

## **Economics of Higher Education Financing: Exploring the Interplay between System and Capacity in Ethiopian Public Universities**

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### **Abstract:**

*The study explores the interplay between the system and the capacity of HEIs in Ethiopia. We have conceptualized their interaction through the lens of "systems theory." The study employed the document analysis method. Two education and training policies, two higher education proclamations, and forty-four academic journals are accessed using the Google and Google Scholar search engines and databases based on research objectives and research questions. The findings indicated that Ethiopia's higher education system is affected by its economics, which includes the generation, allocation, and utilization of resources. Even though the expansion of higher education has brought numerical gains that increased access to universities and diversified fields of study, this rapid expansion has not been accompanied by proportionate funding increases. Moreover, resource planning, controlling, and monitoring mechanisms in Ethiopian public universities are highly inefficient and affect almost all aspects of institutional activities. The interplay between system and capacity within and across public HEIs is a multifaceted issue that needs systems thinking. It is affected by the regime change, centralized governance, political influence, and lack of financial and personnel resources. Hence, the current Ethiopian HEIs should give attention to the effective and efficient execution of the economics of education financing to prepare competent graduates and competitive universities.*

**Keywords:** Higher education, economics of higher education, higher education financing, system, capacity

### **Introduction**

Higher education (HE) is a crucial mechanism for national and individual socioeconomic advancement, as well as an important driver of economic mobility (Holmes & Mayhew, 2016; US Department of Education (USADoE), 2012). The way the HE system functions and the results it achieves are of high importance for individuals, companies, and governments, as well as for the country at large. Developed countries have given HE a central role in attempting to

achieve a wide range of policy objectives, from improving social mobility (Holmes & Mayhew, 2016) and reducing economic and social inequalities to driving innovation and boosting economic growth (USADoE, 2012). The performance of higher education institutions (HEIs) may be affected by their economics (Nichifor et al., 2021; Ogbonnaya, n.d.). The symbiotic relationship and implementation among resource generation, allocation, and utilization can create a well-established system, which this study termed “Economics of Higher Education (EHE).” In other words, the EHE is all about the “system.” That means EHE is the backbone of the whole system of higher education institutions functions.

The economics of higher education are frequently clouded by the interchangeable use of the terms “cost” and “price” and the hidden nature of the various subsidies inherent in education, including financial aid (Whalen, 2004). Besides, EHE examines how economic principles apply to production, consumption, financing, and the broader impact of higher education. However, the scope of the economics of education has been generally accepted to include the generation, allocation, and utilization of resources for education through the creation of human capital (Nichifor et al., 2021).

### ***Ethiopian Higher Education:***

The very first higher education institutions (HEIs), established in pre-modern Ethiopia, were religious and monastic institutions (Lulat, 2005, as cited in Boateng, 2020). Yared Music School, which was established in the fifth century (Bishaw & Melesse, 2017; Boateng, 2020), is ‘the first higher education in the world’ (Bishaw & Melesse, 2017:2) and was formed to train qualified priests in the religious music and dance that characterized their faith. However, modern HE was a relatively young and growing sector in Ethiopia, which began in the mid-twentieth century. In July 1950, Emperor Haile Selassie asked for the help of Jesuit Canadian teachers in establishing a college (Asgedom, 2005; Boateng, 2020; Getaneh et al., 2024).

Nevertheless, modern HE systems in Ethiopia have been impacted by regime change that is characterized by overarching structures such as institutions, governance, policies, and regulations (Boateng, 2020). In the imperial regime, it was more of the western types of colleges and universities (Asgedom, 2005; Boateng, 2020) and established to prepare students for “further overseas study or vocational certificate education” (Boateng, 2020:2). After overthrowing the imperial regime in 1974, the Derg regime expanded the HE systems but directed HEIs based on communist governance with intervention in university affairs such as security surveillance, repression of dissent, mandated courses of Marxism-Leninism, prohibition of students’ organizations, appointment of senior university officers, and control of academic promotion (Bishaw & Melesse, 2017). Boateng (2020) and Getaneh et al. (2024) also discussed that the regime that caused the end of the Derg in 1991 introduced market reforms in the HE system and experienced significant expansion and reform, including increased university

enrollment. Moreover, the new education and training policy (MoE, 2023) and the higher education proclamation No. 1152/2019 (FDRE, 2019) stated that the objectives of current HEIs will be required to prioritize, promote, and enhance research focusing on knowledge and technology transfer consistent with the country's priority needs.

