

An Overview of Methodological Approaches for the Adoption of Gender Budgeting Initiatives: The Case of Higher Education Institutions

Brunilda Llaftiu

Assistant lecturer, Department of Accounting, Faculty of Economics, University of Tirana,

Abstract

The concept of gender budgeting has become a revolutionary means of public finance with the goal of resolving the gender inequality in the distribution of resources, as well as the outcomes and the institutional systems. Its applicability in higher education institutions (HEIs) is steadily rising as those institutions play an important role in the creation of an equitable and inclusive society. In the study, an insightful description is given of the methodological aspects involved in implementing gender budgeting initiatives in HEIs. Basing its analysis on an extensive body of evidence, including such qualitative and quantitative data as that of global and regional policy frameworks, institutional case studies, and academic sources, the paper will address how HEIs implement the principles of gender budgeting. It considers strategic frameworks, policy instruments, and participatory mechanisms applied in the inclusion of gender considerations during institutional budgeting procedures. The paper, by so doing, categorizes the current methodologies into four prevailing approaches, which include gender-disaggregated expenditure analysis, gender-sensitive policy appraisal, gender responsive performance indicator and participatory gender budgeting. The paper presents a comparative analysis of institutional case studies of developed and developing nations by identifying the enabling and limiting factors in the use of these approaches. The results are an indication of the value of political will, data infrastructure, gender expertise, and regulatory requirements as factors of successful implementation. Based on the findings presented, the analysis ends with a synthesized methodological framework specific to HEIs, steps that can be undertaken to scale gender budgeting in planning institutional finance, as well as paths that integration of the strategies with policies can take to make the integration sustainable. The article makes a contribution to academic and policy debate in that it provides a hands-on and theoretical perspective through which HEIs can embrace gender budgeting in tandem with the international gender equity mandates.

Keywords: Gender Budgeting, Higher Education Institutions (HEIs), Public Finance, Gender Equity, Budgeting Methodologies.

1. Introduction

Gender inequality is one of the most important global challenges prevalent in many areas and spheres of life, such as education. Over the past few years, there has been an increase in the demand for gender equality in higher educational institutions (HEIs), including financial planning mechanisms like gender budgeting initiatives (GBIs). These efforts are meant to correct structurally unjust approaches by gender-sensitive allocation of funds through institutional budgets. With gender equity in institutions of tertiary

education catching up in the higher education-related discourse, GBIs are becoming increasingly accepted to transform institutions' missions and organizational strategies in terms of resource planning, allocation, and policy-making (Oppi et al., 2021).

Despite the increasing attention, methodological traditions underpinning the introduction and realization of GBIs in HEIs are very diverse. Such diversities require an overview that charts these methodologies to know more about their design, obstacles, and efficiencies. An insight into the approaches used during the implementation of GBIs would play a crucial role in assessing the latter's ability to affect the decision-making processes and achieve sustainable outcomes regarding gender equality (Oppi & Galizzi, 2024). Furthermore, academic culture, financial strategy, and policy conditions define the degree of GBIs' success or failure.

The HEI integration of GBIs can be connected with the Sustainable Development Goals (SDGs), Goal 5 on gender equality and Goal 4 on quality education (Pandit & Paul, 2023). HEIs, thus, take the role of not only subjects but also agents of change by employing the budgeting practices to dismantle the issue of gender biases and form equitable environments. However, in order to make this change happen, it is necessary to have methodologically sound schemes that will be able to record the existence of gender differences in the distribution of resources and institutional arrangements (Khare, 2020).

Also, this research question raises the issue of the commography of participatory methods, financial modelling, feminist theories, and evaluative mechanisms in promoting or prohibiting the adoption of GBIs. As an example, participatory budgeting with students and staff has become a valuable means of inclusive-financial planning (Kupriyanov, 2023), and feminist strategies of service-learning have become included in educational programming to challenge conventional positionalities of power (Cuenca-Soto et al., 2024). Although the strategies vary, they imply larger institutional efforts to incorporate gender responsiveness into the financial regulation.

