannamakok (2024) proposed five distinctive modes of university-industry collaboration in Thailand from the perspective of the private sector: a) collaborative research with exploratory goals (research partnership), b) contractual consulting for practical applications (research service), c) utilization of university IP for knowledge exchange (technology transfer), d) exploitation of university resources for R&D (research facility), and e) integration of mobility, training internships, and informal meetings for effective knowledge exchange (human resource transfer). Their findings indicate that firms prefer human resource transfer, including the recruitment of R&D staff, and show limited interest in research partnerships and services. Firms continue to prioritize internal R&D, demonstrating a commitment to utilizing existing resources over tapping university IP. Additionally, firms appear to favor basic over applied research services, implying limited industrial relevance of universities.

The experience of Thailand demonstrates that university-industry collaboration takes time to mature and gain relevance as a country climbs the development ladder. The industry and academia cannot be expected to collaborate on their own without clear incentives for entering into partnerships. In developing countries, universities often lack the capacity to generate useful knowledge for industry, and firms may not have the resources to fund research and development in academia. Rather than providing new knowledge to the industry, universities can collaborate with private partners to develop and foster technological capabilities, learning from each other in the process. This strategy can be pursued through government intervention in the form of fiscal incentives or regulations that encourage university-industry collaboration. As the governments of developing countries are better positioned to recognize the long-term benefits of higher education and research through their intelligence efforts or cooperation with multilateral organizations (Schiller & Liefner 2007), they can steer university-industry collaborations more effectively.

4.5.4. Commercialization of intellectual property

While continuing to develop capacity to produce new knowledge, public HEIs in SEA are increasingly focusing on commercializing research outputs. This includes patenting innovations, licensing technologies, and creating spin-off companies. By translating research into marketable products and services, institutions can generate significant revenue while fostering innovation and entrepreneurship. However, knowledge commercialization can only flourish in an entrepreneurial society. Commercialization requires that academic staff possess a sense of entrepreneurship and be willing to take risks (Wan Saiful 2017). Universities must also be open to collaborating with businesses that can benefit from their academic expertise and resources. Yusof and Jain (2009) emphasize the importance of individuals within the university who demonstrate entrepreneurial leadership. These leaders can cultivate a mindset and culture of entrepreneurship, act as enablers, and unlock the institution's entrepreneurial potential (Ahmad, Ng, & Ngeoh 2015).

Pursuing commercialization sustainably requires universities to prioritize developing their core research and teaching capacities (Clark 1998). To benefit from commercialization, universities and their staff should possess a knowledge and understanding of intellectual

property (IP) rights and how to monetize them effectively. They should be data-driven and able to recognize and respond to market signals. In particular, universities in developing countries should be able to produce a critical mass of marketable outputs (Schiller & Liefner 2007). Knowledge products and IP should be viewed as commodities that can bring value to the institution rather than as public goods that can be shared freely (Wan Saiful 2017). For its part, the government should provide a regulatory environment conducive to the registration and protection of IP and foster a culture of innovation in society (Wan Saiful 2017).

Indonesian universities are increasingly becoming entrepreneurial by commercializing IP and other resources (Madlazim et al. 2022). First, they generate income through the sale of information, including IP and data interpretation. Second, teaching programs like laboratory management training and improving pedagogical competence also serve as income streams. Third, alumni and visitor services, as well as campus facilities, are monetized. Additionally, existing resources such as laboratory equipment, private contracts, and voluntary donations are continually developed to diversify income. Lastly, contracts with industry and the commercialization of research are key strategies for generating revenue. These efforts aim not only to increase financial gain but also to strengthen institutional identity.

4.5.5. Public-private partnerships

Public-private partnerships (PPPs) are increasingly utilized by public HEIs in SEA to fund infrastructure development projects. These partnerships enable the sharing of resources and expertise between the institution and its private partner, leading to enhanced facilities and services. For example, Vietnam has implemented PPPs to develop new university campuses and research centers. Decreasing public investment in higher education necessitates sustainable financing solutions through PPPs. The Law on Public-Private Partnership, enacted in 2020, provides a legal framework to facilitate these collaborations (Tran et al. 2023).

While the government aims to enhance private sector involvement in educational infrastructure and services, implementing PPPs faces several challenges, including a limited understanding of PPP concepts within the academic context, which traditionally relies on tuition fees and social contributions (Tran et al. 2023). Additional barriers include a lack of experience with PPPs outside of infrastructure, institutional restrictions on asset ownership, and inadequate technical support for executing these partnerships. While the legal framework for PPPs offers a promising avenue to address financial challenges in Vietnamese universities, overcoming existing barriers is essential for effectively leveraging private investment to enhance educational quality and sustainability (Tran et al. 2023).

4.5.6. Endowment funds

Endowment funds can play a crucial role in financing HEIs, whether public or private. Western universities view endowments as an essential component of their operations and closely monitor the amount of endowment funds as a key indicator of overall financial health (Kadir & Cotter 2020). For example, world-renowned institutions such as Oxford and Cambridge, public universities in the UK, and Harvard and Yale, private universities in the US, were established and significantly funded through contributions (Mahamood & Ab Rahman 2015). In comparison to other income-generating activities, raising funds through contributions requires minimal investment and poses almost no risk (Kadir & Cotter 2020).

As noted by Oanh (2023), government support significantly boosts universities' external funding capabilities. Zatonatska et al. (2019) observed a similar relationship, but in reverse, noting that as HEIs attract more private funding, financial support from the government also increases. These findings suggest that public and private financing are mutually beneficial and can serve as both significant and sustainable sources of funding for higher education.

As a case in point, the Singaporean government established university endowment funds to enhance financial sustainability in higher education while maintaining its financial commitments. Contrary to reducing its financial responsibilities, the government has consistently increased recurrent expenditures on universities. The endowment fund serves as a proactive measure, enabling public universities to pursue alternative income sources and mitigate potential financial challenges stemming from resource constraints (Hooi & Wang 2019). In 1991, the government of Singapore launched the Universities Endowment Fund (UEF) with an initial contribution of SGD 500 million, requiring NUS and NTU to independently raise SGD 250 million each within five years to access a matching SGD 250 million from the government. This initiative marked a significant shift toward reduced reliance on government funding and encouraged greater engagement from alumni and the community in university education (Lee & Gopinathan 2008). The fund supports innovative projects in scientific and technological advancement, contributing to the pursuit of academic excellence and research objectives. After reaching its initial target, NTU launched the NTU 21st Century Fund in 2001 to raise an additional SGD 100 million, with the government providing an equivalent matching grant of SGD 100 million.

The Malaysian government requires public universities to explore external funding sources. It allows them to accept endowment funds, provided that the proceeds are utilized responsibly and in accordance with the donors' wishes (Kadir & Cotter 2020). Several universities receive substantial endowments from American philanthropic organizations. Public universities can establish endowment funds in the form of cash, financial instruments, securities, shares, bonds, or movable or fixed assets. Usually, endowments fund specific departments or the university as a whole, professorial chairs, fellowships, and student scholarships. Nonetheless, endowments comprise a very small component of higher education financing and seem to have little potential to become a significant source of income for public universities (Wan Saiful 2017). This is primarily due to the regulatory environment, which does not encourage donations. Several regulatory bodies, guided by multiple legal frameworks, oversee philanthropic activities, making the registration of charitable organizations complex and confusing (Wan Saiful 2017).

In the US, the government introduced the 1972 Uniform Management of Institutional Funds Act to help assuage fears regarding the management and utilization of endowment funds. This provided the groundwork for the use and investment of endowment funds (Zatonatska et al. 2019). In 2006, the law was replaced by the Uniform Prudent Management of Institutional Funds Act, which added provisions on asset management as well as guidelines on cost and investment in lieu of donor constraints.

Box 2. Striking a Balance between State Support and Self-Sufficiency in Higher Education Financing: The Case of the Singapore Universities Trust

Singapore's approach to supporting its public universities aims to balance long-term financial assistance with institutional self-sufficiency. The government implements strategic initiatives to enhance the global competitiveness of its tertiary institutions by investing in higher education and

research and development (R&D) capabilities. This support is primarily provided through the establishment and strengthening of institutional endowment funds, as well as ongoing R&D funding.

Autonomous universities secure financial resources through philanthropic donations, which contribute to the growth of their endowment funds. These funds generate a stable income stream, supplementing annual government allocations, tuition fees, and other revenue sources essential for institutional operations. The framework for this funding model was introduced in 1991 when the government committed to a dollar-for-dollar matching scheme for donations received by public universities through fundraising campaigns to build their respective endowment funds (Teng 2019). In a further effort to enhance financial resilience, Singapore established the Singapore Universities Trust, depositing SGD 2 billion to protect universities against economic downturns (MOE 2010). The government, committed to transforming the country into a knowledge-based economy, established this mechanism to ensure university funding during periods of recession (Sharma 2010). Under the program, donations from individuals and private enterprises are matched by the government at a ratio of 1.5:1 for established institutions and 3:1 for newly created institutions and programs (MOE 2010). In addition to supporting institutional endowments, the trust funds scholarships for academically deserving students, alleviating the impact of rising tuition fees driven by substantial public investments in higher education (Sharma 2010).

Endowment funds are crucial for enabling universities to launch new academic programs and promote R&D initiatives without overly relying on direct government funding (Sharma 2010). The size of these funds varies based on universities' ability to attract philanthropic contributions, investment performance, and institutional longevity (Teng 2019). Additionally, ongoing government support enables tuition subsidies of up to 75%, ensuring wider access to higher education.

Meanwhile, in the realm of R&D, Singapore remains committed to increasing financial support. Over five years, SGD 16.1 billion has been allocated to promote research stability and sustainability (ACA 2010). The government's investment in R&D is continuing to grow, with the National Research Foundation's Central Gap Fund acting as a key mechanism for transforming research outputs into products, processes, and services that provide economic and social benefits (NRF 2025). In addition to offering a reliable funding source, the initiative promotes university-industry collaborations, aiding the commercialization of new technologies. Each project can receive up to SGD 2 million in funding to support the development of functional prototypes and operational processes that meet market demands (NRF 2025).

4.5.7. International students and programs

Attracting international students and offering international programs is an income generation strategy that has gained popularity among public HEIs in the selected SEA countries. The higher tuition fees imposed on international students, along with partnerships with foreign universities, can enhance an institution's financial position and global reputation. Universities usually establish international offices to manage recruitment and partnerships. As early as 2010, Malaysia had about 24,000 international students enrolled in its public universities (Malaysia Department of Higher Education 2010).

Universities must develop a strong reputation for quality to attract international students. Curricula must be modified to respond to the needs of foreign markets, and programs must be taught in English or Chinese. However, hiring competent instructors fluent in foreign languages could cause a strain on institutions' financial resources. Nonetheless, international students could bring in substantial revenues from higher tuition fees, usually double the value of domestic rates, not to mention additional income from accommodation and catering

services (Jareonsubphayanont 2014). Revenues from international student enrollments can allow for the cross-subsidization of domestic students (Scott & Guan 2023).

In Thailand, intense competition and dwindling enrollment of domestic students have led HEIs to prioritize recruiting international students. While this strategy has brought about various benefits, mainly from increased revenues, it has also resulted in conflicting objectives regarding admission policy (Scott & Mhunpiew 2021). Upholding quality standards contradicts the necessity for some schools to lower entry requirements as they compete for domestic students. At the same time, using foreign languages as the medium of instruction has marginalized students who are not necessarily fluent in these languages. Additionally, too much dependence on international students has exposed universities to external shocks that could lead to the mass withdrawal of students, such as the COVID-19 pandemic.

4.5.8. International funding and partnerships

International funding and partnerships play a significant role in supporting higher education in SEA. Organizations such as the Asian Development Bank (ADB) and the World Bank provide grants and loans for national higher education development initiatives. Additionally, partnerships with foreign universities and international organizations enhance the quality of education and the research capabilities of public HEIs. For instance, the government of Vietnam secured financial assistance from the World Bank and ADB in the form of loans to fund its "new model universities" program, which involves establishing multidisciplinary international research universities modeled after institutions in developed countries. Vietnam has also established international academic partnerships, such as the Vietnamese-German University in Ho Chi Minh City, formed through a strategic partnership with Germany, and the University of Science and Technology of Hanoi, established through a strategic partnership with France (ADB 2012).

Table 1 summarizes the governance frameworks and financing schemes used by the selected SEA countries in their public higher education sectors.

Table 1. Governance Frameworks and Financing Schemes for Public HEIs in Selected Southeast Asian Countries

Policy Area	Singapore	Malaysia	Thailand	Indonesia	Vietnam
Governance Framework	**Entrepreneurial universities:** The state promotes entrepreneurial governance among public universities through reforms in funding, quality assurance, internationalization, and corporatization. **University autonomy:** The country's two leading universities, the National University of Singapore (NUS) and Nanyang Technological University (NTU), have been granted autonomy over financial and personnel matters. This includes the authority to set tuition fees and establish salary structures and compensation packages that are globally competitive.	**Limited university autonomy:** The Ministry of Higher Education maintains control over various operational aspects, including the approval of university budgets and procurement decisions, the management of endowments and income-generating assets, and the setting of tuition fees and personnel salaries. **Business subsidiaries:** Universities can establish business subsidiaries to raise additional revenue by selling products or services to external customers.	**Decentralization:** Government decentralized the higher education sector to promote quality through increased competition and reliance on market forces. **Financial autonomy:** Public universities are given a significant degree of financial autonomy and are considered as independent legal entities. **Science parks:** The government established science parks to stimulate university-industry collaborations.	**Financial autonomy:** Public HEIs are granted partial to full financial autonomy based on a classification system. Autonomous universities can independently determine academic fees and have complete freedom to manage their finances. A separate set of financial management regulations governs autonomous public universities, giving them more flexibility. **Performance incentives:** Established a league system for universities that promotes competition based on key performance indicatos. Best-performing universities receive significant incentives, including increased	**Institutional autonomy:** Public universities are granted the autonomy to make their own decisions on teaching, research, organization, personnel, finance, assets, among others. **Scholarships:** Public HEIs are required to provide scholarships to at least 10% of their students.

Policy Area	Singapore	Malaysia	Thailand	Indonesia	Vietnam
	Purposive specialization: The state implemented purposive specialization and constructive competition among public universities to reduce resource wastage resulting from overlapping discipline offerings. **Spin-off companies:** Public universities are permitted to create spin-off companies that commercialize intellectual property and participate in e-commerce, information technology, and manufacturing processes.			operational funding and prestigious awards.	