Currently, there are about 49 government-funded public HEIs (Bekele et al., 2023), of which 46 public universities are accountable to the EFDRE Ministry of Education (HESAA, 2024); the Ethiopian Police University is accountable to the Ethiopian Federal Police Commission; the Ethiopian Defense University is accountable to the Ministry of Defense; and St. Paul's Hospital Millennium Medical College is accountable to the Ethiopian Federal Ministry of Health. There has been a rapid expansion in the development of the HE infrastructure (institutions and facilities), qualified human resources, the enrollment rate, and the graduation rate in the higher education of the country (MoE, 2018). Besides, there has been a significant expansion of Ethiopian HE system, harmonization of undergraduate curricula, and introduction of modular teaching in the last two decades.

### ***Higher Education System***

The HE system doesn't function in a vacuum. It requires leadership, institution building, and intended curricula (Holmes & Mayhew, 2016; Toutkoushian & Paulsen, 2016). According to Hudock et al. (1995), institutions include organizations and values, and he thought that an organization would be referred to as an "institution" if it were carrying out a particularly beneficial activity for society while advancing "social change" or "modernization." In this regard, institution building is a process in organizations in settings that need to adapt (Blasé, 1986). Along with political, economic, and cultural shifts, it entails strengthening governance, developing a legal and regulatory framework, and establishing a stable financial system (Mandal, 2009; Ramachandran, 2014). If the institution reshapes in such a way, it moves one step towards its autonomy.

HEIs are more than institutions. They are responsible for generating knowledge, preparing competent graduates, conducting research for societal change, creating value, and working closely with communities (Asgedom, 2005; Boateng, 2020; MoE, 2023). Consequently, HEIs as institutions are built to improve the functioning of societies by strengthening or changing "institutional software" (Hudock et al., 1995). Generally, HE institution building is the synchronization of constructs (proclamations, regulations, rules, principles, programs, and curriculum), structure (physical and human resource structure), leadership, and its mission. In this regard, the first and foremost task of the university is to make a stable institution, deliver quality education, produce competent graduates, excel in community reform, and contribute to the development of the country. Especially if leaders of HEIs are capable, responsible, and

committed, then they would convert theories, constructs, and principles into practices. In most cases, leadership, capacities, and curriculum are implicitly presented in HE institution building.

### ***Higher Education Capacity***

Capacity in higher education would be the issue of competitiveness. Institutions can offer quality education, conduct impactful research, and meet the needs of students and society. It includes factors like governance and policy (Qudratova, 2024; Soboliev & Sobolieva, 2021), infrastructure and technology (Getaneh et al., 2024), faculty quality (Kumar, 2017), curriculum, resources, and management by and large competent leaders (Theisen, 2004). Consequently, higher education capacity in Ethiopia is the ability to enroll reasonably high number of students, develop qualified staff, provide adequate infrastructure, ensure quality governance, and secure sustainable funding.

Generally, the HE system does not mean the physical appearance of the institutions; rather, it means the duties and responsibilities stated in the proclamation. As a result, the purpose of this study is to explore the economics of Ethiopian public higher education financing by considering the interplay between system and capacity (SC) to conceptualize their status in the global arena.

### **Theoretical Framework**

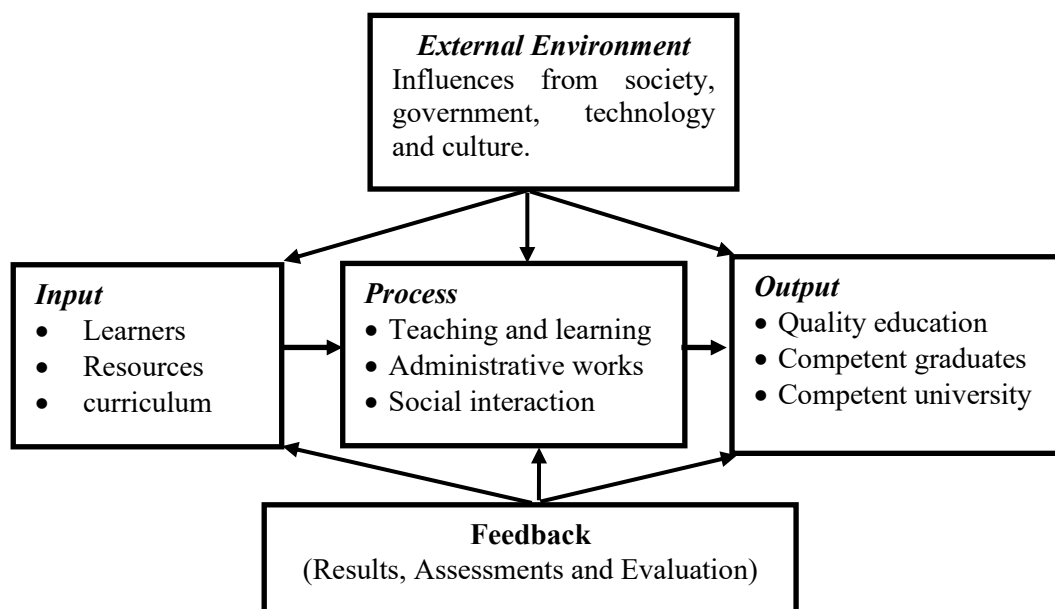
The interconnection of the system and capacity needs theoretical narration, and the popular theory helpful for understanding the interplay between system and capacity is “Systems Theory.” The systems theory perspective can be used to analyze how established norms can provide a high-quality university education (Stichweh, 2018). It is analogous to the education production function, that education has a high-priority function in the development of human resources. The production functions are a relationship between the amount of input and intervening factors to produce competent graduates while considering their quality. The educational inputs are resources, teacher quality, student characteristics, other intervention factors, and the efficient utilization of resources (Glewwe et al., 2020; Khan et al., 2022; Sidik, 2022). This is because the production function (input-process-output) of university education is a system of physical resources, methodologies, procedures, processes, and human resources that collaborate in a specific setting to produce the desired competent learners (John, 2010).