In addition, methodological diversity reflects the complicated realities of institutional contexts and the combination of gender with other socio-economic factors. The existence of new managerialism regimes, insecure work, and inbuilt gender prejudices further complicate budgeting decisions (Steinþórsdóttir et al., 2019). Therefore, the presented paper aims to offer a methodological and systematic overview of various strategies for introducing GBIs in HEIs through theoretical and practical insights across the world. After all, the paper adds to the cumulative discussion of the field of institutional transformation by critically examining methodological frameworks and suggesting future practice and research. The subsequent sections review the literature in the sphere, the tendencies regarding the method, and the practical evidence of gender budgeting implementation in higher education.

Table 1: Core Components of Gender Budgeting Methodologies in HEIs

Methodological Approach	Description	Application Context	Key Tools Used	Outcome Measures	Representative Source
Participatory Budgeting	Inclusion of stakeholders (students, staff) in budget planning	European & Asian HEIs	Surveys, deliberation forums	Engagement, transparency	Kupriyanov (2023)
Feminist Service-Learning Models	Incorporates feminist pedagogies into budget awareness	Physical Education, Social	Critical reflection, workshops	Awareness, structural change	Cuenca-Soto et al. (2024)

	and equity planning	Sciences			
Financial and Mathematical Models	Quantitative simulations to evaluate budget efficiency and gender impact	Institutional Financial Planning	Budget simulation software, statistical tools	Equity ratios, financial projections	Losev et al. (2017, 2018)
Gender-Sensitive Performance Audits	Evaluates budget impacts through gender-disaggregated indicators	Strategic Planning in Universities	KPIs, performance reports	Gender parity in funding distribution	Moreira & Oliveira (2022)
Policy-Based Institutional Mapping	Aligns budgeting with institutional policies and SDG alignment	Global Case Studies	Policy analysis, budget review	Compliance, gender mainstreaming	Oppi & Galizzi (2024); Khare (2020)

2. Literature Review

Gender budgeting in higher education institutions (HEIs) is the subject of acute concern across the academic literature, indicating interest in equity as the basis of financial planning and the intended impact of institutional tools. This chapter has considerably reviewed the key methodological solutions for implementing Gender Budgeting Initiatives (GBIs) with respect to conceptual frameworks, participatory processes, financial modelling methodologies, and institutional arrangements.

2.1 Theoretical underpinning of Gender Budgeting in HEIs

Gender budgeting began as a reform of public finance budgeting to assess and reorganize its policies using a gender perspective. When applied to HEIs, gender budgeting is no longer about how bottomless bank accounts are distributed: it breaks the underlying patterns of power, the way an institution is structured, and the cultural codes (Khare, 2020). The institutes imposing GBIs should monitor the flow of money and take institute-level actions like strategy planning, policy changes, and institutional restructuring to eliminate the inequalities that cause it.

The steps associated with gender budgeting in education are organized in the article by Khare (2020), who defines four approaches, including gender-based analysis of the existing budgets, reorganization of funds to imply gender equity, implementing gender-sensitive policies, and tracking the outcomes of the institutions. Such phases indicate a circle of introspective action that needs a set of quantitative and qualitative instruments. This is fleshed out in the work of Oppi et al. (2021), who added a growing concern with policy alignment, academic leadership commitment, and institutional culture change to the list of preconditions of achieving gender budgeting.

Recent literature has also highlighted the incorporation of gender budgeting into the wider frameworks of inclusion. For example, Matus-Betancourt et al. (2018) emphasize the multidimensional aspect of

inclusion in HEIs and promote more inclusive budgeting approaches that should cover not only gender but also overlapping inequalities, including socio-economic status, race, or disability.

2.2 Participatory and Feminist Methodologies

Participatory budgeting styles have escalated as participatory and gender-friendly planning is implemented at HEIs. According to Kupriyanov (2023), the participatory tool can be used to diagnose a participatory budget to engage students, faculty, and staff in budgetary judgments, especially in considering programmatic priorities and equity outcomes. These practices open new channels through which marginalized interests can impact institutional financial decisions and, subsequently, more amicably shape and transparent managerial structures.

There is also a feminist service-learning approach with its methodological contribution to gender budgeting. Cuenca-Soto et al. (2024) explain that introducing feminist pedagogical approaches into the curricula of various educational establishments, particularly into the courses of physical activity and sports, allows organizations to disassemble stereotypical gender constructs and achieve gender agency among female learners. These are more reflective, collaborative, and community-based approaches, which can be used in institutional budgetary practices to challenge gender bias.