Policy Area	Singapore	Malaysia	Thailand	Indonesia	Vietnam
Financing Scheme	**Tuition fees:** Government subsidizes up to 75% of tuition. **Endowment funds:** The government established university endowment funds to improve financial sustainability in higher education while maintaining its financial support. Government spending on higher education has steadily increased over the past four decades. **Matching grants:** State support and endowment funds are the primary sources of funding for public universities. The government provides matching grants for the endowments raised by universities from private sources. **Block grants:** Government subsidies to public universities	**Tuition fees:** The government has a stronger influence than market forces in determining tuition fees. **Endowment funds:** Public universities can accept endowment funds, but they have not yet achieved levels that would ensure sustainability.	**Tuition fees:** Public universities set their own tuition fees, but these are generally lower than in private universities. **Block grants:** Government provides financial support through block grants that can be allocated with greater flexibility.	**Tuition fees:** The primary sources of university funding are tuition fees and income generating projects. **State support:** Government funding covers operating costs, educational development, investment in human resources, infrastructure and facilities, research and extension, scholarships for underprivileged students, and other academic activities. **Personnel salaries:** Grant of autonomy is accompanied by reduction in government financial support, which has been limited to personnel salaries.	**Tuition fees:** Public universities set tuition fees based on cost-recovery and balancing state and student contributions. The state set tuition fee caps for public higher education institutions. **Government borrowing:** The government secured funding from the ADB and World Bank in the form of loans to support its “model universities” program. **Public-private partnerships:** Public universities have engaged in PPPs for the construction of school buildings and other facilities.

Policy Area	Singapore	Malaysia	Thailand	Indonesia	Vietnam
	come in the form of block grants, which could be utilized over a three-year budget planning cycle. **Research funding:** The Central Gap Fund was established to support the translation of research outputs into products, processes, and services that deliver economic and social benefits. The fund fosters university-industry collaborations, facilitating the commercialization of new technologies by providing up to SGD 2 million for each project.				

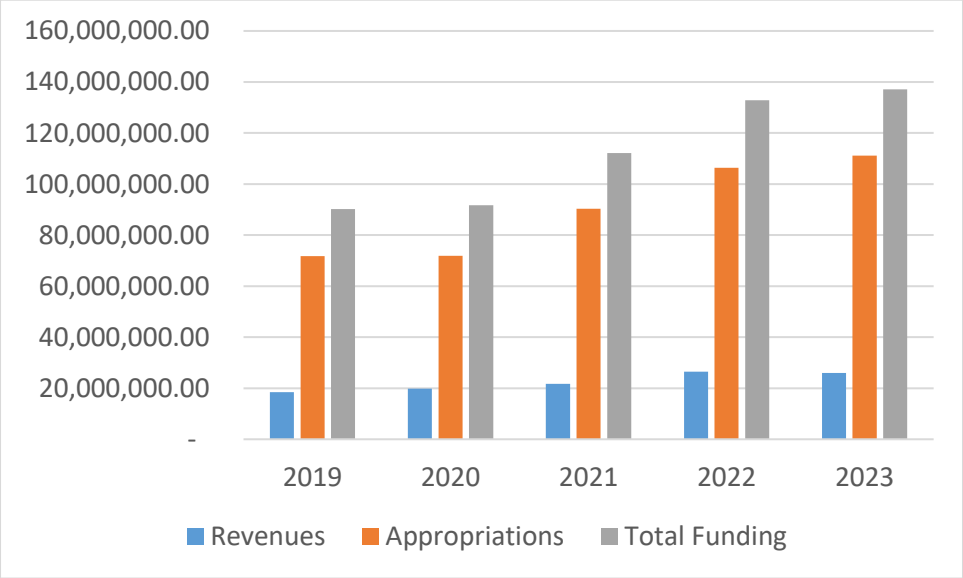
5. SUC financing performance

5.1. Sources and patterns of SUC funding

SUCs can access various funding sources, with some institutions benefiting more from these resources than others. The financial resources available to SUCs are determined by their allocation from the national budget and the tuition fee payments they collect from the government. Additionally, SUCs can generate substantial IGI and receive significant grant amounts. Over the years, policy reforms have been introduced to increase government funding for SUCs and to allow them more discretion in generating and utilizing financial resources.

National government subsidies remain the primary source of funding for SUCs (Figure 1). From 2019 to 2023, total appropriations for SUCs nominally increased from PHP 72.25 billion to PHP128.40 billion, or from PHP 71.75 billion to PHP111.15 billion in real terms (using 2018 prices). This represents a 12 percent real compound annual growth rate. Much of the increase occurred between 2020 and 2021 (25.69%) and from 2021 to 2022 (17.73%), with the growth rate decreasing to 4.48 percent from 2022 to 2023.

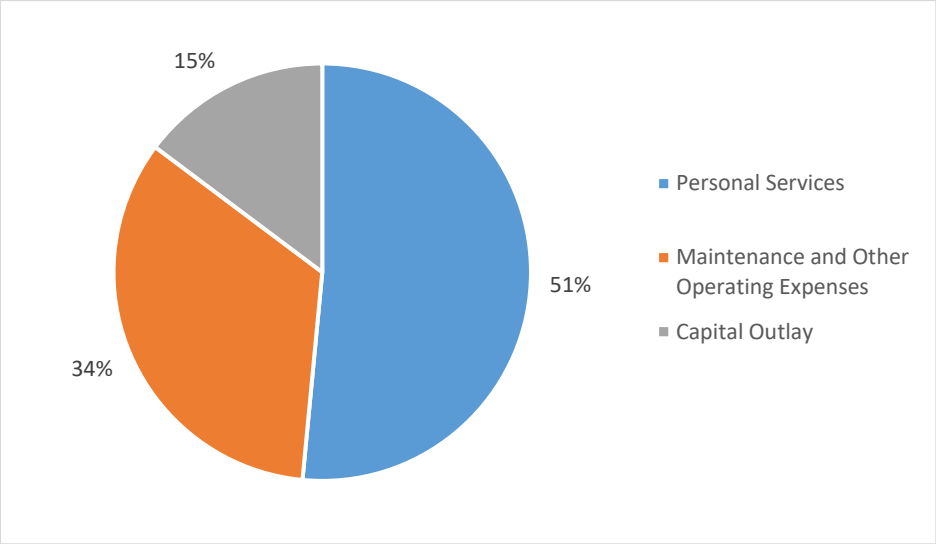
Figure 1. Total SUC funding by source, 2019-2023 (in thousands PHP, 2018 prices)



Source: Author's computations based on data from COA Various Years.

Personnel Services (PS) generally receive the largest share of total appropriations. In 2023, the allocation for PS accounted for 51% of the total SUC budget, followed by Maintenance and Other Operating Expenses (MOOE) at 34%. The budget for Capital Outlay (CO) constituted 15% (Figure 2). While this highlights the PS orientation of SUCs, considering their primary roles of instruction, research, and extension, this distribution also reflects the limited fiscal space faced by the national government overall. The share of CO in the total appropriations for SUCs is significantly lower than the 22.3% allocation for development funding within the national budget.

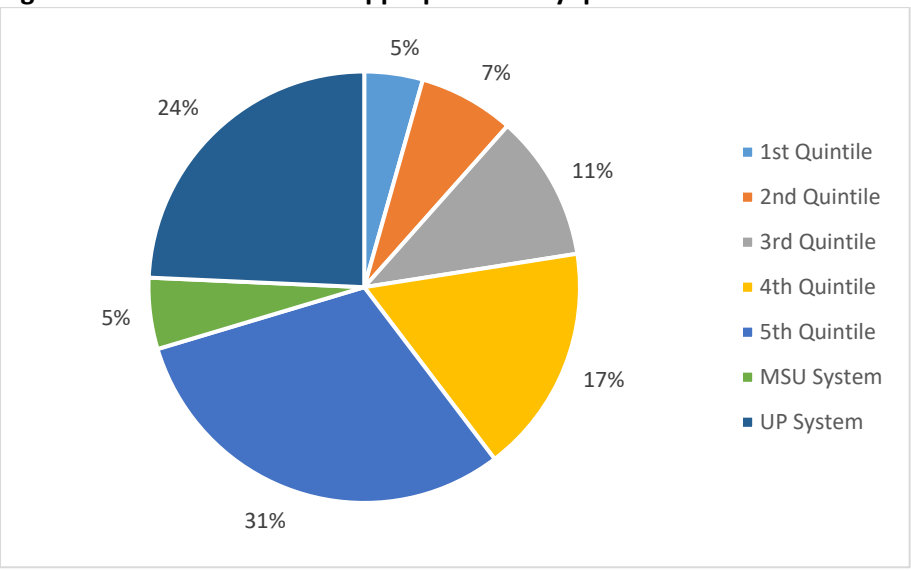
Figure 2. Distribution of SUC appropriations by expense class, 2023



Source: Author's computations based on data from COA 2024.

National subsidies were distributed unevenly among SUCs. In 2023, for instance, the first three SUC quintiles received only 22% of total appropriations, while the fourth and fifth quintiles, excluding the University of the Philippines (UP) and Mindanao State University (MSU) systems, received 48% (Figure 3). The UP System accounted for 24% of total appropriations, while the MSU system received 5%. There is also a significant disparity in appropriations between state universities and colleges. In 2023, state universities, excluding the UP and MSU systems, received an average budget of PHP 1.01 billion, while state colleges were allocated an average of PHP 344.21 million.

Figure 3. Distribution of SUC appropriations by quintile

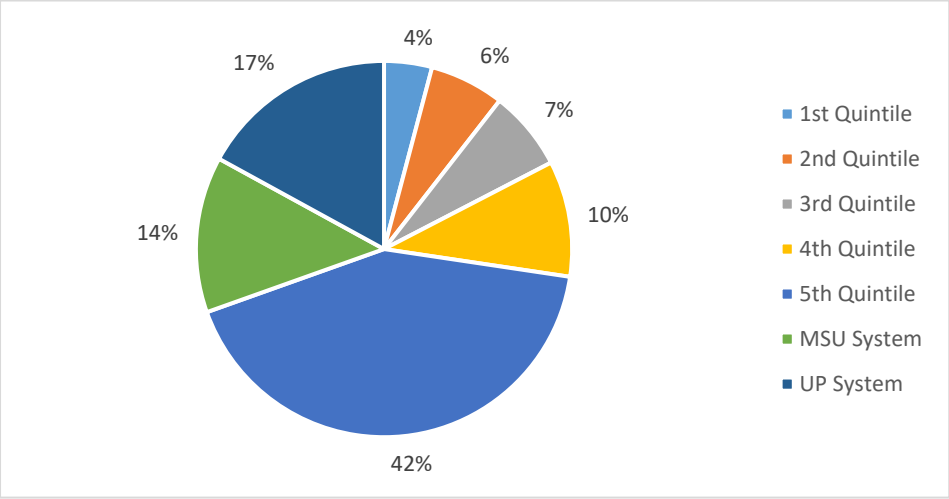


Source: Author's computations based on data from COA Various Years.

The disparity is even more evident in development funding. In 2023, the first three SUC quintiles were allocated only 17% of capital outlay appropriations, while the fourth and fifth quintiles received a combined 52% (Figure 4). The UP and MSU systems accounted for 31% of total SUC appropriations for capital outlay. State universities had an average capital outlay

budget of PHP 150.61 million, whereas state colleges received an average of PHP 44.70 million.

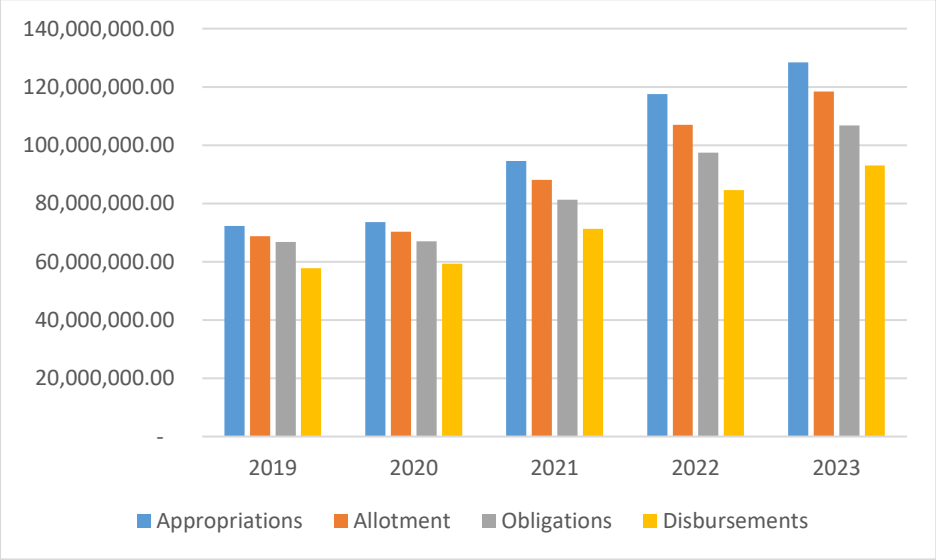
Figure 4. Distribution of SUC capital outlay appropriations by quintile, 2023



Source: Author's computations based on data from COA 2024.

From 2019 to 2023, the Budget Utilization Rate (BUR) of SUCs has not exceeded 92% in terms of obligations and 81% in terms of disbursements (Figure 5). The average ratio of obligations to appropriations during this period was 87%, while the average ratio of disbursements to appropriations was 76%. Although total appropriations have increased from 2019 to 2023, the BUR based on obligations declined from 92% to 83%, while the BUR in terms of disbursements fell from 80% to 72%.

Figure 5. Budget utilization of SUCs, 2019-2023 (in thousands PHP)

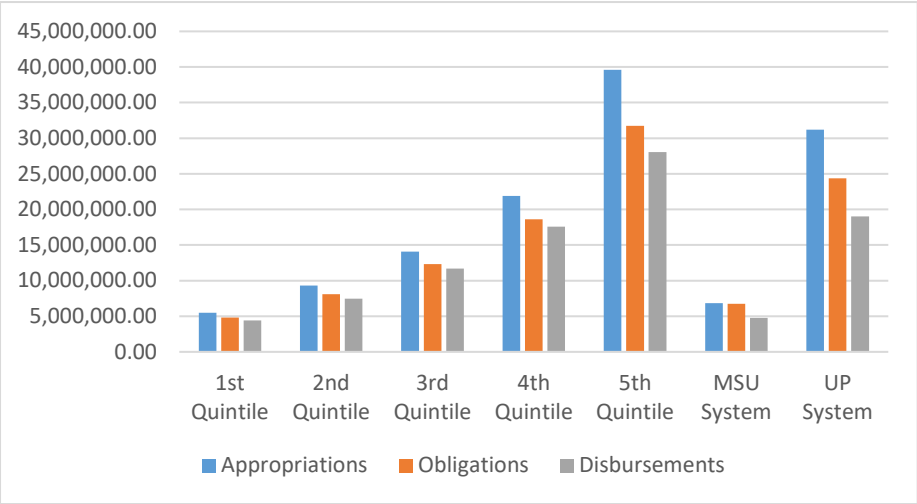


Source: Author's computations based on data from COA Various Years.