Systems theory can be applied in HE to enhance understanding of complex educational ecosystems as well as improve curriculum development (London et al., 2023). In the HEIs, systems theory is helpful to explore the interplay between system and capacity and play in assuring their quality and performance (Rashidi & Jingura, 2024). A well-structured system of HEIs provides resources and enhances the capacity of organizations within it.

To show the interplay between system and capacity, Figure 1 was constructed by the authors. It consists of input-process-output relations and how these concepts influence one another in different contexts. The two terms are operationally defined as follows.

**The system** is all about resource generation, allocation, and utilization that help to achieve the intended purposes.

**Capacity** refers to the effective and efficient utilization of resources to fulfill their educational mission.



**Figure 1:** Theoretical Interconnections between system and capacity

### Purpose:

This study aims to explore the interplay between system and capacity, and the specific objectives are to explore how the EHE functions in public universities, analyze the synchronization of the system of Ethiopian higher education to carry out its tasks, identify the factors that hinder the capacity of HEIs in Ethiopia, and explore interconnections between SC in HEIs. To address these specific objectives, four basic questions are formulated.

1. How does the economics of higher education in Ethiopia function?
2. Is the system of Ethiopian higher education synchronized to carry out its tasks?
3. What are the factors that hinder the capacity of HEIs in Ethiopia?
4. How do the interconnections between system and capacity manifest in HEIs?

## Methods and Materials

### Methods

This study employs a qualitative document analysis method to conceptualize the interplay and the effect of the variables (SC). Bowen (2009) states that document analysis is a systematic procedure in which data are examined and interpreted from documents to elicit meaning, gain understanding, and develop empirical knowledge.

### Materials and Procedures

Procedurally, the analysis follows the inductive approach to addressing questions related to each variable and then the question related to the interplay between the variables. In doing so, the

**Table-1**

Process of Conducting Document Analysis

Process	Actions	Details
<b>1. Purpose</b>	To explore how the EHE functions in public universities To analyze the synchronization of the system of Ethiopian higher education to carry out its tasks To identify the factors that hinder the capacity of HEIs in Ethiopia To explore interconnections between SC in HEIs.	By thoroughly analyzing and synthesizing of documents, challenges and opportunities are identified and meanings are constructed.
<b>2. Selection</b>	Education and training policies of post-1991, two higher education proclamations, national and international academic journals are selected and analyzed.	Words, phrases, constructs, and concepts are extracted to conceptualize the interaction.
<b>3. Inclusion</b>	The documents are selected based on the objectives of the study and the timeframe	Documents and journals post-1991 are included
<b>4. Categorization</b>	Contents related to basic questions are categorized and organized under four topics.	Contents from the document break down into meaningful categories or sections based on research questions.
<b>5. Analysis</b>	The contents from policies, proclamations, and research output are broken down and examined.	The contents are analyzed for key themes, structure, and patterns. Look for arguments, biases, and inconsistencies.
<b>6. Interpretation</b>	Discussion has been done, and conclusions have been drawn.	The findings are interpreted about the research objective and then conclusions are drawn.