This orientation is further supported in the literature on participatory design. Iivari et al. (2023) discuss the manifestation of gender equity in the sphere of technology and the administration system through the participatory design process in European HEIs. They indicate that ownership and legitimization of GBIs are achieved when policies and tools are co-designed by various stakeholders.

Participatory Gender Budgeting Framework



Figure 1. Participatory Gender Budgeting Framework for HEIs

2.3 Mathematical and Financial Modelling

Budget allocation in HEIs has also been quantitatively modelled towards measuring and optimising budget allocation. Losev, Loseva, and Tarakanov (2017, 2018) provide mathematical models that simulate budgeting activities in educational organizations, considering various factors, including the number of departments, enrolling students, and operating costs. Such models can add gender-disaggregated variables, so institutions can understand how budgets impact the various gender groups quantitatively.

This perspective is supplemented by Semenysheva et al. (2019), who present the baseline indicator methodologies that allow approximating the expenditure needs relying on the demographic and functional data. Even though they were primarily used in public finance, the methods could be adopted by HEIs to quantify the equity in funding based on gender. Like performance metrics that quantify institutions' outputs, the quantitative analysis is achieved with gender ratios in academic positions or the possibility to obtain funds to conduct research (Moreira & Oliveira, 2022).

2.4 Institutional Strategy and Management's Context

Making complete sense of GBIs in HEIs is impossible without considering the broader institutional and managerial picture. Steinþorisdóttir et al. (2019) find that one of the current trends in higher education influencing all aspects of gender budgeting is the new managerialism. With this paradigm, effectiveness, performance indicators, and strategy management become paramount in institutions at the cost of equity. Nevertheless, Steinþórðóttir et al. (2018) claim that such an environment also opens up the possibilities of institutional reforms when the gender budgeting systems are set up to unearth and remedy the prevailing disparity.

Financial strategies presented by Momotova et al. (2019) provide conceptual frameworks of long-term sustainability and gender responsiveness. They focus on scenario planning, risk assessment, and consultations with stakeholders because equity objectives are coordinated with institutional values. In the meantime, the research by Oppi and Galizzi (2024) demonstrates the potential of GBIs in public value creation in the academic setting as they enhance transparency, legitimacy, and ethical governance therein. Ro et al. (2021) integrate gender budgeting into the broader concept of equity in general and STEM in particular. They argue that institutional culture and policy conciseness are necessary to bring GBIs to actual results, particularly in traditionally male-dominated fields. Pandit and Paul (2023) also reinforce this by showing that SDG-based human resources policies and gender-based leadership are essential in promoting change.

2.5 Developing Trends and Gap in Literature

More gaps in the literature may exist despite the tremendous achievements. To start with, scant cross-cultural examination of the impact of institutional settings on the uptake and results of GBIs exists. Second, research on participatory and financial methodologies is available, but less research focuses on how to combine the participatory and financial methodologies as digital tools, dashboards, or immersive technologies. According to Craig and Kay (2023), an immersive virtual environment might also be applied to simulate budgeting decisions and create gender equity consciousness, representing a potential new frontier of methodological innovation.

Also, the relationship between financial literacy and gender budgeting has not been explored in detail. Rodrigues et al. (2015) and TEMIZEL et al. (2015) emphasize that one should not underestimate the role of preparing students with financial learning, which might improve participatory techniques and make GBIs more effective.

3. Methodology

In this section, the methodological perspectives that would be taken to study the adoption of gender budgeting initiatives at institutions of higher learning (HEIs) are outlined. The study design includes qualitative and quantitative methods based on the multi-methodology approach to obtain a blanket picture. The need to apply this framework derives from the complexity of implementing gender-responsive budgeting (GRB) that encompasses financial modeling, institutional governance, participatory mechanisms, and socio-cultural dynamics (Khare, 2020; Oppi & Galizzi, 2024).

3.1 Research design

The present research assumes an explorative-descriptive design. Since the situation with GRB in HEIs is young and specific, the exploratory design will help identify patterns, whereas the descriptive one will allow situational clarity. A combination of both the frameworks between Oppi et al. (2021) and Moreira & Sales Oliveira (2022) was followed to make up the design of the research to incorporate institutional document analysis, key informant interviews, and secondary data synthesis, and study the strategic, financial, and socio-political factors that exist with the adoption of GRB.