The BUR varies across SUC quintiles, with the third quintile showing the highest ratio of obligations and disbursements to appropriations at 88% and 83%, respectively (Figure 6). Conversely, the fifth quintile exhibits the lowest obligation and disbursement rates at 80% and 71%, respectively. Despite their significant share of the total appropriations for SUCs, the UP and MSU systems have BURs that are lower than the average. The obligation rate for the UP

System was 78%, while its disbursement rate stood at 61%. Although the MSU system boasts a 98% obligation rate, its disbursement rate was only 70%.

Figure 6. Budget utilization of SUCs by quintile, 2023

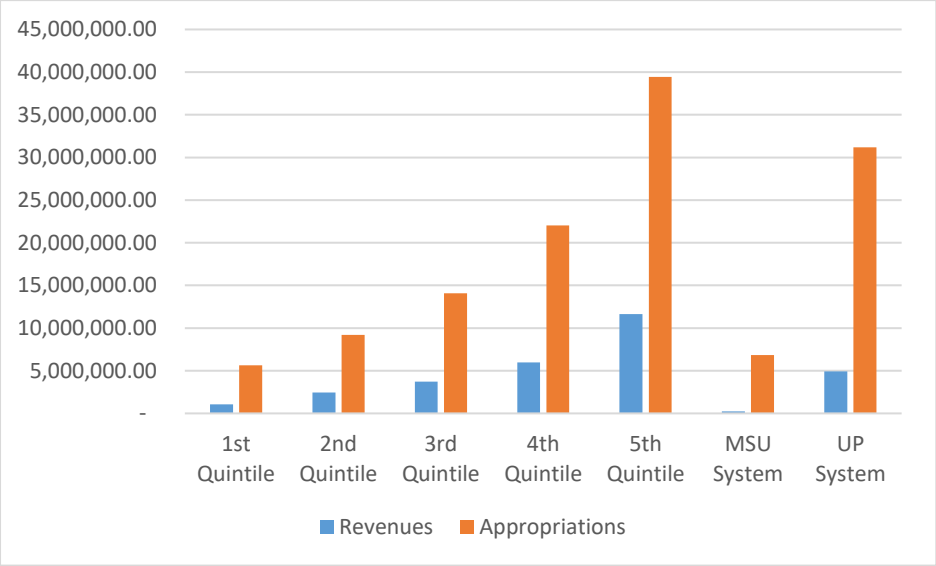


Source: Author's computations based on data from COA Various Years.

Revenues represent a significant yet minor source of funding for SUCs. Despite efforts to achieve self-sufficiency, SUCs remain reliant on national government subsidies, with revenues constituting only 19% of their total funding in 2023. This percentage is slightly lower than the five-year average share of revenues to total SUC funding, which stands at 20%. Notably, when excluding the budget for PS, revenues accounted for 33% of SUCs' total funding, making it a crucial resource for MOOE and CO. From 2019 to 2023, SUC revenues grew by an average compound rate of 9% per year, increasing from PHP18.23 billion to PHP26 billion (in 2018 prices), in contrast to the 12% growth rate in SUC appropriations mentioned above. A significant portion of the increase in SUC revenues occurred between 2021 and 2022 (22%), while there was a slight decline from 2022 to 2023 (minus 2%).

The capacity of SUCs to generate revenues varies across quintiles. In 2023, revenues from first-quintile SUCs account for only 16% of their total funds, compared to 23% for those in the fifth quintile, excluding the UP and MSU systems (Figure 7). SUCs in the second to fourth quintiles derive 21% of their total funds from revenues. Interestingly, revenues constitute only 14% and 3% of the total funds for the UP and MSU systems, respectively. State universities, excluding the UP and MSU systems, generated an average of PHP339.88 million in revenues, while state colleges raised PHP 92.82 million.

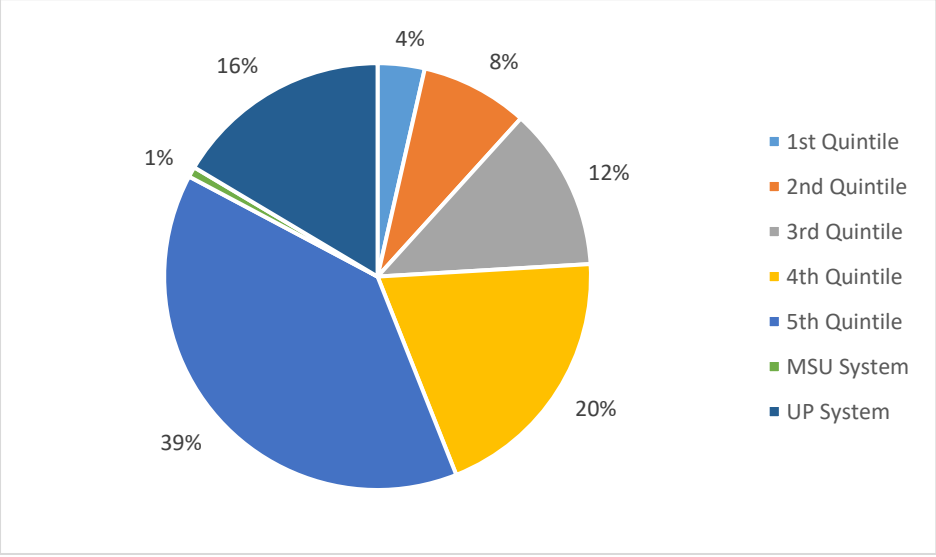
Figure 7. SUC funding per quintile, 2023



Source: Author's computations based on data from COA 2024.

Consequently, revenue distribution among SUCs was also uneven. In 2023, SUCs in the first three quintiles accounted for only 24% of total revenues, whereas the combined revenues of the fourth and fifth quintiles made up 59% (Figure 8). The UP and MSU systems contributed 16% and 1% of total SUC revenues, respectively.

Figure 8. Revenue distribution per quintile, 2023

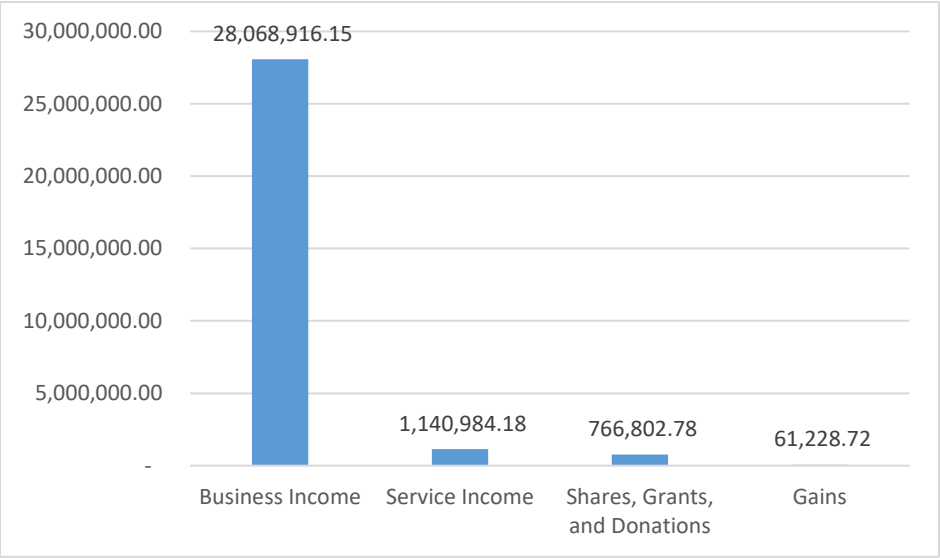


Source: Author's computations based on data from COA 2024.

In 2023, business income was the primary source of revenues for SUCs, accounting for 93% (Figure 9). This category of income for SUCs encompasses tuition fees, examination fees, seminar and training fees, rental and leasing income, sales revenue (e.g., book sales, consultancy fees, film screening fees, etc.), hospital fees, and a share in the profits of joint ventures, among others. Service income, which includes clearance and certification fees, verification and authentication fees, and processing fees, among others, contributed 4%, while shares, grants, and donations made up 3%. Gains, including those from foreign currency, the

sale of investments, the sale of investment property, and the sale of property, plant, and equipment, among others, contributed less than 1% to SUCs' total revenues.

Figure 9. SUC revenues by source, 2023 (in thousands)



Source: Author's computations based on data from COA, 2024.

5.2. SUC financing strategies and challenges

5.2.1. Adequacy of National Government Support

SUC administrators acknowledge that the funding support they receive from the national government sufficiently covers their institutions' regular operations. Furthermore, funding has remained stable and has generally increased each year. However, this is inadequate for supporting SUCs in pursuing their strategic goals of becoming globally competitive, such as through accelerated infrastructure development and internationalization programs, among other initiatives. National government subsidies are insufficient to ensure the sustainability of some SUCs, whose funds only adequately support educational delivery and little else. For example, one SUC official expressed concern about the lack of annual allocation for renovating and maintaining aging school buildings. Additionally, SUCs emphasized the need to invest in modern laboratories and equipment to enhance the quality of research and instruction.

Generally, not all development projects receive funding from the national budget. An SUC official remarked that they typically submit more than five project proposals for funding consideration, but usually, only one or two are approved. In some instances, the SUC's priority projects were rejected, while only the non-priority projects received funding. For the approved projects, funding is often released in phases, which limits spending flexibility. An SUC administrator noted that the recent cut in the institution's CO budget would delay several planned infrastructure projects until sufficient funding becomes available. SUCs understand that not all of their proposals can be funded, acknowledging the national government's limited fiscal space. Projects not funded in a given year are resubmitted for financing in subsequent budget cycles.

Furthermore, stakeholders from various SUCs emphasized that their current capital outlay budgets are insufficient compared to those of their peers in the region, resulting in a backlog

of building construction and repairs. One state university official noted that for the past three years, their capital outlay allocation has been significantly lower, stating, *"We have several buildings that still need to be built or repaired."* This appeal is not isolated, as another university stressed that the increasing number of students makes it necessary to expand and upgrade facilities. As enrollment rises, so does the demand for classrooms, laboratories, and other learning spaces, which puts pressure on already limited infrastructure budgets.

The lack of funding for capital outlay significantly hinders the implementation of SUCs' development plans. It obstructs their ability to meet the growing needs of their student populations, including the demand for essential facilities like school buildings, dormitories, and laboratories. Many institutions find their LUDIP unimplemented because of the insufficient funding. Despite submitting multiple development proposals each year, some SUCs face the harsh reality of consistently unfunded projects. SUCs have raised concerns about the limited financial support for infrastructure and equipment upgrades, often forcing them to prioritize essential expenses, such as utility services, over crucial facility improvements.

Additionally, securing funds for development proposals faces many challenges, including differences in budget approvals between regional and central levels, along with bureaucratic obstacles related to the documentation requirements of various agencies. The lengthy revisions and approval processes further delay project implementation. While SUCs work to enhance their budgets through IGIs, these funds are often mainly used to support instructional delivery.

5.2.2. Government tuition fee payments

Tuition fees constitute the largest revenue source for SUCs. Since the enactment of RA 10931, the national government has been covering students' tuition fees. The DBM directly releases the cost of tuition based on the SUC's actual enrollment level from two years prior to the current fiscal year. Given the difference between current and previous enrollment figures, the SUCs may charge the UniFAST for any shortfall between the calculated level of tuition fees based on the current year's enrollment and what was released by the DBM. According to SUC officials, payments made by the UniFAST depend on the availability of funds and may not always cover the full amount. They noted that before RA 10931 took effect, SUCs could expect students to pay their tuition in full, although payments could sometimes be delayed. Nonetheless, the FHE law enhanced income predictability, allowing for improved expenditure programming. The free tuition policy has also led to increased enrollment, boosting the income of SUCs as much as can be supported by the national government.

Despite the perceived benefits of the policy, concerns have been raised among SUC officials regarding its equity and sustainability. They expressed doubts about the government's ability to fund education sustainably, as demonstrated by the deficiencies in tuition fee reimbursements. A state university administrator argued that ensuring equitable access to education requires increased investment in basic education, which remains underfunded. Furthermore, there are apprehensions about the policy's impact on recipients' commitment. As an SUC official observed, some students find it easier to leave school because they are not the ones investing in their education. Occasionally, students drop out because they cannot afford additional expenses, such as housing, transportation, and living allowances. Stakeholders noted that the government could better utilize its limited financial resources by investing in the improvement of higher education facilities.

The fragmented approach to releasing full tuition fee payments restricts SUCs from proactively allocating resources and hinders the timely implementation of academic and institutional programs. The problem extends beyond reimbursement mechanics to broader budget constraints. One university leader raised the issue of accumulated deficiencies and appealed for *"more support in terms of the strategic directions of the universities."* The delayed reimbursements, paired with insufficient capital outlay and limited support for initiatives like research and internationalization, force SUCs to operate within tight margins and miss strategic opportunities. In regions where SUCs are surrounded by private universities, the inability to scale programs due to funding limitations further constrains their competitiveness. As one SUC official shared, their institution cannot open more academic programs because doing so would attract more students than they can accommodate, necessitating more investments in school facilities.

Delays in the full payment of tuition fees have prompted policy adjustments among SUCs to maintain education quality. One approach is to set a cap on student admissions based on absorptive capacity, despite increasing demand. This has affected the plans of some SUCs to raise their annual enrollment figures. Given the deficiencies in tuition fee reimbursements, SUCs have been restricting admissions to levels they can support based on estimated receipts. Nonetheless, SUCs have observed a general increase in enrollment over the past five years. To accommodate more students, SUCs rely on external sources of funding, such as local government units (LGUs), which provide scholarships and institutional funding support for establishing extension campuses.

Another approach is to raise tuition fees, especially since some SUCs have not adjusted their rates prior to the enactment of RA 10931. An SUC official explained that before the UAQTEA, they avoided raising tuition fees to support low-income students. Now that the government is covering the costs, this issue should no longer be a concern. However, due to the government's limited resources, questions have emerged about whether it can adequately support tuition fee adjustments. An increase could widen the gap between the amount charged by the SUC and the actual payment from the government. Additionally, CHED requirements for tuition fee modifications are considered challenging to comply with.

The Philippine Association of State Universities and Colleges (PASUC) and its regional chapters have initiated efforts to establish uniform tuition fees across the country. Currently, studies are underway to harmonize tuition fees within each region. Adopting uniform rates for school fees is expected to benefit SUCs with low tuition rates, particularly those that could not adjust their fees before the enactment of RA 10931. This initiative follows the five-year moratorium on tuition fee increases imposed by the UAQTEA. At the SUC level, any adjustments to tuition fees must be approved by the institution's governing board. All modifications require the final approval of CHED before they can take effect.

5.2.3. The Higher Education Development Fund

In 1994, the Higher Education Development Fund (HEDF) was established to improve the quality of higher education in the country. Governed by the CHED, the HEDF was designed to provide financial support for efforts addressing the issues and concerns faced by the HES. Public and private HEIs can access grants from the HEDF to support faculty and staff development, enhance facilities, improve research, and promote institutional development. The HEDF also allocates funds for scholarships and the promotion of Centers of Excellence (COE) and Centers of Development (COD) in both public and private HEIs. The fund is financed

through an initial PHP500 million in seed capital and annual contributions from 40% of travel tax collections, 30% of professional registration fees collected by the Professional Regulations Commission (PRC), and one percent of gross sales from the Philippine Charity Sweepstakes Office's (PCSO) lotto operation.