**Source:** *Extracted by authors from: Karppinen & Moe, 2019; Morgan, 2022; and Tang, 2005*

keywords/phrases such as ‘higher education, economics of higher education, higher education financing, system, governance, and capacity’ were used to search for articles and policy

documents in Google and Google Scholar. A total of forty-four academic journals, two education and training policies (1994, 2023), and two higher education proclamations (FDRE, 2019, FDRE, 2023) were accessed and screened based on the specific research objectives and the research questions for analysis. The analysis was done by the process presented in Table 1.

## **Results and Discussions**

This part briefly analyzes and presents the economics of HE (resource generation, allocation, and utilization), the synchronization of the system of higher education to carry out its tasks, the factors that hinder the capacity of HEIs, and the interplay between system and capacity in Ethiopian higher education. The analysis is based on the systems theory model, particularly the general systems theory model developed by Ludwig von Bertalanffy in 1968 (Dissanayake & PMP, 2021). This theory emphasizes holistic perspectives and focuses on understanding the relationships and interdependencies among various components of the HEIs. The general systems theory perspective can examine the provision of quality university education through the continuation of established standards (Richard, 2020). This is because the system for producing university education involves human resources, physical resources, methods, procedures, and processes working together in a definite environment to bring desirable outputs (competent HEIs and competent graduates).

### ***Economics of Higher Education***

#### ***How does the economics of higher education financing in Ethiopia function?***

In its global sense, the economics of education could aim to ensure efficiency in the allocation and utilization of resources. Specifically, it is the practice of resource generation, allocation, and utilization, and their relationship within education (Mekonnen et al., 2024; Ogbonnaya, n.d.; Wata et al., 2020).

For many universities in Ethiopia, government funding is the main source of income (Getaneh et al., 2024; Zekarias, 2023). The funding is through block grants that are based on student enrollment, staff population, discipline aggregation, the context of institutions, and their previous year's budget utilization (Abate, 2013; MoE, 2018; World Bank, 2022).

In 2018/2019 (2011 E.C.), the government's share in education spending is greatest at the post-secondary level, both in amount (49 billion Birr) and in share (94 percent of all funding at this level). 40 percent of all public education funding and 14 percent of all household expenditures on education are for post-secondary, whereas higher education accounts for only 3 percent of total enrollment (approximately 805,000 students out of a total enrollment of 26 million) (World Bank, 2022).

According to the Ministry of Finance budget document and Cepheus Research compilation, the government of Ethiopia allocated 66.06 billion Birrs in 2021/22, 64.76 billion Birrs in 2022/23, and 55.77 billion Birrs in 2023/24 for education (Cepheus Research Analytic, 2023:11). Among these, 61.41 billion Birr in 2021/22, 61.4 billion Birr in 2022/23, and 51.55 billion Birr in 2023/24 are allocated to HEIs. These allocations are lower than average for the sub-Saharan Africa region. Moreover, studies revealed that HEIs in Ethiopia are underfunded and face multiple challenges (Getaneh et al., 2024). Getaneh and colleagues also explained that the quality, relevance, academic freedom, and equity of education are superficial across the HE system in Ethiopia. Besides, there are still various questions raised on the quality of higher education, the issue of freedom of HEIs, and the reduction of the growth enrollment rate of students in universities.

From the funding, more attention is given to capital budgets, which are rated as 60:40 to the recurrent budget share (MoE, 2018). Proclamation No. 1152/2019 also noted that the universities may have the source of income from the service it rendered, the activities it carried out, voluntary contributions made by the staff of the institutions, donations, and lawful sources of income.

Over the last ten to fifteen years, there have been significant increases in the number of universities and student enrollments in Ethiopia, but they have also led to challenges such as quality concerns, inadequate resources, and increased workload for staff (Abebe, 2014; Getaneh et al., 2024). Getaneh and his colleagues noted that numerical gains have increased access to universities and diversified fields of studies. This rapid expansion has not, however, been accompanied by proportionate funding increases.

Nonetheless, HE is essential to a knowledge economy since it creates, disseminates, and transfers knowledge (Zekarias, 2023). It is a major force behind economic mobility in our society and supports the socioeconomic growth of candidate people. Mekonnen et al. (2024) and USADoE (2012) pointed out that a country's higher education system is what pushes its economic growth and advancement. Educated people are more creative, more productive, and have greater incomes. Additionally, they are more capable of managing economic shocks (Molla, 2023).