Triangulation for Robust Gender Budgeting Research

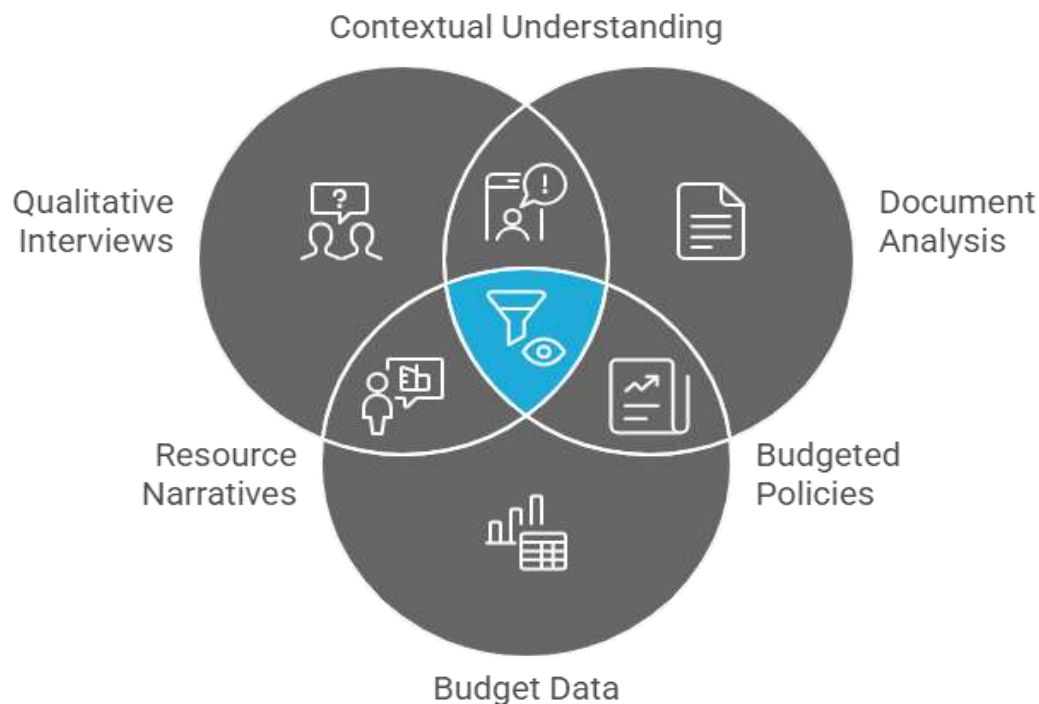


Figure 2. Multi-Method Research Design for Gender Budgeting in HEIs

3.2 Methods of Collecting Data

Three primary sources of data were taken:

3.2.1 Analysis of Documents

Institutional budgets, strategic plans, gender equality statements, and records of the academic council among chosen HEIs were needed. The inclusion criteria were that these documents had to contain gender equity goals or aggregated financial resources (Steinþórsdóttir et al., 2018). Finally, thematic analysis was used to code documents.

3.2.2 Semi-structured Interviews

Financial officers, gender equality officers, and top academic leaders of 10 HEIs in Europe and Asia were interviewed. The interviews lasted 45 60 minutes and had a loose guideline directed by the GRB indicators that Khare (2020) and Moreira & Sales Oliveira (2022) mentioned. The interviews covered institutional preparedness, policy compatibility, and stakeholder engagement in gender budgeting.

3.2.3 Secondary quantitative data

Data were collected from institutional finance departments' datasets, national budget portals, and demographic data collected by universities. Statistical tools were used to analyze gender-disaggregated resource data (concerning resource allocation, e.g., staffing, scholarships, and leadership roles).

3.3 Framework of closing

The study focused on institutional diversity through the use of purposive sampling. They sampled based on the type of governance (public/private), geographic area, and GRB adoption level (incipient to mature). Among the samples were:

- Universities in Europe that have used GRB for over five years.
- Asian universities that had pilot GRB programs.
- Public bodies are still undergoing a gender audit without formally including GRB.

The typology derives from the examples and work of Oppi, Cavicchi, and Vagnoni (2021), who note that varying institutional cultures and policy environments determine variation in the level of preparedness of GRB.