5.2.4. Research funding

National government agencies (NGAs), such as CHED, the Department of Agriculture (DA), and the Department of Science and Technology (DOST), provide research grants to support the implementation of studies related to the country's development priorities. Additionally, international development partner organizations fund specific research and extension programs that align with their missions. Furthermore, SUCs collaborate with private companies to establish research laboratories. These partnerships typically involve mutually beneficial arrangements in which the company manages the facility for a designated period before transferring operations to the SUC. Occasionally, companies will lease school facilities for a fee. However, several SUCs find it difficult to access research funding, even as they continue to enhance their research capabilities.

Inadequate research funding limits the potential R&D impact of SUCs. Scant annual research budgets prompt SUCs to actively seek funding from NGAs. However, the focus on demand-driven research funding leaves SUCs with limited resources to pursue their independent research agendas. Furthermore, securing competitive grants has posed challenges for SUCs. Research proposals on topics related to the specialization of certain SUCs, such as teacher education, can be less appealing to funding bodies compared to topics in agriculture or technology. Moreover, some SUCs have noted a trend in which research funding seems to concentrate among well-established universities, potentially hindering other institutions from accessing mentorship and financial support. Despite these persistent challenges, some SUCs have successfully secured grants for specific research areas related to environmental protection. Acknowledging the need to reinvigorate their capacity to create competitive research proposals, SUCs are looking to diversify their funding sources.

5.2.5. Income-generating projects

Income-generating projects are often contingent upon the specific programs offered by the SUC and its overall institutional capacity. Some SUCs with agricultural programs focus on generating income from farming and selling agricultural products. Meanwhile, SUCs with nursing programs generate additional income from student fees for component activities, such as Related Learning Experience (RLE). Some SUCs receive grants for development projects such as agritourism and aquasilviculture. Operating hotels and catering services commonly aligns with the SUC's hotel and restaurant management (HRM) program, providing students with practical training. Other SUCs engage in service-oriented ventures, such as printing, tailoring, and operating accommodation and catering services. However, an SUC official reported that their institution had to discontinue offering hotel and catering services to the public as they could not fulfill the necessary business permits and local tax obligations. Moreover, a common practice among SUCs to increase their financial resources involves renting or leasing institutional facilities, such as hotels, convention centers, gymnasiums, and commercial spaces, for public use. Some SUCs have created a resource generation office or an economic enterprise unit that sells merchandise, souvenirs, plaques, and memorabilia, among other items.

SUCs face challenges in their entrepreneurial endeavors due to a lack of personnel with dedicated entrepreneurial expertise to spearhead and administer these initiatives. The designation of faculty members, rather than professional entrepreneurs or dedicated non-teaching staff, to lead and manage IGPs is regarded by SUCs as hindering the generation of sufficient income from these initiatives. Faculty members with existing teaching loads and other administrative responsibilities often take on additional tasks involving IGPs, which limits their ability to commit their time and expertise to entrepreneurial efforts fully. Moreover, an SUC official stressed that the production and marketing of inventions require entirely different skills. While academic personnel can invent products through R&D, SUCs have limited capacity to market such products for sale. Many SUCs have expressed their lack of personnel with specialized skills and knowledge in areas crucial to successful IGP development and expansion. While business-related colleges within universities may possess foundational business knowledge, the emerging landscape of technology transfer and innovation commercialization necessitates advanced skills in technology management. The absence of dedicated personnel with such expertise hinders the ability of SUCs to leverage their research outputs and IP for income generation effectively.

SUCs encounter a complex challenge in leveraging their hospitality, catering, and medical services as IGPs due to ambiguities surrounding business registration and operational protocols. These institutions face uncertainty regarding regulatory compliance, particularly in adhering to standard business requirements for government-owned entities, such as hotels or clinics, as well as establishing appropriate accounting and auditing procedures for IGP revenue. An SUC official highlighted that the absence of clear guidelines and established precedents for managing entrepreneurial activities within the unique framework of a state institution currently impedes their ability to fully extend these services to the public. Moreover, guidelines stipulating that the initial capital of IGPs must be sourced from a percentage of tuition and miscellaneous fees further restrict the scalability of projects. The sustainability of IGPs is also subject to market fluctuations and environmental conditions, particularly for IGPs that involve agricultural products.

While income generated from IGPs contributes to the overall funding of SUCs, factors affecting the growth of IGIs limit the capacity of SUCs to address substantial developmental needs and even cover incurred financial deficiencies. Current government guidelines for the 2024 and 2025 GAA require SUCs to exhaust their IGI before seeking reimbursement for deficiencies from the HEDF. However, given the often modest scale of IGI, the deficiencies incurred by many SUCs tend to balloon. While some SUCs strategically reserve IGI as a buffer against policy shifts and to initiate projects anticipating future government support, the prevailing reality for many SUCs is that the IGI barely covers existing operational shortfalls. The potential for substantial revenue generation through land grants and commercial activities is also constrained by the inherent complexities of managing business ventures within a public sector framework. Moreover, such land grants are also unavailable to some SUCs, preventing them from meeting the comprehensive financial demands of higher education development in a sustainable manner.

5.2.6. Commercialization of intellectual property

The commercialization of IP presents SUCs with new opportunities for income generation. Some agricultural SUCs recognize the significant potential of monetizing their IP, particularly in food and agricultural technologies. However, the absence of a well-designed IP plan and commercialization infrastructure has hindered SUCs from leveraging their innovations for

institutional stability and socioeconomic impact. While the registration process for copyright and industrial design is relatively straightforward, an SUC official mentioned that patenting can take two to three years, which delays commercialization. During the patent pendency period, the institution faces uncertainty regarding the security of its IP rights. Moreover, SUCs lack the necessary entrepreneurial and marketing skills to effectively commercialize their innovations. Additionally, limited engagement from domestic industries in partnering with SUCs to invest in and develop locally generated technologies prevents SUCs from establishing a commercialization infrastructure and maximizing the development of new technologies. Most often, marketing of research outputs is conducted only through science and technology (S&T) fairs.

Some SUCs have reported a lack of expertise in technology transfer, negotiation, and the valuation of their technologies. SUC personnel are not well-versed in the governing laws involving technological innovations. Although SUCs can develop marketable products, they continue to struggle to attract investors. SUCs can produce significant outputs but struggle to execute effective marketing strategies. Addressing the limitations of SUCs would involve comprehensive training, not only in marketing and negotiations, but also in technology and innovation management. While some SUCs have established offices to assist researchers with IP applications, these offices still face the uncertainty of their IP security, as it would be challenging to prevent unauthorized reproduction of their innovations. Existing barriers continue to impede the efficient deployment of research outputs to the market.

5.2.7. Donations and endowment funds

Donations are a significant funding source for SUCs; however, the levels have not been sufficient to establish endowment funds that can support long-term institutional sustainability. Some LGUs provide SUCs with financial assistance in the form of scholarships and funding for specific programs and infrastructure. Upon the urging of LGUs, several SUCs have established satellite campuses. In some instances, underserved municipalities invite the SUC from their province to establish a campus within their jurisdiction. In others, LGUs request an SUC with a nationwide presence to establish local operations. The LGU typically provides the school lot, facilities, and operational funds, while the SUC shoulders the salaries of school personnel. To ensure the sustainability of a newly established campus, one SUC official noted that the LGU committed to providing financial assistance for an initial period of five years, as supported by an ordinance. This commitment ensures that the SUC can rely on the LGU's financial backing despite potential changes in administration. Nonetheless, the establishment of a new campus puts some strain on the SUC's resources as the LGU would not be able to cover all the additional expenses involved.

SUCs recognize the importance of donations and have plans to tap into this funding source more effectively. However, except for a few universities, most of their alumni are unable to make large donations. Donations received from individuals and organizations usually take the form of land, vehicles, books, and equipment. It is seldom that SUCs receive cash donations. Additionally, some SUCs are still developing institutional policies regarding donations, including their management and recording.

SUCs also anticipate challenges in establishing and managing endowment funds. For instance, an SUC administrator pointed out that the government might consider the money as unutilized funds. Furthermore, the country lacks sufficient financial facilities for managing endowment funds. Nonetheless, SUCs can benefit from endowment funds set up by private benefactors.

However, contributions from the private sector usually take the form of legacy donations that fulfill the institutions' immediate rather than long-term needs.

5.2.8. Public-private partnerships

PPPs offer SUCs an alternative mode of financing development projects, with minimal financial commitment and reduced investment and management risks. However, some SUCs that consider entering into PPPs have difficulty identifying enterprises with the potential to earn substantial income, given that they typically cater to low-income students. Partnerships with private companies are typically limited to student internship programs and the implementation of demand-driven research and extension projects. Nonetheless, some SUCs are making efforts to involve the private sector in funding the construction of school buildings. Parts of the facilities to be constructed can be allocated to the private partner for commercial use. The PASUC, in collaboration with the Public-Private Partnership (PPP) Center, provides orientations to SUCs on leveraging PPPs in infrastructure and development projects.

The establishment of KIST parks is a government program that could facilitate the development of SUCs' land grants and unleash their revenue-earning potential through partnerships with the industry. Some SUCs have expressed interest in participating in the program spearheaded by the PEZA and the DOST. One SUC has already started preparations to establish a technology park, including benchmarking with another state university in Southern Luzon.

Box 3. University-Industry Collaboration through Public-Private Partnership: The Case of the UP-Ayala Land TechnoHub

Introduction. State universities and colleges (SUCs) can play a crucial role in advancing research, technological innovation, and entrepreneurship by fostering partnerships with the industry that bridge academia and the private sector. The UP-Ayala Land TechnoHub serves as a prominent example of university-industry collaboration, focusing on technology commercialization, business incubation, and economic development. Developed through a public-private partnership (PPP) involving the University of the Philippines (UP) and Ayala Land Inc. (ALI), the TechnoHub was designed to transform research-driven ideas into commercial enterprises that contribute to national innovation strategies.

Concept and structure of the UP-Ayala Land TechnoHub. The UP-Ayala Land TechnoHub was conceived as a component of UP Diliman's North Science and Technology Park, designed to support start-up enterprises, IT businesses, and R&D commercialization (Beng Hui, Sio, & Fernandez 2010). Initially, UP and the Department of Science and Technology (DOST) enlisted Ayala Land's expertise in managing an incubation facility, which later evolved into a larger-scale technology park with an emphasis on public-private synergy. The TechnoHub adheres to best practices from international science and technology parks, including the Tsukuba Science City (Japan), Singapore Science Park (National University of Singapore), Haidan Science Park (University of Beijing), Silicon Valley (Stanford University), and Route 128 Technology Cluster (Massachusetts Institute of Technology) (GMANews.TV 2008). By integrating international incubation strategies, the UP-Ayala Land TechnoHub positioned itself as a regional technology hub, promoting research commercialization and fostering university-industry collaborations.

The 20-hectare TechnoHub is part of the 37.5-hectare UP North Science and Technology Park, designed to accommodate small, medium, and large-scale enterprises (PNA 2008). Its key components include business incubation facilities, multi-tenant office spaces, R&D and commercialization spaces, as well as a Tech Portal for start-ups. The TechnoHub aims to foster high-impact, knowledge-based enterprises, thus strengthening the country's science and technology ecosystem.

The governance structure of the UP-Ayala Land TechnoHub is based on a PPP framework, operating under Republic Act (RA) No. 6957 as amended by RA 7718, which facilitates private sector participation in technology infrastructure development. The partnership follows the Build-Operate-Transfer (BOT) model, contributing to long-term sustainability while allowing UP to regain full ownership after the lease period (Sale 2015). Ayala Land Inc. manages the property under a 25-year lease, contributing PHP 10.23 billion in combined investments and lease payments (Dumlao, 2020). UP retains land ownership, ensuring ongoing revenue streams to support its academic function. For example, as of 2015, UP Diliman received PHP 351 million from its share of lease revenue, supporting 29 academic renovation projects (Sale 2015).

Fostering start-up growth through an innovative incubation model. The TechnoHub integrates multiple stakeholders, including the government, academia, and the private sector, into an interconnected system that promotes technological diffusion and innovation (Beng Hui, Sio, & Fernandez 2015). Various programs, such as Kape+Teknolohiya and innovation forums, provide platforms for students, start-ups, and investors to exchange knowledge and ideas. Additionally, the Tech Portal houses a dedicated Technology Business Incubation (TBI) facility designed to support early-stage firms specializing in IT and technology-driven services.

The Ayala Foundation Inc. facilitates mentorship programs that connect startups with venture capitalists and investment firms (Beng Hui, Sio & Fernandez 2015). By integrating commercial leasing and academic innovation, the TechnoHub fosters a collaborative governance model that ensures a balance between economic incentives and university priorities. The business incubation process is modeled after Silicon Valley, where venture capital firms play a crucial role in funding promising enterprises. Ayala Foundation, in collaboration with Global Gateway Venture Capital, conducts boot camps to equip aspiring entrepreneurs with technical expertise and market insights. Through this framework, technologists and business strategists collaborate to shape viable commercial ventures.

The UP-Ayala Land TechnoHub employs a three-stage incubation model, ensuring that businesses transition gradually from early-stage ventures to fully independent enterprises (Beng Hui, Sio & Fernandez 2015). Early-stage start-ups begin in the incubator space, where they receive mentorship from experienced entrepreneurs, access to funding through venture capital firms, and administrative support in the form of legal, accounting, human resources, and payroll services. The Tech Portal serves as a dedicated incubation facility, hosting up to 12 start-up companies engaged in software development, e-commerce, web services, and IT-enabled solutions. Start-ups that demonstrate growth and success transition to multitenant office spaces, where they can expand operations while benefiting from shared resources, gain additional funding and market access through investment partnerships with venture capital firms, and collaborate with academic researchers for R&D development. Enterprises that achieve sustained profitability and scalability transition to privately leased buildings, reinforcing their long-term industry presence while maintaining connections with the TechnoHub ecosystem. The three-stage process ensures businesses have the necessary time, infrastructure, and expertise to navigate market challenges, refine products, and achieve commercial success.

Economic impact. Since its inauguration in 2008, the UP-Ayala Land TechnoHub has significantly contributed to economic development through job creation and investment-driven initiatives. The integration of academic research and industry partnerships enables startups and technology enterprises to scale their operations, access funding, and commercialize their innovations. The TechnoHub has facilitated 50,000 jobs in IT and business process outsourcing (BPO), increasing employment opportunities for engineers, software developers, and business strategists (Dumlao 2020). Beyond job creation, the TechnoHub has strengthened the connection between academia and industry, offering students firsthand exposure to real-world business operations (Beng Hui, Sio & Fernandez 2015). PEZA-approved expansions have bolstered foreign investor confidence in the country's technology landscape, reinforcing the Philippines' competitiveness in digital innovation (Manila Bulletin 2009). Foreign companies that have established business operations within the TechnoHub include major corporations, such as HSBC, IBM, Manulife, and Teletech (Sale 2015). By fostering economic growth and technological innovation, the TechnoHub serves as a catalyst for knowledge-based economic development.