Higher education funding in Ethiopia is typically not correlated with learning outcomes or research outputs that address problems. Research, technological transfer, and community activities are largely neglected in favor of teaching and learning. Less than 1% of the entire university funding goes toward direct research (MoE, 2018). The education and development roadmap states that one of the key factors influencing a nation's decision to become a middle-income nation by 2025 is research and development. Nevertheless, the studies showed that HEIs have a very small budget and that it is difficult to attract workers to work on research and



technology development that can address the nation's development issues (Abate, 2013; Gelaye & Chali, 2021).

Regarding budget allocation and utilization, studies have also shown that Ethiopian public universities' resource utilization and generation controlling procedures are extremely inefficient, impacting nearly every facet of institutional operations (Gelaye & Chali, 2021; Mesfin, 2017). According to these studies, universities face significant challenges in managing and using their resources. For example, their monitoring and evaluation methods are inadequate, and their procurement has not been transparent or planned. This led to their ineffective use of the available resources, wasteful procurements, poor service management, and massive resource waste (Gelaye & Chali, 2021; Mesfin, 2017). This misappropriation of public money may indicate that universities have not put in place adequate processes for supervising or managing them.

The other crucial resources that harmonize the work of HEIs are human resources which are as vital as financial resources. HEI human resources management is a complex and multifaceted process that requires considering numerous factors, from academic specifics to regulatory requirements (Xudonazarovich, 2024). Effective human resource management in higher education plays a critical role in achieving the strategic goals of HEIs, such as improving education quality, advancing research, and enhancing competitiveness. However, numerous challenges arise on the path to these goals, requiring a systematic approach to their resolution. Xudonazarovich (2024) noted that there are various challenges in managing human resources in HEIs. These challenges are recent young professionals are often uninterested in university employment due to low salaries and a lack of career growth opportunities, lack of motivation and professional development (motivation systems in HEIs are often limited to salaries, which, in most cases, remain below the average labor market level), absence of systematic professional development programs, that negatively affecting staff professionalism, excessive bureaucratization in HEI staff, and lack of workforce planning (Alemayehu, 2024; Teshome, 2018).

## **Higher Education System in Ethiopia**

### ***1. Is the system of Ethiopian higher education synchronized to carry out its tasks?***

Modern HE systems in Ethiopia have been impacted by regime change that includes overarching structures such as institutions, governance, policies, and regulations (Boateng, 2020). Studies have shown that the Ethiopian HE system of imperial, Derg, and EPRDF regimes had been characterized by regimented management, conservative intellectual orientation, limited autonomy, very few academic staff with doctorates, declining educational quality, weak research output, and loose connection with the global HE streams (Bishaw & Melesse, 2017; Asgedom, 2005; Boateng, 2020). During these periods, the system had been provided with the

context that the system and its capacity were loosely operated. Even though a well-functioning HE system requires a dynamic and strong interplay between system and capacity, the regime change in Ethiopia over the last seven decades affects the system and capacity of HEIs.

Synchronization of the higher education system is all about harmonizing the software and hardware of the institution. Resources are very critical to improve the system. That means the system of higher education is determined by the provision of resources, their maximum utilization, and management. The software system of HE is an orderly arrangement of ideas [proclamation] about universities and the relationship of their entities, whereas a hardware system is the installation of a software system that contains a set of elements that operate together to accomplish the intended mission. It includes building, leadership, educators, administrators, curriculum, facilities, financial resources, and learners. The two systems work harmoniously like a computer system of hardware and software that function together to accomplish computer processing. A system is not a randomly assembled set of elements; rather, it consists of elements that can be identified as belonging together because of a common purpose.

## ***2. Higher Education Institutions Building:***

The institution-building model has been primarily designed for developing countries that have taken the path to modernization, their overriding goals being socio-economic progress and nation-building (Zafarullah, 1980). Zafarullah has identified the major components of the model as (a) a governing, goal-oriented elite that bears the major responsibility for initiating and directing the process of modernizing change; (b) a doctrine, or set of action commitments, that establishes, communicates, and legitimizes norms, priorities, and styles for operating programs; and (c) a set of action instruments through which communication with the community is maintained and operating programs are implemented. In connection, HEIs typically comprise several key components that facilitate their operation, learning, and community engagement (Abdullahi & Yusoff, 2019). One of the components is an academic program that encompasses various undergraduate, graduate, and doctoral programs across different disciplines. It is difficult to think of HEIs without the academic programs. However, global studies revealed that the academic program formulation faces a multitude of challenges related to quality and real-world application (Aldhaen & Mahmood, 2020).