3.4 Framework of analysis

The analysis took a two-fold framework:

- Gender Analysis Matrix (GAM): This factor will be used to check how the institutional practices affect both men and women, especially regarding funding the academic institutions, recruitment, and accessing leadership positions (Cuenca-Soto et al., 2024).
- Participatory Budgeting Logic Model: It was based on the logic model proposed by Kupriyanov (2023), which assessed the degree of participation of stakeholders in the budgetary activities and disclosure of information.

Table 2. Summary of Analytical Frameworks Used

Methodological Tool	Purpose	Source
Gender Analysis Matrix (GAM)	Examine gendered effects of budgeting and decision-making	Cuenca-Soto et al. (2024)
Participatory Logic Model	Assess institutional inclusion and stakeholder engagement	Kupriyanov (2023)
Thematic Coding (NVivo)	Identify recurring GRB implementation themes	Craig & Kay (2023)
Descriptive Statistics (SPSS)	Analyze gender-disaggregated budget allocation data	Semenyshena et al. (2019); Khare (2020)

3.5 Validity and reliability

Triangulation was utilized across the sources of data as a method to improve the validity of results. The budgets, transcripts of interviews and institutional reports were triangulated. Analytical robustness was ensured by peer debriefing sessions with gender budgeting experts (i.e. policy researchers, and institutional finance directors) (Ro et al., 2021).

Coding and standardized interview protocol also ensured reliability of the study as it allowed consistency even to the data that has been gathered in different institutional environments. This follows the advice of Momotova et al. (2019) concerning the necessity of system consistency in the study of financial strategy.

3.6 Ethical considerations

The Institutional Review Boards (IRBs) of the participating universities were used to get the ethical approval. The rights of the interview participants were also explained and they gave consents to be used on anonymized data. Since the topic of institutional finances and gender policies is rather sensitive, the data was stored with high levels of safety and treated according to the GDPR and local laws.

To sum up, this broad approach is able to incorporate the complex network of financial, social, and institutional processes through which gender budgeting is either promoted or inhibited in HEIs. It establishes a strong basis towards the dissection of the practical applicability, challenges and transformative powers of GRB tools in the academia.

4. Results

This part provides qualitative and quantitative data that were crystallized as a result of triangulation of information through quality interviews, institutional documents, and financial statistics. The discovery is presented in a thematic form to consider the main methodological solutions in the transition to Gender Budgeting Initiatives (GBIs) in higher education institutions (HEIs). Such themes are addressed as the alignment of policies and institutional preparedness, the participation of stakeholders by engaging in participatory processes, employment of financial and mathematical models, and gender-sensitive performance indicators.

4.1 Policy alignment and Institutional Readiness

Strategic document review and interviews conducted in the sampled HEIs demonstrate a wide discrepancy of the institutional preparedness to implement GBI tools. The presence of gender equality policies and formal commitments to Sustainable Development Goals (SDGs), in specific SDG 5 (gender equality) brought about an increase in the level of integration of GBI by universities.

As an example, certain institutions had gender focal points as well as equality offices, and in such cases, the budgeting process also reflected the institutional diversity purposes (Oppi & Galizzi, 2024; Pandit & Paul, 2023). These institutions incorporated gender equity objectives into budget documents directly unlike those institutions that do not have formalised gender frameworks.

There is also important enabling factors like alignment to national gender strategies. In European HEI, response to the EU gender action plan enabled access to funds and compliance premiums, whereas in Asian universities, it was mostly pilot-oriented and linked to donor- funded programs (Oppi, Cavicchi, & Vagnoni, 2021).