Issues and challenges. Despite its achievements, the UP-Ayala Land TechnoHub has encountered various challenges. In 2014, a dispute arose between the Quezon City government and UP regarding the taxation of the TechnoHub property. Local authorities contested UP's tax exemption, arguing that the TechnoHub property was used for proprietary functions rather than educational purposes (Sauler & Quismundo 2014). The Supreme Court ultimately ruled that UP remains exempt from real estate taxes under RA 9500, otherwise known as the UP Charter of 2008 (Villegas 2019). However, improvements made by Ayala Land remain subject to taxation.

Additionally, concerns regarding Ayala Land Inc.'s financial obligations to UP emerged during audits conducted by the Commission on Audit (COA) in 2016 (Gonzales 2016). The COA identified unpaid lease obligations, which prompted calls for a review of the lease agreement. In 2020, government officials expressed worries about low rental rates, which could potentially undermine UP's ability to generate revenue for academic and research purposes (Dumlao 2020). The national government recommended a contract review to assess whether the agreements adequately benefit UP (Gita-Carlos 2020). Subsequently, Ayala Land defended its payments by citing long-term investments in infrastructure and development (Cigaral 2020).

Further, critics argue that TechnoHub has prioritized IT services over research-intensive incubation, with major firms like HSBC, IBM, and Reed Elsevier focusing on BPO operations instead of advancing scientific innovation. The UP Diliman Executive Committee has called for a greater emphasis on R&D, advocating for more research that contributes to the public good (Sale 2015). Addressing these concerns is crucial to ensure that TechnoHub remains aligned with its mission of fostering knowledge-based entrepreneurship.

Conclusion and recommendations. The UP-Ayala Land TechnoHub represents a transformative model for university-industry collaboration, fostering technological innovation, entrepreneurial growth, and economic development. Through its three-stage incubation process, governance framework, and initiatives for foreign investment, the TechnoHub has strengthened the Philippines' technology sector. However, ongoing debates surrounding lease transparency and the balance between research and business orientation necessitate continuous policy refinement. SUCs looking to adopt the TechnoHub model should prioritize equitable financial agreements to ensure fair lease payments, maintain a focus on cultivating research-driven start-ups, and sustain academic-industry collaboration for technology

commercialization. By optimizing governance strategies and enhancing innovation ecosystems, university-industry collaboration through technology parks can promote technological entrepreneurship and strengthen SUC financing toward long-term sustainability.

5.2.9. Internationalization efforts

SUCs currently host a limited number of international students since institutions are still refining their policies on internationalization programs. Several SUCs have language centers and are beginning to draft plans for offering English courses to foreign students. Meanwhile, other SUCs are actively engaging with international partner institutions. Ongoing partnerships include student exchange programs and research collaborations with institutions from other SEA countries, such as Indonesia, Laos, and Thailand. Additionally, some SUCs have partnerships with institutions from countries like Belgium, Japan, Taiwan, and the US, which involve internships and joint research projects. The benefits of these partnerships include a motivation to elevate the quality of education to match that of foreign institutions. Some SUCs have also initiated internationalization initiatives, such as developing international curricula. These would enable them to welcome foreign students in the future. An advantage that Philippine SUCs can offer foreign students is the faculty's ability to deliver lessons in English. These varied approaches indicate that SUCs are still in the early stages of their broader internationalization efforts.

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Furthermore, SUCs face challenges in attracting foreign students and faculty. Some SUCs have mentioned inadequate budgetary allocations to invite and compensate foreign professors and lecturers for extended periods. Other SUCs have developed plans and policies to promote internationalization, but they lack sufficient financial support to implement such efforts. Additionally, attracting international faculty is complicated by government regulations. The CSC has advised SUCs about restrictions on hiring foreigners for permanent positions. While SUCs have the ability to create contractual arrangements for foreign faculty, these mechanisms do not ensure the long-term commitment of foreign academics to the institution or the country.

Due to the need to prioritize local enrollees within their limited capacities, SUCs generally do not actively recruit international students for full-time undergraduate programs. One SUC administrator pointed out the challenge of accepting foreign students, given the schools' limited slots. Even though foreign students would be paying tuition, usually at a higher rate,

they would take up slots that could have been given to Filipino students. Some SUCs are concerned that the accommodation of such students could be vulnerable to public and government scrutiny, as this would involve the allocation of public funds. Nevertheless, exchange programs are supported by SUCs in striving to promote internationalization efforts.

5.2.10. Loans

Borrowing funds has been used as a financing strategy by public universities in other countries, notably the US (Binfare & Zimmerschied 2024; Rosen & Sappington 2016), but it has not become the norm in the Philippines. Nonetheless, the Land Bank of the Philippines, a government financial institution, offers a credit facility to SUCs for financing infrastructure expansion, fixed asset acquisition, and income-generating agricultural programs and projects (Landbank 2025). One state college plans to take out a loan from a government bank to fund the acquisition of school lots in support of its bid to become a university. Another is considering this option to finance the construction of employee housing facilities. The institutions' governing board approves decisions to borrow funds. However, most SUCs prefer funding their development projects through government subsidies and IGI, given their lack of experience in securing loans. Some SUCs refrain from borrowing funds due to the high interest rates and perceived policy ambiguities regarding incurring debts.

6. Factors affecting resource mobilization and utilization in SUCs

6.1. Financial autonomy of SUCs

As discussed above, the financial autonomy of public HEIs is essential for diversifying funding sources, utilizing resources efficiently, and enhancing performance. Most SUCs agree that they possess sufficient autonomy in generating, managing, and utilizing their funds. Under the law, SUCs may embark on IGPs and receive donations. They are also permitted to retain their IGI and use it for operations and development projects. In utilizing their IGI, SUC administrators are responsible for programming the budget, which is submitted to the governing board for approval. The governing board makes the final decision on budget allocation, subject to government spending regulations.

Financial autonomy in SUCs is operationalized through the collaborative efforts of the finance and operations departments. This involves trend analysis, income forecasting, and the establishment of budget ceilings. Based on these forecasts, SUCs distribute funds among departments and offices, subject to institutional priorities and needs. Budget proposals from individual units are reviewed, consolidated, and ultimately approved by the governing board.

Higher levels of IGI decrease the SUCs' reliance on centrally allocated government subsidies, providing them with greater flexibility in investment and spending decisions. Conversely, low levels of IGI restrict SUCs to operate within the constraints imposed by government subsidies and their limited revenues. Some SUCs, especially those located outside of economic centers, struggle to generate income from IGPs. This underscores that SUCs' capacity to mobilize resources is dependent on the local economy. The absence of IGI significantly hampers the financial autonomy of SUCs and heightens their dependency on government subsidies. In university systems, resource allocation is determined at the system level, which places some constraints on the autonomy of constituent universities.

6.2. Leadership's critical role

Financial management in SUCs is viewed as a collaborative responsibility involving all levels of the institution. This is underscored by the importance of maintaining a comprehensive understanding of the institution's financial operations and overall financial health. The financial management of SUCs not only entails securing initial funding but also ensuring the long-term sustainability of expenditures. Moreover, a culture of prudence in financial management is considered paramount, requiring leaders to model responsible spending and resource allocation, prioritizing the needs of stakeholders and the development of personnel. For some SUCs, this includes implementing strict financial controls and practicing futures thinking to anticipate and mitigate potential financial challenges. SUCs consider the current and future financial needs of the institution, ensuring its ability to serve future generations.

Higher education stakeholders have highlighted the importance of effective and collaborative leadership for proactive resource allocation. The presidents and chancellors of SUCs are considered responsible for actively seeking funding opportunities and advocating for budget prioritization. SUC leaders exercise authority in financial management and build networks to establish institutional linkages. A leader's ability to secure funding that supplements government subsidies significantly enhances the operations of the SUC. The effective prioritization of programs and projects heavily relies on the administration's strategic allocation of funds. Listening to the input of internal stakeholders and monitoring the progress of program implementation are critical aspects of SUC leadership. Leaders develop policies to ensure the prudent utilization of resources while facilitating institutional development. Therefore, SUC leadership must be knowledgeable about the institution's financial operations and proactive in setting its strategic directions.

6.3. Political and bureaucratic hurdles in SUC operations

Political interventions can disrupt the development plans of SUCs. Some SUC officials express concerns about the political decisions impacting budget allocations among institutions, especially regarding development projects. Another SUC official noted that a locally funded program of the SUC was stopped by the previous LGU administration. Additionally, the establishment and division of SUC campuses can also be affected by political dynamics.

Meanwhile, bureaucratic hurdles can complicate SUC operations. For example, one SUC faced penalties from authorities for operating generator sets during power outages. Additionally, compliance with environmental regulations has been seen as a lengthy process due to extensive documentation requirements. Concerns have also been raised by one SUC official regarding the need to provide comprehensive historical documentation of the institution's environmental compliance dating back to its founding, regardless of the regulatory landscape at that time.

6.4. Financial management concerns

SUCs expressed a need for IT systems and applications, such as digital platforms for financial, human resources, and student record management, to enhance service delivery. In particular, SUCs need to automate their financial management systems to ensure seamless integration of registration, billing, accounting, and reporting processes. Moreover, SUCs require additional staff for their financial operations. The number of transactions often overwhelms their lean financial staff. Administrative inefficiencies due to inadequate staffing sometimes lead to

disallowances. For instance, the shortage of administrative staff typically causes delays in procurement activities since faculty members, who have other priorities, must perform some of the tasks.

Managing multiple campuses additionally involves a high volume of transactions and requirements that can overwhelm financial offices and staff. This strain on resources is viewed as leading to operational inefficiencies, an increased likelihood of errors, and frequent delays in processes related to procurement and salary disbursement. To ensure efficient financial management, SUCs have emphasized the necessity of understanding organizational dynamics, as financial processes tend to be centralized in the main campus. The scale of operations in larger institutions can create more challenges as the demand for internal financial services correspondingly increases.

6.5. Government procurement regulations

SUCs have consistently identified government procurement as a major bottleneck in their budget execution and overall operations. The strict, intensive, and lengthy procurement process, particularly regarding research, production, and IGPs, has caused significant delays in fund utilization. Furthermore, SUCs face challenges related to bidding, further disrupting planned procurement schedules. Government procurement regulations can impose a burden even on smaller projects. It can be challenging to find bidders willing to engage in low-value contracts, especially in provincial areas. Additionally, obtaining specialized equipment, particularly for research or technical programs, can be difficult due to the specific requirements of government procurement and the limited number of suppliers willing to meet those requirements.

Some SUC officials noted facing challenges in the procurement process, which is typically slow and time-consuming. The strict procurement regulations lead to significant delays in the use of funds and financial reporting. For SUCs situated in island provinces, procuring supplies is especially challenging due to transportation issues. Moreover, there is a considerable markup in prices compared to what is listed on the Philippine Government Electronic Procurement System (PhilGEPS) website.

7. Organizational structure and staffing of SUCs

7.1. Organizational structure

Given their multifaceted roles in providing quality education and mobilizing funding sources, SUCs must be agile to meet the challenges of a rapidly changing environment. Achieving structural flexibility requires HEIs to equip managerial staff with the necessary competencies to implement structural changes in response to environmental uncertainties (Kereto et al. 2021). The Contingency Theory holds that an organization's structure significantly affects its efficiency and effectiveness (Kovats 2018). Organizational boundaries and hierarchical layers have a substantial impact on academic staff performance and dedication (Turyamureeba et al. 2023). Over the past two decades, educational organizations have evolved to reflect a shift from loosely coupled administration to tighter, more managerial coupling (Hautala et al. 2021). An ideal organizational structure effectively utilizes the institution’s most important resource–determined and dedicated personnel.

Reorganization in SUCs involves continuous adaptation to meet current trends and ensure organizational effectiveness. At one state university, the process of organizational restructuring is an ongoing effort. This approach guarantees that the institution stays aligned with the evolving needs of its environment. Even just last year, the university underwent a reorganization, reflecting its commitment to being current and responsive. The faculty and administration regularly revise their organizational structures to remain relevant, emphasizing their dedication to refining processes and aligning with industry trends. This adaptive strategy highlights the importance of being flexible and responsive to both internal and external changes, ensuring that the institution remains effective and efficient in achieving its objectives. Reorganization, in this context, is not a one-time event but a continuous process driven by the need to adapt and improve continually.

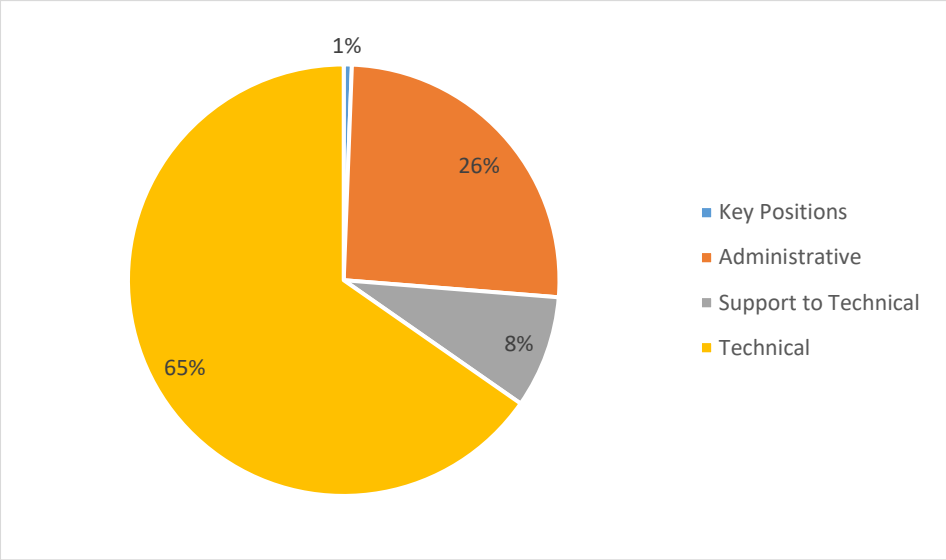
However, compared to financial autonomy, SUCs have less freedom in designing their organizational structure, staffing patterns, and compensation packages. SUCs face greater constraints when funding positions or deviating from standardized government salary scales. Moreover, internal challenges hinder position management, as there can be a tendency to request new positions instead of optimizing existing structures. An SUC administrator cited the need to be more introspective about their institution's staffing pattern and identify positions that need to be created and those that could be abolished. There is also resistance to internal restructuring and difficulties in implementing approved plans due to personnel considerations.