The academic programs are implemented as intended with the help of high-profile academic staff (Breetzke & Hedding, 2018). Academic staff play a crucial role in achieving institutional goals and program missions. Moreover, to achieve institutional goals and program mission there should be spaces equipped with technology for lectures discussions, and group work (Babalola, 2024; Benson et al., 2022). There must also be physical and digital libraries, study spaces, and access to academic journals and databases for learners (Micunovic et al., 2023). Besides,

laboratories and research facilities, student services (Abbas, 2020), governing bodies, and administrative offices responsible for policy-making, budgeting, and overall institutional management are critical to implement the program as intended. These institution-building components work together to create an environment conducive to learning, research, and personal development.

HEIs' building in Ethiopia is not far from the institutional building of HEIs in the global arena. It includes the enhancement of the hardware and software of the institutions. However, studies indicated that Ethiopian HEIs face challenges related to academic program quality and real-world application (Chalchisa, 2014; Getaneh et al., 2024) and effective research practices (Aliye, 2019). Moreover, even though policies and initiatives promote digital infrastructure in HEIs, there is insufficient digital infrastructure due to limited resources, insufficient technological support, conservative academic cultures, poor internet connection, and lack of skilled personnel (Bekele et al., 2024; Yiriga, 2024).

### ***3. Governance of HEIs in Ethiopia:***

Governance denotes the structures, relationships, and processes of decision-making concerning issues significant for external and internal stakeholders (Melu, 2017). In this regard, governance in HEIs indicates formal and informal arrangements that permit them to make decisions and perform actions combining both internal and external governance (Yirdaw, 2015). It comprises a complex web, including the legislative framework and the resultant characteristics of the institutions and how they relate to the whole system, how resources are allocated to institutions, and how administrators are held accountable for the way resources are utilized (Melu, 2017; Yirdaw, 2015). It also provides the institutional environment within which the educational system functions.

The governance structure of HEIs that emerges in any country is the outcome of a balance between two contrasting forces. Some countries set up structures that permit the central government's direct control of structures, while others establish barriers between the political administration and the governance system (Gyimah-Brempong, 2011). Hence, the features of the governance structure followed by HEIs determine their outcomes. At all, HEI governance is affected by the lack of financial, personnel, and substantive autonomy (Hailu, 2018). All these factors call for a significant structural change in the governance of the sub-sector. The governance of Ethiopian HEIs should evolve proportionate to the emerging mission and social demand for higher education by reconsidering the current relationship of the state, the HEIs, and the market (Mukhtar et al., 2021).

Studies also showed that the Ethiopian higher education governance model in the last six decades could be described as the state-centered model (Hailu, 2018). Regardless of changes in

regimes, it did not respond to changes in social demands and the governments' own strategic goals. Hailu also noted that HE's contribution to the economic and social growth of the nation has been stifled. This could be attributed to the governance model the sub-sector adopted in its entire history. There has been rapid expansion of the subsector in the last two decades but the relevance, quality, and outcome of the subsector are being questioned given the deficit skill set and mounting unemployment rate of the graduates.

Above all, governance efficiency is essential for the educational system to generate the desired results that require accountability and transparency, which imply autonomy. Autonomy suggests freedom to make management decisions, such as allocating resources among programs and determining the optimal input combination. The autonomy and the good governance issues and the resultant outcomes emanate from the governance structure installed and exercised accordingly.

### ***Capacities in Public Higher Education***

#### ***What are the factors that hinder the capacity of HEIs in Ethiopia?***

Capacity in higher education institutions refers to the ability of institutions to deliver education effectively and efficiently, conduct research, and contribute to societal development. However, research outputs indicate that HEIs in Ethiopia face several challenges that hinder their capacity. Among these, some key factors include funding constraints (Abate, 2013) and deficiencies in infrastructure, which result in a lack of adequate facilities such as libraries, laboratories, and classrooms, thereby impacting on the quality of education (Oliso, 2023). Moreover, lack of curriculum relevance (the curricula of HEIs did not align with real-world market, industry needs, or global standards), limiting graduates' employability (Teshome & Oumer, 2024); insufficient investment in research and inefficiencies in management and governance (Atanaw et al., 2025); and lack of access to modern technology and digital resources can hinder learning and research capabilities.

HEI governance is the most critical factor that plays a vital role in bringing change. It determines the success of HEIs. The effectiveness of HEIs is influenced by how governance structures are designed and implemented, and by specific administrative and policy-related factors. Atanaw et al. (2025) stated that HEIs' governance encompasses five key principles: accountability, autonomy, academic freedom, transparency, and responsibility. On the other hand, Gebru et al. (2024) noted that the governance structure and models of Ethiopia's HE system are primarily state-centered, meaning the government has significant control over decision-making and resource allocation.