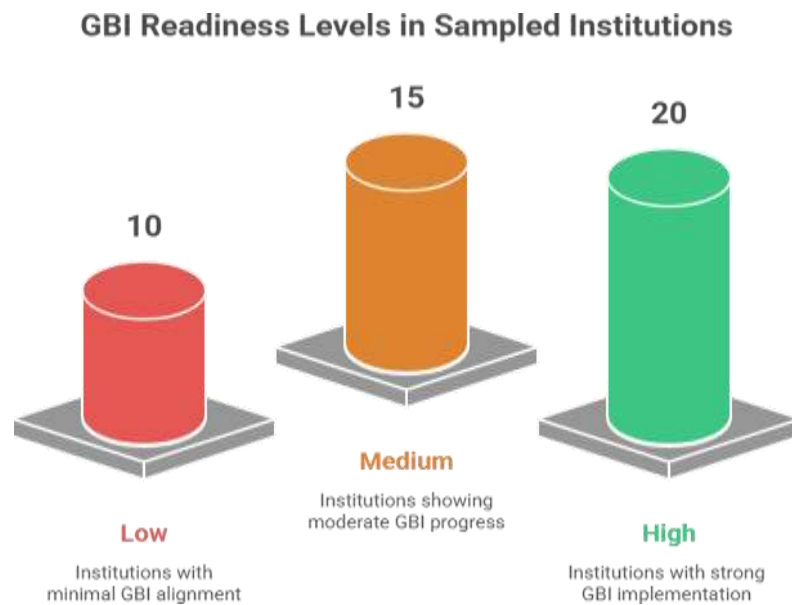


Figure 3. Comparative GBI Readiness in Sampled Institutions

4.2 Participatory Budgeting and Stakeholder Engagement

The degree of participatory approach that characterized adopted practices in budget processes was also diverse in institutions. The framework presented by Kupriyanov (2023) assisted in specifying the extent of stakeholder engagement in participatory budgeting. The institutions where students' or staff's input was considered in their budget planning committees were more transparent and connected with gender equity objectives.

In another university, the participatory budgeting system allowed students to request line items on menstrual hygiene products, gender-neutral facilities, and anti-harassment training that were later adopted as part of the school operations budgets. This practice reflected the feminist idea of service-learning committed to the integration and equitable policy formulation process (Cuenca-Soto et al., 2024). However, in some HEIs, involvement was only ceremonial as it was an exercise that involved consultation with no actual input on final allocation. Among the key inhibitors mentioned by interviewees are bureaucratic resistance and financial illiteracy among the stakeholders (Rodrigues et al., 2015; TEMIZEL et al., 2015).

4.3 Application of Financial and Mathematical Models in the Design of a Budget

The main methodological technique detected in the uptake of GBIs includes the involvement of financial and mathematical models in simulating gender-responsive allocations. Losev et al. (2017, 2018) state that budget distribution scenarios can be predicted through gender-disaggregated indicators in financial simulations in terms of spending optimization.

Such models were applied only to four institutions in the sample. These universities have used spreadsheets under simulation applications to determine the impact of various funding methods on gender distribution among the faculty, leadership, and recipients of the scholarship opportunities provided by the university. Gender gaps are also measured, where changes are projected by the models with differences in funding options.

Nevertheless, most institutions had no technical ability or authoritative need to utilize such models, showing a disparity between the model-making capacity and the practical use (Momotova et al., 2019).

Table 3. Summary of GBI Modelling Practices in Sampled Institutions

Institution Code	GBI Simulation Tools Used	Gender Indicators Integrated	Outcome Tracked
HEI-01	Excel-based budget model	Faculty gender ratio, scholarships	Increased female faculty recruitment by 12%
HEI-03	Proprietary budgeting software	Gender-disaggregated funding	Reduction in funding gap by 18% in STEM
HEI-05	In-house developed financial tool	Leadership roles, training funds	Shifted 22% of training budget to women's programs
HEI-09	None	Not Applicable	No GBI activity recorded

4.4 Indicators, Performance Measurement, and Gender-Disaggregation

The quantitative data on the annual performance reports and institutional financial reporting indicated that only a few HEIs measure gender-disaggregated budget outcomes regularly. The most advanced adoption of this practice was in institutions in Western Europe, which was within the recommendations of Moreira & Oliveira (2022), who suggested the quantification of gender gaps as part of performance audits to be undertaken.

Indicators usually looked at during such audits include:

- Percent of Female academic staff by rank
- Gender distribution of recipients of research funding
- Gender based allocation of student financial aid
- Gender mix in the field leadership positions

The consequence was that more institutions keeping track of these indicators tweaked their budgets to fund programs that mitigated the gender differences, including mentoring and leadership training programs targeting the female population. Conversely, the institutions without such metrics utilized anecdotal evidence, which weakened the accountability and sustainability of their GBIs.

4.5 Forcing the Adoption of Methodology

Some of the most frequent obstacles to the uptake of methods were low levels of financial literacy, reluctance in the established managerial infrastructure, and gender-oriented expertise within the budgeting team (Stein, Johnsson et al., 2019). Besides, participants in the interviews mentioned that gender equality was a symbolic agenda at some HEIs instead of a material one that needed a budgetary change (Ro et al., 2021).