7.2. Position classification of SUC personnel

Similar to other government agencies, the position classification of SUCs can be divided into key, technical, support to technical, and administrative positions. Key positions refer to executive, managerial, and chief of division or equivalent roles. Technical positions include those who directly perform the substantive functions or frontline services of the agency as outlined in its mandate. Support to technical positions denote roles that provide staff or technical support functions to key and technical positions but do not perform frontline services directly. Administrative positions encompass roles that handle general services, clerical duties, human resource management, financial management, records management, custodial tasks, and other related functions.

In 2023, the personnel complement of SUCs consisted of 65% technical, 26% administrative, 8% support to technical, and 1% key positions (Figure 10). Out of a total of 90,603 permanent positions, only 71,959 were filled, leaving 21% of available positions vacant. The budget for the annual salaries of the unfilled positions was equivalent to PHP 11.9 billion. Within SUCs, the ratio of technical to administrative positions ranged from a low of 0.40 (35 technical and 87 administrative positions) to as high as 41.67 (122 technical and three administrative positions). The median ratio was 2.76 (367 technical and 133 administrative positions). More than half (55%) of the SUCs have a technical to administrative positions ratio higher than the overall ratio of 2.55 (59,828 technical and 23,507 administrative positions), indicating a mild disparity in the distribution of administrative positions among institutions.

Figure 10. Distribution of SUC personnel per category, 2023



Source: Author's computations based on data from DBM 2023.

For most SUCs (66%), key permanent positions are restricted to the President and Chief Administrative Officer. An additional 18% of SUCs only have the Vice President as another key permanent position. The remaining SUCs have no more than six types of key positions. In contrast, the two university systems, UP and MSU, have a range of key positions that are not available in other SUCs (Table 1). Generally, key functions in SUCs are carried out by faculty as temporary additional assignments, utilizing the technical competencies and leadership skills of the institutions' academic staff. However, for specific functions such as the management of IGPs, this also raises concerns about workload and the readiness to assume roles requiring entrepreneurial and administrative leadership. While faculty members taking on additional assignments receive administrative load credits, they are still expected to teach and conduct research.

Table 2. Key Positions in the University of the Philippines and Mindanao State University Systems

University of the Philippines System	Mindanao State University System
President	President
Executive Vice President	Executive Vice President
Vice President	Vice President
University Secretary	University Secretary
Chancellor	Chancellor
Executive Director	Director
Deputy Executive Director	Vocational School Superintendent
Director	Assistant Superintendent of Printing
Architect	Chief Accountant

University of the Philippines System	Mindanao State University System
Attorney	Chief Administrative Officer
Chief Accountant	College Business Manager
Chief Administrative Officer	Engineer
Chief Scholarship Affairs Officer	Medical Officer
College Business Manager	Security Officer
College Librarian	
Engineer	
Guidance Services Specialist	
Information Technology Officer	
Medical Officer	
Nutritionist-Dietitian	
Pharmacist	
Project Development Officer	
Records Officer	
Registrar	
Social Welfare Officer	
Special Police Officer	

Source: DBM 2023.

SUCs operate under strict constraints defined by DBM and CSC regulations, limited IGI, and internal institutional dynamics. As government employees, SUC personnel are governed by civil service rules and regulations. Their salaries are sourced from national government funds and adhere to the schedule outlined by the Salary Standardization Law (SSL). Proposed modifications to the organizational structure and staffing pattern require the approval of the DBM. Nevertheless, SUCs have implemented several strategies to align their staffing with their organizational needs.

One approach is to 'scrap and build' positions, a strategy that is generally permitted by the DBM. Through the 'scrap and build' method, existing vacant funded positions may be 'scrapped' or abolished to create necessary positions, as long as the agency remains within funding limitations. Priority programs are given preference in establishing new plantilla positions. However, one SUC official mentioned that there have been instances when the DBM did not approve their 'scrap and build' proposals. Constituent universities must also obtain approval from the system administration and the governing board when proposing the creation of new positions through 'scrap and build.' In university systems, the positions do not belong to the respective constituent universities but to the system as a whole.

Another strategy is to address human resource needs by hiring personnel under contract of service (COS) or job order (JO). As academic institutions, the greatest personnel demand for SUCs is for teachers. Due to the limited availability of plantilla positions, SUCs employ part-time teachers through COS. Other staff typically hired through COS includes medical and dental personnel. Utility staff are generally hired through JO, particularly in SUCs that lack sufficient funds to outsource maintenance services to private contractors. However, according to one SUC official, it would be more beneficial to create plantilla items for certain positions to ensure continuity and accountability. For example, COS staff often tend to apply for regular positions in other agencies and leave the SUC. Furthermore, the compensation of COS and JO staff significantly impacts the SUCs' budget, which is usually sustained by tuition fees and other IGIs.

SUC officials emphasize the need for adequate resources to enable their institutions to achieve their development potential. Enhancing human resource capacity depends on the SUC's ability to mobilize resources. The retention of academic staff becomes challenging if the SUC is not able to provide adequate support for human resource development. Meanwhile, financial autonomy enables the institution to set priorities and follow through with their implementation. SUCs require adequate resources, financial autonomy, and competent and motivated staff to ensure the quality of education services.

7.3. Challenges in recruiting professional staff

Several SUCs reported encountering challenges in recruiting professional staff, such as psychometricians and guidance counselors. Some SUCs do not have available permanent positions for these personnel. Even when regular positions are available, SUCs face difficulties attracting applicants because of uncompetitive remuneration rates. In addition, the required qualification levels are perceived to be too high considering the corresponding levels of compensation. As observed by one SUC official, guidance counselors have qualification requirements similar to instructors, but a lower salary grade (SG). SUCs need to strictly follow DBM and CSC guidelines in creating positions and determining salary scales. As related by one SUC official, the COA disallowed their previous effort to create regular positions through IGI funding. For SUCs that have the means, the salaries of their employees are augmented through various compensation and benefit packages, as long as they are consistent with regulations. However, SUCs with limited resources could not provide the same benefits for their employees.

The personnel landscape of SUCs can be characterized by a significant reliance on job order (JO) and contract of service (COS) staff, with their numbers often exceeding those of permanent plantilla positions. Some SUCs have expressed concerns that the Revised Organizational Structure and Staffing (ROSS) for SUCs does not encompass all essential operational areas and lacks provisions for crucial roles such as medical professionals and engineers. Furthermore, since some permanent positions focus solely on research or specific tasks, there is a necessity to hire non-permanent staff to fill critical gaps in both administrative and academic functions. This approach can also delay or hinder the creation of new permanent positions for specialized personnel like engineers, architects, and medical professionals. The ongoing reliance of SUCs on COS arrangements impacts budget planning and expenditure. Therefore, this highlights the need to balance the costs of non-permanent staff with the goal of achieving long-term financial and institutional sustainability.

Institutional sustainability refers to the school's ability to fulfill its mission over the long term. This involves enhancing staff competencies through human resource development and improving facilities through capital investment. Competent staff are essential for effectively prioritizing activities and efficiently allocating resources. Modern facilities and equipment enhance the students' learning experience and promote the quality of education. While SUCs have the flexibility to increase their human resources by hiring personnel through COS, many only have enough IGI for this purpose and lack funding for infrastructure development. Insufficient funding for constructing necessary facilities puts the sustainability of some SUCs at risk.

8. Good practices and opportunities for reform

The experiences of SUCs who participated in the study yielded invaluable insights and good practices that provide reform opportunities for both policy and practice at the national and institutional levels. The following accounts from the key informant interviews provide further information and nuance in framing the report's recommendations:

Harmonizing tuition and miscellaneous fees across SUCs in the same region is increasingly viewed by SUCs as a strategic move to promote financial sustainability, fairness, and strengthened regional collaboration, all under the broader goal of enhancing financial autonomy. Many SUCs, particularly through their regional associations, have started exploring proposals to unify tuition and miscellaneous fees within their respective regions. For instance, one SUC in the Visayas noted that it has maintained a fixed tuition rate of PHP 200 per unit since AY 2012–2013 and has not increased its miscellaneous fees. Recently, it has joined the efforts of its regional association to submit a proposal to CHED to unify tuition and miscellaneous fees across the region. However, at the time of the interview, CHED had not provided feedback on the proposal.

SUCs in Northern and Central Luzon have harmonized their tuition and miscellaneous fees after the five-year moratorium on fee increases expired, and they have come up with tuition fee proposals already approved by their Boards of Regents. However, these still require further approval from the DBM and possibly Congress, highlighting how harmonization efforts intersect with national budget processes. As one SUC official shared, *"We are actually asking Congress as a group, as PASUC, to consider including our request for tuition fee increase"* in the 2026 budget cycle.

In Mindanao, one SUC official shared that although no unified model has yet been finalized, there is a proposal to conduct a formal study and develop an acceptable model that will be adopted in the region. The urgency is underscored by the situation of one SUC in their area that receives only PHP 500 per semester per student due to its outdated tuition rate, an amount they have been attempting to adjust for years without success. They also expressed openness to adopting PASUC's eventual harmonized model, depending on its suitability: *"If there's already a model from PASUC, then we will see if that will be advantageous to us."*

Another SUC official from Mindanao expressed support for fee harmonization from a competitiveness perspective, noting their desire to match the standards of other universities in their region and even nearby private institutions. While they recognize the ongoing impact of the Free Higher Education policy, they feel that a fee increase would be reasonable, given that the national government will fund the tuition fees, specifically from PHP 250 to PHP 500 per unit. This indicates that harmonized increases are viewed not as a burden on students but as a

means to enhance government support and improve institutional capacity. The rationale includes practical considerations such as the cost of living in various areas and the necessity to fairly compensate part-time faculty, which constitutes one of the largest expenses linked to tuition.

Collectively, these reveal a growing momentum among SUCs, driven by regional associations and national advocacy bodies like PASUC, to pursue harmonized tuition and miscellaneous fee schemes not only as a financial reform but also as a coordinated strategy to enhance their financial autonomy and leverage stronger support from the national government. For some SUCs, however, efforts to standardize tuition may be potentially disadvantageous, especially if the agreed rates are lower than their current levels. One SUC administrator emphasized the value of institutional independence while acknowledging the benefits of benchmarking with the experiences of other institutions.

Investing in capacity building for faculty and staff is crucial for ensuring the long-term sustainability, innovation, and global competitiveness of SUCs. Several SUC officials emphasized the urgent need to enhance the capabilities of younger faculty members, particularly in research. Many of these early-career academics need targeted training and development opportunities to equip them with the essential competencies for conducting quality research. One institution shared its approach, stressing that in addition to training, start-up funding is vital for first-time researchers to turn their newly acquired skills into actionable research projects. These supports are complemented by incentive packages that extend beyond monetary rewards—like reducing teaching loads to allow faculty members time for research. For projects funded by external sources, honoraria are provided, while institutionally funded research typically offers reduced teaching loads as a form of institutional support.

Moreover, capacity building is not only considered a matter of internal development but also a vital stepping stone toward internationalization. A key challenge faced by SUCs is the limited budget for pursuing international collaborations and exchanges. While institutions aim to participate in faculty and student exchange programs to broaden global exposure, financial constraints significantly restrict participation. There is a call for increased support to enable SUCs to access international funding and establish meaningful partnerships abroad.

Ultimately, institutional leaders acknowledge that even with adequate financial resources, progress cannot be maintained if human resources are not adequately developed. Training faculty and staff in strategic planning, financial management, and prioritization is deemed essential. Building this internal capacity ensures that institutions remain aligned with their vision and mission over the long term, making capacity building not just an operational necessity but a foundational pillar of institutional sustainability.

SUCs may be classified as a special category of public agencies to reflect the unique demands and operational nature of HEIs. According to an SUC administrator, HEIs differ from typical government offices that focus primarily on administrative services such as issuing permits and licenses. SUCs are essentially academic institutions whose core function is the development of students and the advancement of knowledge. Therefore, applying the same bureaucratic procedures and limitations, particularly in procurement, financial autonomy, and human resources, undermines their effectiveness. For instance, the fast-paced and ever-evolving nature of research and education often clashes with the rigid and slow government procurement processes. In many SUCs, including those considered premier institutions, faculty members vastly outnumber administrative staff, making it challenging to comply with

conventional government protocols. The resulting inefficiencies, ranging from slow salary processing to delayed program implementation, negatively impact the campus environment and student experience. If government rules are designed for standard, transactional services, applying them to education, which involves long-term formation and nation-building, seems inappropriate. Recasting SUCs as a distinct entity within the public sector, governed by more flexible rules tailored to their academic mission, would empower them to function more efficiently and competitively alongside private universities. Acknowledging the unique situation of SUCs within the government framework is a crucial step toward educational reform and institutional strengthening.

Effective budgeting strategies for sustainability planning are essential to ensuring the long-term viability of projects in educational institutions. A key component of successful sustainability planning is the capacity to secure ongoing funding and generate alternative income sources once initial grants expire. For example, one institution highlighted that external agencies required a clear sustainability plan when seeking funding for a native pig facility. These plans must address long-term operational costs, which include staffing, utilities, and project maintenance, even after the initial funding runs out. As a proactive measure, the institution suggested transforming the project into a university center, enabling it to generate its own revenue from external sources and to produce income from the facility's operations. This forward-thinking approach guarantees the center's sustainability without depending solely on external funding once the initial grant period concludes. The practice of integrating sustainability into budgeting is not unique to this institution. Benchmarking and exchanges with other universities reveal that successful institutions often employ similar strategies to ensure their projects endure beyond their initial funding periods.

Furthermore, another university has introduced a 'green university initiative,' which incorporates energy-saving measures, such as installing solar panels on buildings. While these efforts require initial investment, they contribute to long-term cost savings by lowering electricity expenses. However, the increase in technology-related expenditures, like purchasing equipment and computers to support a 'smart university' initiative, can offset some of the savings. This illustrates the need for a balanced approach: while sustainability efforts often cut costs in some areas, they may necessitate upfront investments that are later balanced by operational savings or technological advancements.

Another example highlights a university's long-term planning, where its Strategic Development Plan (SDP) includes financial projections and forecasting for the next 25 years. This forward-looking approach considers future enrollment growth and infrastructure development, providing a comprehensive view of the institution's financial landscape. Although the SDP is revised every five years, the university's long-term financial outlook remains a critical aspect of its budgeting process.

Effective budgeting strategies for sustainability require a combination of short-term adaptability and long-term vision. By anticipating future needs, diversifying income sources, and incorporating initiatives for environmental sustainability, universities can ensure that their projects remain financially viable and continue to contribute to their institutions' growth and mission even after external funding ends.

Setting an enrollment cap is an effective financial management practice for balancing student intake with available resources, ensuring the institution's sustainable operation. For instance, one university has decided to limit first-year enrollment to 2,000 students for the

upcoming academic year, based on a thorough assessment of its financial capacity and resource availability. Exceeding this cap could strain the institution's infrastructure and faculty, and may result in some students being excluded from the government's free higher education funding.

Another university shared how it has imposed strict controls on its enrollment due to past financial challenges. When the government introduced the GAA funding for free higher education, they found that SUCs that did not regulate their enrollments faced significant financial deficits, with some surpassing a hundred million pesos in uncollected funds. To prevent such situations, this institution diligently monitors its enrollment, ensuring it remains within its absorptive capacity regarding faculty and resources.