According to Atanaw et al. (2025), university governance principles and the relationship between university governance and education in Ethiopian public universities have not been fully optimized. The implementation of university governance principles lags the rapid

expansion of public universities in Ethiopia. He discussed that accountability and responsibility negatively affected the quality of education services of Ethiopian public universities. However, Atanaw et al. (2025), stated that accountability and academic freedom have strong positive correlations with education service quality.

Other studies concluded that the capacity of Ethiopian HEIs is significantly affected by governance factors such as centralized control (Gebru et al., 2024), unclear policies, limited funding, and weak management (Desalegn & Solomon, 2022). Hence, addressing these challenges requires coordinated efforts from the government, educational institutions, and other stakeholders through clearer policies, better resource allocation, and improved leadership, ensuring accountability and responsibility to enhance the overall capacity of HEIs in Ethiopia.

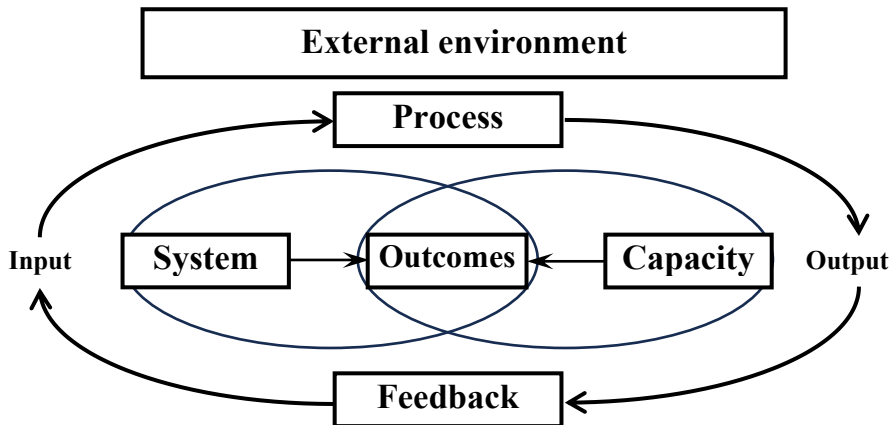
### ***The Interplay between System and Capacity: Challenges and Opportunities***

#### ***How do the interconnections between the system and capacity demonstrate in Ethiopian HEIs?***

This part is the yolk of the study that explores the interplay between system and capacity in Ethiopian HEIs. System and capacity are very important in achieving the outcomes of the university's mission by identifying challenges that the institutions face and the opportunities that help to overcome the challenges. As discussed above, there are studies and policy documents that show there are indicators that point towards the effectiveness and efficiency (outcomes) of HEIs. These indicators are effective allocation and efficient utilization of resources (Abate, 2013; Gyimah-Brempong, 2011); well-articulated policies and proclamations (MoE, 2023; FDRE, 2019; FDRE, 2023); governance and academic programs (Aldhaen & Mahmood, 2020; Melu, 2017; Zeleke & Hirko, 2018); and the issue of responsibility and transparency (Huisman, 2018; World Bank, 2022).

The picture below indicates the interplay of how the system and capacity are functioning to achieve the outcomes (creating competent HEIs that prepare competent graduates).

Figure 2 (next page) demonstrates that the system and capacity are theoretically geared towards the achievement of the intended outcomes (competent HEIs that produce competent graduates). However, external environments such as unclear government policies and limited funds, societal needs, and an ever-changing world due to the advancement of technology and cultural change highly affect the interplay between system and capacity. Moreover, to holistically make the interplay between system and capacity effective and efficient, the input, such as learners, resources, and the intended curricula, should be considered. Particularly, an institution's resource generation, allocation, and utilization should be effectively managed, controlled, and efficiently utilized.



**Figure 2:** Interplay between the system and capacity.

*Sources: constructed from different sources by the authors.*

## Discussions and Conclusions

The relationship between the system and the capacity of higher education in Ethiopia is multifaceted. It emanated from its economics (resource generation, allocation, and utilization), policy directions and governance, leadership and academic programs, quality of teaching and research, and technology transfer (Abebe, 2014; Bekele et al., 2024; Melu, 2017; Getaneh et al., 2024; Yiriga, 2024). However, the modern higher education of Ethiopia is affected by the regime changes that tried to introduce their political ideologies (Asgedom, 2005; Alemu & Matcalfe, 2021; Yallew, 2020) and state-centered control (Gebru et al., 2024). The regime changes and their political intentions over the last seven decades explicitly and implicitly affect the HE system in general and their capacity in particular.