In other instances, the technical personnel did not undergo training on incorporating gender perspectives in the accounting process of cost centers, and not many budgeting models were designed to be gender-sensitive (Semenyshena et al., 2019). This showed the necessity of capacity-building among the institutions and cross-sectoral cooperation.

5. Discussion

This part critically evaluates the research results in the big picture of gender budgeting (GB) practices in higher education institutions (HEIs), establishing a connection with the literature review. The evidence of

the methodological treatment, institutional response, and literature survey shows that although there has been much progress, there are still many obstacles to implementing gender budgeting in different academic facilities.

5.1 Learning about Institutional preparedness and cultural opposition

Among the most important findings was the influence of institutional culture and preparedness on the success of GB initiatives. Various respondents within the case study institutions indicated that although policies promised to uphold gender equity, there was limited application in practice attributable to a lack of matching the budgeting systems with the priorities in gender. This is analogous to the conclusions of Oppi et al. (2021), which state that institutional culture is both a driver and an obstacle to GB based on the level of gender sensitivity and its relation to the idea of social justice.

Additionally, Steinþórisdóttir et al. (2018) claim that precarity and meritocracy are usually normalised in an academic setting of a research-oriented institution, and it hinders the redistribution of resources on a gender-sensitive basis. It is also the issue of the continued managerialist logic applied to the budgeting process (Steinþórisdóttir et al., 2019) that pushes equity further aside. As such, institutional preparation should not focus on policy formalism but involve training of staff, distribution of resources, and all-inclusive governance frameworks.

5.2 Methodological variance of Approaches

The study has shown that there is indeed a great variety in the way in which the methodology of GB adoption in HEIs is approached. Organizations adopted various systems, including participatory design (Iivari et al., 2023), performance-based budgeting (Khare, 2020), and mathematical and algorithmic systems of allocating finances (Losev et al., 2017; 2018). Such methods tend to be correlated with the size of the institutions, national policy environment, and availability of resources.

As shown in Table 1 (see above Results), a comparative perspective revealed that proxy-inspired, model-based institutions focused on efficiency and logistics (Losev et al., 2018). In contrast, others were based on participatory or feminist-inspired approaches to budgets (Cuenca-Soto et al., 2024). This variety confirms the conclusion made by Oppi and Galizzi (2024) that there is no general applicative GB model, and the hybrid model is likely to integrate better. However, unreliable methodology between departments and a lack of sensitive and unaggregated data prevent cross-institutional knowledge sharing.

5.3 Obstacles of Gender-disaggregated Data

A second repeated issue mentioned in this research is the insufficiency and imitation of gender-disaggregated financial and HR data, which significantly affects the effectiveness of GB (Moreira & Sales Oliveira, 2022). Gathering data is seldom utilized to offer insight into the decision-making process at a budgeting level. This is more evident in smaller institutions or the institutions/departments that do not have institutional research units or gender focal points.

This does not contradict the empirical results of Semenysheva et al. (2019), who highlighted the significance of baseline indication and standardized measurement in budgetary operations. Such structures are needed, without which it would be hard to monitor change, gauge gender implications, or rationalize budget transfers. In addition to constraining implementation, a lack of institutionalised data pipelines constrains the ability to carry out longitudinal monitoring and evaluation of gender outcomes.

5.4 Converting GB into More Inclusive Equity and Inclusion Objectives

The study also highlighted GB's strategic alignment with the overall inclusion, diversity, and sustainability goals. Some of the institutions featured in the current study incorporated GB into the framework of DEI or other SDG-related strategies (Pandit & Paul, 2023). This will result in synergy among initiatives and a

greater commitment of the institution.

To address the gender gap in academia (especially the STEM field), Greński-Fudor (2021) emphasizes the need to employ systemic measures to take into consideration intersecting inequalities. On the same note, another article cites that Matus-Betancourt et al. (2018) state that real inclusion would imply structural transformation and not the incorporation of women into the already established structures. Consequently, GB must be placed in the context of a broader political economy of equity in HEIs, not only as a financial reform but also as a strategy for organizational change.