However, even with controlled enrollment, some challenges remain. A satellite campus is still working toward inclusion in the GAA funding allocation, which means that some of its students are not receiving coverage for their education. The university hopes that in the coming years, this gap will be addressed and that more students will be included in the free higher education program.

Establishing an enrollment cap assists universities in balancing financial management with resource availability, ensuring they do not exceed their capacity. This practice promotes both operational sustainability and equitable access to education, particularly in situations where government funding plays a role.

Effective management of Income Generating Projects (IGPs) relies on clear organizational structures, defined roles, and ongoing capacity-building efforts to ensure both immediate success and long-term sustainability of the projects. In one SUC, the management of IGPs is centralized under a dedicated Business Development and Enterprise Office, which oversees various projects such as crop production, livestock farming, and rental services (including dormitories, canteens, conference facilities, mini-theaters, and gyms). By categorizing the IGPs into distinct areas, the university ensures that each project is managed with appropriate focus, supporting a diversified and sustainable income stream.

To enhance the success of these projects, the university has implemented a structured approach in which each IGP is assigned a project leader. These leaders receive support through thorough orientation and capacity-building initiatives designed to equip them with the necessary managerial and operational skills. Despite these efforts, there is recognition that even those with a business administration background may still lack the specific entrepreneurial expertise essential for optimal management. This gap in specialized entrepreneurial skills highlights a crucial area for further development. The Business Management Committee, responsible for monitoring the projects' progress, plays a critical role in ensuring efficient operations. However, the institution acknowledges that additional training, possibly from external organizations, is necessary to fully address these skill gaps.

By establishing a clear organizational framework, assigning dedicated project leaders, and fostering a culture of continuous improvement and evaluation, the university creates a solid foundation for IGPs to succeed. These efforts not only contribute to the institution's financial health but also nurture an entrepreneurial mindset among faculty and staff. However, to maintain growth and address the evolving needs of these ventures, the university acknowledges the necessity of additional training and expertise to bridge the remaining gaps in entrepreneurial management.

Strong collaboration with national government agencies enables universities to launch high-impact programs and position themselves as key contributors to both national and international development efforts. For instance, one university is actively pursuing the establishment of a KIST Park, a major strategic initiative made possible through engagement with key government bodies. After submitting a letter of intent for regional operations, the university received approval to move forward with proposal development. The initiative is not only well underway—with an identified innovation area on campus and a proposal already in the works—but it has also included benchmarking with more advanced institutions and aligning with the joint circular issued by PEZA and DOST. Despite the rigorous requirements, the institution is dedicated to full compliance to ensure successful integration into national innovation strategies.

Similarly, another institution has formed partnerships with agencies like the Department of Trade and Industry (DTI) and other government and international organizations to enhance its coffee-related research on a larger platform. This collaboration not only brought recognition to the university but also demonstrated how working with national agencies can help local research surpass regional boundaries and contribute to the knowledge economy.

These practices show that strategic engagement with national government agencies enables universities to undertake large-scale initiatives, gain essential support systems, and enhance their impact on both national development and international recognition.

Efficient research grant acquisition and management requires a multi-faceted approach that integrates internal support, external collaboration, financial incentives, and practical resources to empower faculty and enhance research outcomes. A significant best practice observed across institutions is the establishment of dedicated research units and directors who play a central role in facilitating faculty access to research grants. These units manage external funding opportunities and guide faculty through the proposal process, ensuring they can effectively leverage available resources. They assist faculty in navigating the various research funding opportunities, ensuring they are well-supported in acquiring grants.

Financial incentives are a vital factor in motivating faculty to participate in research. Some institutions provide subsidies for publication fees, which can present a significant financial burden for researchers. For example, one SUC offers subsidies based on the journal's quartile ranking. This subsidy aims to alleviate the financial pressure on faculty and encourage them to publish in high-impact journals, thereby promoting a robust research culture.

In addition to these subsidies, another state university offers a fully supported research program in which faculty members are granted the necessary resources from the beginning to the end of their projects. *"We have fully funded research, from the start until the end, including publication,"* an official from the university explained. This full support also includes providing faculty with a research load that helps them balance their teaching and research responsibilities. Such measures create an environment in which faculty are given the time and resources needed to succeed in their research pursuits.

Collaboration with external agencies and the private sector is a crucial practice in research management. For instance, one state university has utilized a grant from the DTI to create a Fabrication Laboratory (Fab Lab), a facility that not only supports the university's research endeavors but also provides services to local micro, small, and medium-sized enterprises (MSMEs). This initiative not only enhances the university's research efforts but also

strengthens the university's connection with the local community by offering services that improve local businesses' products and designs.

Another valuable practice highlighted by an SUC involves incorporating students into research projects. In collaboration with agencies like the Bureau of Fisheries and Aquatic Resources (BFAR), the university provides students with practical experiences in areas such as fishpond management and post-harvest activities. As one faculty member noted: *"They are utilizing not only our facilities but our students as well... hands-on experience for the students in canning, fish deboning, and other similar activities."* This hands-on involvement enhances the students' learning experience while also contributing to the university's research outcomes.

Finally, recognizing and rewarding faculty for their research contributions is essential for sustaining a research culture. An SUC implements reward systems to provide both recognition and financial incentives for outstanding research. As one SUC official pointed out: *"Under the PRAISE Committee, there are both certificates and financial incentives provided for exceptional research and extension activities."* This reward system encourages faculty to continue their research endeavors and ensures their contributions are acknowledged.

Efficient research grant acquisition and management rely on robust internal support systems, strategic external partnerships, financial incentives, and active student involvement. By integrating these practices, universities can cultivate a thriving research environment that benefits both faculty and the wider community.

Effective strategies for internationalization involve creating strong global partnerships, hiring international faculty, and providing opportunities for both faculty and students to engage in international experiences. One university in the Visayas has proactively fostered internationalization by focusing on faculty exchange opportunities and sending faculty members abroad to enrich their academic profiles. The Director of International Collaboration emphasized that the university aims to move toward globalization by inviting international faculty and encouraging faculty exchange. These initiatives align with the SUC's plan to strengthen its faculty's global knowledge base and international stature, highlighting the importance of expanding international connections for academic and research advancements. Moreover, the university is also concentrating on sending faculty abroad to gain insights into global educational trends. One of the SUC's goals is to enhance its faculty's exposure and increase the university's standing in the global academic community.

Another university in Luzon has successfully established functional partnerships with various international institutions, including those in Belgium, Japan, and the United States. These partnerships cover a variety of activities, from internships to research collaborations. For instance, the SUC has a strategic alliance with a Japanese university to enhance its citrus R&D initiatives. This is particularly significant since the SUC is recognized as the center for citrus R&D in the Philippines. Additionally, these partnerships have facilitated student internships in Japan and Thailand, with some students securing employment opportunities after their internships.

Additionally, the SUC's engagement extends beyond academia into the realm of environmental conservation through partnerships with international non-governmental organizations. One notable partnership involves the Japanese Society for the Preservation of Birds, which has collaborated with the university and the NGO Raptorwatch Network Philippines to help preserve the grey-faced buzzard, a migratory bird species from Japan. This partnership

demonstrates how international collaboration can support global conservation efforts and enhance the university's role in addressing worldwide environmental issues.

These examples illustrate that effective internationalization strategies are multifaceted. They focus not only on recruiting international talent and sending faculty abroad but also on fostering meaningful, functional international partnerships. By participating in joint research projects, offering internships abroad, and engaging in global conservation efforts, these universities position themselves as significant players in the international academic landscape. Through these initiatives, SUCs contribute to the development of their faculty and students while enhancing their reputation and global reach, ultimately supporting their mission of preparing for a globalized academic future.

Allocating resources for digitization has significantly increased work efficiency in SUCs by automating processes, streamlining services, and enhancing accessibility for both personnel and students. In one university, this push for digitization is evident in the procurement of various computer systems that aim to improve institutional operations. The university has implemented financial and student management systems, with plans to acquire an upgraded student information system. The goal is not only to enhance internal workflows but also to provide faster, more responsive service to clients, potentially accommodating four times more clients than before and reducing waiting time through automation.

A state college in Mindanao also demonstrated strong initiatives funded by national agencies. Establishing a Learning Management System (LMS) marked the college's first major step in digitizing instruction. Following this, resources were allocated for interconnectivity among offices and the development of the Human Resource Information System (HRIS), which has been noted to reach even central and local government offices. The college also developed and implemented a Financial Management Information System (FMIS). This digitization effort allowed the institution to transition to blended learning approaches, compensating for limited classroom infrastructure while still delivering instruction to its growing student population.

The impact of digitization on improving administration was also clear. Previously hindered by delays and manual processes, the release of student stipends has become considerably more efficient through automation. By requiring students to open bank accounts, the college was able to deposit stipends directly into their accounts, a change that significantly reduced complaints and was officially approved by the college president.

Overall, these initiatives demonstrate how strategic funding and careful digitalization efforts across administrative, financial, and academic areas are transforming SUCs. By adopting automation, these universities are not only enhancing productivity and service efficiency but also establishing a foundation for more responsive, technology-driven governance and instruction.

Maximizing classroom utilization is being addressed through the implementation of blended and hybrid learning modalities. At a state college in Luzon, a hybrid setup is employed where classes are partially conducted online. A three-hour subject may meet face-to-face only once a week, with the remaining sessions delivered online. This approach has allowed them to maximize their limited classroom space without compromising instructional time.

In a state university in Mindanao, the implementation of blended learning has alleviated the pressure caused by shortages of physical classroom space. With not all instructors conducting face-to-face sessions, particularly part-time teachers who teach online, there is a significant decrease in the need for classroom facilities. This approach has proven particularly beneficial given the institution's focus on hiring master's degree holders for core education courses, which can sometimes restrict the availability of full-time in-person faculty. Additionally, increased support through government funding for laboratory equipment has enhanced learning facilities, indirectly aiding in more flexible and efficient classroom utilization.

By adapting digital solutions and alternative teaching modalities, these institutions have effectively addressed space limitations, making the most out of available classrooms while ensuring the continuity and quality of instruction.

Effective capacity building in HEIs is achieved through a strategic blend of financial investment in faculty development, comprehensive support systems, and fostering a culture of continuous learning and improvement. At a university in Mindanao, a deliberate effort is made to enhance faculty qualifications, recognizing the direct correlation between faculty expertise and institutional reputation. The SUC actively supports its academic staff in *pursuing advanced degrees to improve its faculty profile.* This initiative receives financial backing, ensuring that faculty members can pursue advanced degrees without financial barriers, thus enriching the university's academic standing.

The university has established a robust faculty development plan that includes full scholarships for advanced studies. This program allows faculty to focus entirely on their studies while the university provides salary and benefits during their study leave. Additionally, the university offers partial scholarships and financial assistance for dissertation completion, demonstrating a comprehensive approach to supporting faculty development.

Meanwhile, a state university in the Visayas recognizes and rewards faculty research efforts by providing funding for the publication of articles in Scopus-indexed journals. This demonstrates the university's commitment to supporting faculty research, even when direct financial incentives are limited. Additionally, incentives are also offered for acquiring utility models, which underscores the institution's promotion of innovation.

These practices highlight the importance of a multifaceted approach to capacity building, where financial resources, structured support systems, and a culture of continuous professional development come together to enhance faculty capabilities and, by extension, institutional excellence.

9. Summary and conclusion

A well-funded, accessible higher education system provides invaluable benefits to society. Higher education fosters the development of human capital, driving growth and innovation in the knowledge economy. Cultivating human capital is essential for reducing poverty and inequality, as well as for strengthening a democratic society. In the Philippines, state universities and colleges (SUCs) serve as the primary means by which the government ensures access to higher education for students from diverse socioeconomic backgrounds.

However, financing quality higher education systems continues to challenge governments of both developing and developed countries. As a developing country, the Philippines has to

balance competing priorities, necessitating the strategic allocation of limited resources. Despite playing an essential role in national development, SUCs do not always receive adequate financial support from the government.

Over the years, several reforms have been implemented to broaden the resource base of SUCs, grant them greater financial autonomy, and enhance student access to these institutions. However, the rapidly increasing student population in SUCs, driven partly by policy and partly by external factors, raises concerns about the ability of these institutions to enhance and maintain quality, given their stretched resources. Therefore, the search for effective and efficient methods of SUC financing continues.

Various theories on higher education financing prevail, and their applications have seen adherents from different parts of the world. The debate primarily lies on whether higher education is a public good or a private commodity and in determining the appropriate scope and extent of government intervention and private sector participation. Generally, scholars agree that the government has an essential role in laying down the vision for developing the higher education system and maximizing its positive impacts on society. Nevertheless, private sources are important in strengthening the financial autonomy and sustainability of public HEIs, which are prerequisites for attaining and maintaining performance excellence.

Principal-agent theories can illuminate the dynamics of the relationship between the state and public HEIs, as well as the role of potential new principals–students paying tuition fees and businesses contracting research. The New Public Management model emphasized the need for public institutions to focus on outcomes and inspired the adoption of key performance indicators to measure HEI performance. However, most of these indicators emphasize short-term outputs over long-term outcomes and prioritize quantity over quality. The Resource Dependency Theory highlights the challenges public HEIs face in meeting performance expectations while managing their relationships with funders to ensure financial stability and independence.

Context is crucial when determining the appropriate policy and designing effective strategies for higher education financing. As the Philippines works to enhance the quality of its higher education system to realize its potential for contributing to national development, insights from the experiences of other countries at various stages of higher education financial maturity can offer invaluable lessons to inform its own plans and strategies.

While public investments remain the primary means of funding the personnel, operating, and capital expenditures of public HEIs, middle-income countries in Southeast Asia, as well as many advanced economies globally, have increasingly turned to private financing sources to ensure the financial sustainability of higher education systems. The introduction of cost-sharing policies through tuition fees has become widespread, yet it has also raised concerns about its impact on accessibility. Various countries have established scholarship programs to promote higher education participation among disadvantaged groups. The case of the Philippines is unique in that education in public HEIs was made free through government policy, reversing the trend seen in other countries. Several countries have experimented with offering student loans, which may take the form of mortgage or income-contingent loans. Without clear guidelines and robust enforcement mechanisms, cross-country experiences have proven disappointing. A sound financial market environment is essential for the success of these programs.

Corporatization and the shift toward entrepreneurial universities have been the primary strategies of governments to provide greater financial autonomy to public HEIs while encouraging them to seek private sources of funding. Additionally, performance-based funding was introduced to incentivize the efficient use of resources and motivate institutions to achieve performance targets. Block grants and multi-year budgeting can offer public HEIs increased flexibility in fund allocation and maximizing benefits.