The major components of higher education systems are institution building, governance, and the intended programs. Zafarullah (1980) has identified the elements of the institution-building model as governance and goal orientation, a doctrine or set of actions committed, and a set of action instruments. HE institution building and its governance are highly interconnected. Melu (2017) and Getaneh et al. (2024) discussed that Ethiopian higher education governance faces challenges such as centralized power, limited autonomy, and inadequate resources, which hinder institutional development and quality education. These studies show that the higher education system is affected by the quality of governance and institution building, which influences the types of programs intended. The studies argue that good and committed governance improves institution building, which enhances the education system.

Even though Ethiopian HE has made a positive improvement regarding expansion, infrastructure, gross enrollment rate, academic staff, and budget allocation (Abebe, 2014; Gelaye, 2021; World Bank, 2022), there are still drawbacks in system thinking within the university and across universities, resource allocations and utilizations (Molla, 2023),

governance, academic programs and research qualities (Zelege & Hirko, 2018), autonomy or freedom of deciding on universities' basic issues such as leader choice, curriculum differentiation, and resource generation and allocation (Gebre, 2013), and accountability (Moti & Yihun, 2024). All these and other drawbacks affect the holistic function of HEIs. That means the interplay among the system and capacity within and across higher education in Ethiopia seems weak.

This study has its own theoretical and practical implications in the current higher education dynamics of Ethiopia. Higher education financing in Ethiopia is a central issue as the country rapidly expands its university system. The implications of current financing approaches affect access, quality, sustainability, and equity in higher education. The dominant theoretical implication is that effective higher education financing in Ethiopia requires both sound economic principles and careful attention to local administrative, political, and social realities (Munyua & Abate, 2013; Thehaynew et al., 2024). It should align with several core economic principles, such as human capital theory, equity and access, efficiency in resource allocation, and cost-sharing models.

Nevertheless, in practice, Ethiopia faces several challenges in financing higher education. According to Lerra (2016) and CRA (2023), the public universities utilized the lion's share of the total budget of the education sector. But the efficiency and quality of education at all levels are still critical. Furthermore, some of the public universities underutilized the budget allocated by the government and returned it to the finance minister (Lerra, 2016). Even though the performance of the university in utilization of allocated budgets and income generation also improved (Lerra, 2016), the total performance of the university in terms of budget utilization was not promising. These have directly or indirectly affected the outcomes of HEIs. Hence, to bridge the gap between theory and practice, the current HEIs of Ethiopia should diversify funding sources (Mengistu, 2015), enhance financial planning and accountability, improve graduate employability, and advance system thinking.

## **Conclusions**

The systems theory paradigm, which emphasizes holistic perspectives and an awareness of the connections and interdependencies among different elements of higher education, is employed in this study. Furthermore, it highlights how components interact and influence one another and that systems should be seen as a whole entity rather than just the sum of their parts. This study's focus is on exploring how the economics of higher education financing affects the interplay of system and capacity in Ethiopian higher education. Thus, the following conclusions are drawn from the results and discussions.

- The performance and the outcomes of higher education institutions are affected by their economics, which includes generation, allocation, and utilization of resources. However, the symbiotic relationship and implementation of economics of higher education in Ethiopia are encircled several problems including lack of institution building, inefficient governance, and lack of quality curriculum that emphasizes real-world application, hindering the creation of a well-established system. Even though the expansion of higher education has brought numerical gains that increased access to universities and diversified fields of studies, this rapid expansion has not been accompanied by proportionate funding increases. The resource generation, allocation, and utilization-controlling mechanisms in Ethiopian public universities are highly inefficient and affect almost all aspects of institutional activities.
- The last seven decades of the Ethiopian higher education system have been characterized by regimented management, limited autonomy, declining educational quality, weak research output, and a loose connection with global higher education. These showed that the Ethiopian higher education system had been provided with the context that autonomy, accountability, and capacity were loosely operated.
- The interplay between system and capacity within and across public HEIs in Ethiopia is a multifaceted issue that needs system thinking. It involves various factors such as their economics, academic freedom, effective and efficient governance, and infrastructure and resources. Even though a well-functioning higher education system requires a dynamic and strong interplay between system and capacity, it is affected by the regime change, centralized governance, political influence, and lack of financial and personnel resources. It is recommended that, to address the concerns and challenges observed in the interplay of the system and capacity of HEIs of Ethiopia, it should re-evaluate the “whole system” to ensure competitiveness within and across institutions to prepare competent graduates.

**Ethics statement:** We hereby declare that research/publication ethics and citing principles have been considered in all stages of the study. We take full responsibility for the content of the paper in case of an argument.

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