Research grants not only provide a vital source of additional income, but they also offer public HEIs the opportunity to address the needs of society and the economy. Research and development drive innovation and economic diversification in developed countries. However, public HEIs in developing nations may lack the technical expertise to generate truly groundbreaking knowledge, and the small and medium enterprises that characterize the economy may not possess the financial capacity to support cutting-edge research. In this context, the public sector's role becomes essential in encouraging university-industry collaboration through mutually beneficial partnerships that enhance capabilities on both sides. Singapore offers matching grants to promote cooperation between universities and industry, while Thailand has established science parks to strengthen similar collaborations.

The commercialization of knowledge products and intellectual property continues to be an aspiration for many public HEIs in Southeast Asia. Achieving this requires a deep understanding of intellectual property rights and the registration process involved. A robust regulatory environment that promotes innovation and the commercialization of research is also essential. More importantly, public HEIs must foster a mindset and culture that regards research outputs as commercial products rather than mere public goods.

Operating business enterprises and other income-generating projects appears to be a natural choice for public HEIs to earn additional revenues, considering the availability of resources and the low barriers to entry in starting businesses that serve captive markets. However, managing enterprises requires specific skills and business acumen to avoid failure. Entrepreneurial leadership and leveraging the institution’s core expertise largely determine the success of business operations.

Additionally, public-private partnerships could greatly benefit public HEIs if they are managed properly. Most PPPs involve infrastructure development projects, where the institution and the private partner share expertise and resources to enhance services and manage operations efficiently. Challenges that arise during the implementation of PPPs stem from the lack of institutional experience in handling such operations. A well-defined national legal framework is essential for these collaborations to operate effectively.

Endowment funds play a vital role in the financial sustainability of some of the best-performing universities in the world, whether public or private. While they have become a significant funding source for universities in developed countries such as Singapore, the United Kingdom, and the United States, endowments have yet to make a difference in the financing of public HEIs in developing countries. Singapore used matching grants to encourage public universities to build their endowment funds. Nevertheless, a culture of giving is a hallmark of a high-trust society, partly achieved through sound policy and institutional frameworks. Well-developed legal and financial systems can facilitate public HEIs’ access to endowments and financial markets, another source of financing that public HEIs in developing countries have not explored extensively.

Attracting international students and offering international programs has been another strategy adopted by public HEIs in Southeast Asia. Notably, Singapore has identified higher and executive education as an important export product and a significant source of external revenue. Foreign students pay significantly higher fees, which can be used to cross-subsidize domestic students. However, there are risks of crowding out and marginalizing domestic students aside from mass enrollment withdrawals due to external shocks such as the COVID-19 pandemic.

Lastly, national higher education development initiatives can benefit from international cooperation by accessing technical assistance, grants, and loans from bilateral and multilateral institutions. Partnerships with foreign universities can promote transnational knowledge co-creation, enhance technological absorption, and support the adoption of institutional best practices, thereby elevating the quality of higher education in the country.

In conclusion, maximizing the positive impacts of SUCs on society and the economy requires sufficient public investment and financial autonomy to explore private funding sources. Corporatization and entrepreneurship should be balanced with mechanisms that ensure access for students from various socioeconomic backgrounds. Performance-based funding can enhance the quality of higher education, but the government should not lose sight of long-term objectives. Drawing from insights gained through international experiences, robust legal and policy frameworks, along with strengthening institutional capacities, are essential for optimizing the use of the various financing strategies available to public HEIs.

10. Policy implications

The Second Congressional Commission on Education may consider the following recommendations, derived from an extensive review of both international and local approaches to financing public HEIs. These recommendations aim to strengthen the financial sustainability of SUCs and contribute to the broader advancement of the country's HES. The proposed measures are categorized into two distinct areas: those addressing urgent concerns that warrant immediate action and longer-term strategies that require further study but hold significant potential for improving educational quality and enhancing the long-term viability of SUCs.

10.1. Policy measures to address immediate concerns

Given the high social and private returns of higher education, the national government should ensure that SUCs receive adequate and equitable funding. Expanding the government's financial resources through progressive taxation and efficient tax administration can create a broader fiscal space and increase public investments in higher education. Greater financial autonomy could enhance the effectiveness and efficiency of spending among SUCs by granting them more freedom in utilizing available funds. Providing SUCs with block grants and allowing multi-year budgeting cycles for their internally generated income could further improve their financial autonomy.

The UAQTEA has significantly benefited SUCs and their students by expanding access to public higher education and increasing public investment in the sector. Given its impact, reversing the policy is both impractical and unpopular at present. However, beyond its immediate effects, the policy signifies a more profound philosophical shift: moving away from

a market-driven approach toward a rights-based framework for the provision of public higher education. This transition emphasizes equitable access to tertiary education, aligning with principles outlined by UNICEF and UNESCO (2007).

Despite these advancements, the policy faces several challenges given the Philippines' status as a developing country. First, a significant proportion of individuals cannot complete secondary education due to socioeconomic constraints, which excludes them from the benefits of the free tuition scheme. This raises important questions about the policy's progressiveness. Second, tuition rates across SUCs vary greatly before the enactment of the UAQTEA, with institutions in less economically developed areas typically charging lower fees to support poorer students. Consequently, the government disproportionately subsidizes students from more privileged backgrounds compared to those from lower-income groups. Additionally, direct investments in SUCs–representing supply-side subsidies–tend to be lower in economically disadvantaged regions, worsening the inequity.

From a pragmatic standpoint, the shift to free tuition has also led to information asymmetry by eliminating price signals that traditionally informed stakeholders—such as school administrators, policymakers, prospective students, and their families—about the relative quality of public higher education providers and the perceived economic value of their services. The absence of publicly available performance data on academic programs, along with the limited educational options in underserved areas, worsens these concerns. Moreover, considering the five-year moratorium on tuition fee adjustments, the existing fee structure may not accurately reflect the current value of the education provided by these institutions.

Accordingly, the government's commitment to free public higher education should be anchored in comprehensive studies assessing the actual costs of educational provision. These studies should consider the minimum requirements for quality education, including faculty resources, learning materials, laboratory equipment, infrastructure maintenance, and student support services, which should serve as the basis for setting the baseline tuition rate across all SUCs, regardless of location or institutional classification. Putting a premium on the relative quality of education provided, informed by the DBM and CHED Joint Circular (JC) No. 1, series of 2016, which classifies SUCs from Levels I–V based on performance in key result areas (KRAs), could justify differentiated tuition rates.

Furthermore, one unintended consequence of the free tuition policy has been the significant increase in student enrollments at SUCs, which threatens to overstretch institutional resources. It should be noted that during legislative deliberations leading to the enactment of RA 10931, policymakers initially proposed limiting SUC admissions to safeguard educational quality and prevent excessive student transfers from private HEIs (Tomada & Galido 2024). Although this provision was ultimately excluded from the final legislation, the law's implementing rules and regulations (IRR) empower CHED to regulate institutional overcapacity. Concerns have arisen regarding the government's ability to sustain the policy, especially given reported delays in reimbursing tuition fees to SUCs. In response, some SUCs have proactively enforced enrollment controls based on their carrying capacity, but continue to await the government's completion of the reimbursements. To address this issue, tuition fee reimbursements should be delinked from a strict one-to-one correspondence with student enrollments. As a case in point, public elementary and secondary schools provide free education but do not charge the government tuition for each student.

Considering these factors, it is recommended that the government establish an optimal tuition fee structure for each SUC that aligns with service requirements and institutional quality. Furthermore, a ceiling on total tuition payments for each institution should be introduced to prevent resource overstretching and maintain academic quality. The following factors should determine tuition payments: (i) the baseline cost of education delivery, (ii) a premium for quality, and (iii) a ceiling based on the carrying capacity of each institution, permitting periodic adjustments based on inflation, justified expansions, and quality improvements. These payments should be administered as "block grants" and continue to be treated as part of SUCs' internally generated income. The determination of acceptable enrollment levels could rest with individual SUCs, which are expected to act rationally within their resource constraints. Nonetheless, regular monitoring by CHED will be essential to prevent potential mismanagement and ensure long-term policy effectiveness.

Enhancing the efficiency of public investments in higher education can be further accomplished through performance-based funding mechanisms. However, strictly linking government allocations to institutional performance may worsen existing disparities in the development of SUCs. Given the varying levels of institutional maturity and performance capacity among SUCs, the immediate adoption of a performance-based funding model may not be suitable at this stage.

Instead, the government may consider restructuring the Higher Education Development Fund (HEDF) or establishing a dedicated incentive fund to provide block grants to SUCs based on their achievements relative to key performance indicators (KPIs). These KPIs may include existing performance indicators SUCs regularly submit to the DBM during budget preparation, which eventually become part of the GAA. To ensure equitable access to performance incentives, the incentive structure should be calibrated according to the existing capacities of SUCs, as classified under DBM-CHED JC 1, s. 2016. A separate category for private HEIs could also be included.

The design of such an incentive system could draw inspiration from the Seal of Good Local Governance (SGLG) framework, which considers the varying classifications of LGUs to ensure equity in resource distribution and institutional development. Applying a similar approach to SUCs would enable performance-based funding to foster institutional growth while ensuring fairness across different levels of educational maturity.

As SUCs gradually align in performance capacity and institutional development, a transition toward performance funding could be explored to enhance efficiency in the public higher education sector. This approach would ensure that funding mechanisms remain responsive to institutional disparities and conducive to the long-term sustainability of SUCs.

To enhance the global competitiveness of Philippine HEIs, including SUCs, the government should prioritize the accelerated implementation of the Transnational Higher Education Act. A strengthened policy framework facilitating cross-border academic collaboration will position Philippine institutions more effectively within the global knowledge economy. In pursuit of this objective, the government may engage in international cooperation agreements and seek technical and financial assistance from bilateral and multilateral organizations. These partnerships can support SUCs' internationalization efforts by fostering institutional capacity-building, infrastructure development, and knowledge exchange initiatives. Furthermore, SUCs should proactively establish collaborations with foreign counterparts to engage in mutually beneficial research, scientific innovation, and technological

exchange. Strengthening these ties through joint research projects, faculty and student mobility programs, and exchange initiatives will contribute to knowledge transfer and academic excellence. Developing structured international engagement programs will not only enhance institutional reputation but also elevate the quality and relevance of Philippine higher education in the global arena.

Strengthening SUC enterprise development and university-industry collaboration can optimize the performance of IGPs and diversify income sources. To enhance the financial sustainability and innovation capacity of SUCs, the government should allocate funding for the establishment of business development offices staffed by committed professionals. These offices would serve key functions, including: (i) management of IGPs and enterprises, particularly overseeing revenue-generating initiatives; (ii) IP registration and commercialization, specifically facilitating the protection and market integration of SUC-generated innovations; and (iii) promoting university-industry collaboration and exploring PPP opportunities, focusing on strengthening linkages with industry stakeholders to foster technology transfer and collaborative projects.

To further support SUCs in these endeavors, capacity-building initiatives should be implemented to equip officials and personnel with expertise in entrepreneurship, technology transfer management, and regulatory compliance. These interventions will ensure institutional readiness to engage in commercially viable activities while maintaining adherence to relevant policies and legal frameworks. Additionally, DBM, CHED, and PASUC may collaborate on developing a comprehensive manual for establishing and operating SUC enterprises. This resource would serve to eliminate policy ambiguities, enhance regulatory compliance, and clarify operational procedures for setting up and managing IGPs.

The government may consider expanding and enhancing the joint program of the DOST and the PEZA to promote the establishment of KIST parks within SUCs. This initiative could be strengthened through increased funding assistance and targeted incentives to encourage broader participation among academic institutions and industry stakeholders. Improving coordination mechanisms between innovators and potential funders, such as angel investors and venture capitalists, could accelerate the market introduction of newly developed technologies. Furthermore, to support the commercialization of IP and foster university-industry collaboration, the government could facilitate SUC and industry access to financial markets by implementing fiscal incentive mechanisms through soft loans. These loans would specifically support joint ventures between micro, small, and medium enterprises (MSMEs) and SUCs, enabling greater investment in research-driven innovation and technology development. By integrating financial support with capacity-building initiatives, these measures could enhance the long-term sustainability and competitiveness of SUC-led innovation ecosystems. As illustrated in Box 3 (p. 37), the experience of UP-Ayala Land TechnoHub, as a pioneering case in the establishment of a technology park, highlights some of the benefits and challenges arising from this type of endeavor.

10.2. Unlocking opportunities on the policy horizon

Efficient public funding allocation in SUCs can be achieved by reducing redundancies in academic program offerings among institutions serving the same geographic areas. Encouraging SUCs to specialize in disciplines where they possess a comparative advantage–a strategy known as niche-building–would enhance resource efficiency while minimizing unnecessary overlap in academic programs.

Targeted specialization would also enable SUCs to better respond to regional and community needs, ensuring that program offerings align with stakeholder demands and local economic priorities. Additionally, revisiting past initiatives on SUC amalgamation and exploring the establishment of regional university systems could further strengthen institutional coordination and complementarity, promoting a more strategic and integrated approach to higher education development.

Further expanding the financial and organizational autonomy of SUCs could be the next big step in advancing institutional governance and enhancing international competitiveness. While RA 8292 granted SUCs greater financial autonomy, it fell short of providing the necessary flexibility to fully manage key internal functions, such as fund utilization, organizational restructuring, staffing design, recruitment policies, compensation frameworks, and procurement procedures. Addressing this limitation requires a set of targeted reforms that would enable SUCs to operate with greater efficiency and adaptability.

To bridge this gap, the government could consider several policy interventions, including:

- Replacing line-item budgets with block grants for SUCs' annual appropriations to allow greater fiscal discretion and strategic resource allocation.
- Implementing multi-year budgeting cycles to improve financial planning and sustainability.
- Allowing SUCs to independently determine their organizational structures and compensation schemes, placing them in a better position to achieve international competitiveness.

These reforms could empower SUCs to optimize their resource allocation, improve operational efficiency, and strengthen their global academic standing.

Given the complexities of transitioning to full autonomy, a phased implementation strategy is recommended. Initial efforts could focus on institutions that possess strategic resources, well-established academic reputations, and strong institutional networks. Other SUCs may gradually achieve autonomous status upon meeting financial sustainability and quality benchmarks. By adopting a gradual, evidence-based approach, the government can mitigate institutional risks while guiding SUCs toward financial resilience, academic excellence, and international competitiveness. Box 1 (p. 15) discusses insights from Thailand’s policy of granting autonomous status to public universities, which introduced block grants and corporate governance structures, and could provide valuable lessons on both the advantages and challenges of such an approach.

To support the long-term financial sustainability of SUCs, the government can explore establishing a fund to provide matching grants that incentivize SUCs to create and expand their endowment funds. This approach would encourage institutions to secure philanthropic contributions while fostering a strategic framework for long-term financial stability. Additionally, streamlining and strengthening the regulatory environment for donations and contributions is essential for promoting a culture of giving in the country. Reforms should aim to reduce administrative barriers, enhance transparency, and provide clear guidelines for philanthropic engagement in higher education. Box 2 (p. 23) discusses Singapore’s strategy to promote the financial sustainability of its public universities through matching grants and endowment funds.

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