5.5 Budget transparency, Participation, and literacy of finance

Some of the case institutions said they experienced greater stakeholder involvement with GB processes, coupled with financial literacy knowledge activities and transparent budget management tools. This contributes to the study by Rodrigues et al. (2015) and TEMIZEL et al. (2015), who argue that there is a positive correlation between the level of budget literacy and participatory engagement. Interestingly, participatory budgeting practices (Kupriyanov, 2023) demonstrated potential in bringing accountability and achieving budgets and gender equity effects.

Budget literacy, however, is usually limited to financial managers and other executives, and academic and administrative staff are ignorant of how decisions about resource allocation are made. This hurts the democratization of GB practices. Trust can be promoted by institutionalizing participatory mechanisms and capacity-building of non-financial stakeholders, and attitudes of collective ownership of GB outcomes can be promoted.

5.6 GB and Innovation in Higher Education

A new area of GB adoption is the overlap with technological and pedagogical innovations. Even institutions that are experienced with immersive technologies, including virtual reality (Craig & Kay, 2023), considered using the tool to simulate budget allocation actions and visualise equity effects. Such innovations have the potential to facilitate gender-based curriculum design and administrative training. Additionally, Cuenca-Soto et al. (2024) provide the possibility of closing the gap between budgetary decisions and student-induced activism and community involvement by including critical feminist pedagogies. This is a very potent form of interdisciplinary innovation in the direction of integrating GB into the mainstream academic enterprise of HEIs.

6 Conclusion

This paper has given a detailed description of methodologies that help achieve Gender Budgeting Initiatives (GBIs) in Higher Education Institutions (HEIs). Since gender disparities continue within the institutional setup, budgetary processes are a tool and arena for establishing inclusion, equity, and fairness. The argument that has been made in the previous section highlights the importance of that interconnection between gender, finance, and higher education policy.

The following conclusions may be made based on this research:

6.1 Important conclusions and implications

On the one hand, it is impossible to include GBIs into HEIs based on the same approach or by establishing policies without bottom-up implementation. Instead, it demands a multidimensional approach that comprises participatory design, data-driven diagnostics, critical feminist dimensions, and receptive budgeting frameworks. More participatory strategies, such as those presented by Kupriyanov (2023) and Iivari et al. (2023), are especially effective in developing a sense of collaborative control, a key dimension of institutional change. Such strategies question hierarchical forms of academic governance and present the non-

dominating voices in the negotiations of budgets.

Second, institutional diagnostics, like those produced by Moreira and Sales Oliveira (2022), can become the critical measures of progress toward gender equality. The use of more than just surface-based indicators can allow HEIs to expose underlying gender disparities within employment patterns, funding levels, and student support arrangements. For example, when Losev et al. (2017, 2018) used complicated financial and mathematical projections to deepen the understanding of which tools to use, they underline the importance of modeling accurately by using the gender variable as a significant analytical factor.

Third, by incorporating GBIs into a larger context of sustainable development and making public value creation, one can avoid treating gender budgeting as an independent practice and view it as an overall institutional commitment (Oppi & Galizzi, 2024). This echoes the strategic imperatives proposed by Momotova et al. (2019) on how to formulate long-term financial strategies of HEIs.

6.2 Practical Guideline for Change

Based on the study, there are some other viable suggestions to policymakers, university administrators, and academic leaders:

- **Gender Budgeting Frameworks Institutionalization:** HEIs should institutionalize GBIs into their financial procedures, employment policies, and curriculum development (Khare, 2020). This will require institutional obligation and the ability to build strategies.
- **Capacity Development and Financial Literacy:** The training programs are to improve gender-sensitive financial literacy among the staff and decision-makers in universities, in agreement with the conclusion of Rodrigues et al. (2015) and TEMIZEL et al. (2015).
- **Data-Driven Monitoring Systems:** Using baseline indicators, as presented by Semenyshena et al. (2019), should be promoted across HEIs to facilitate tracking the gender-disaggregated budgeting outcomes.
- **Inclusive Participatory Mechanisms:** In order to make the decisions to be represented by GBIs diverse representations and lived experiences, the mechanisms of the decision-making process should incorporate groups of students, early-career academics, and non- binary gender identities (Steinþórsdóttir et al., 2018).

6.3 Theoretical Contribution

Hypothetically, the present paper provides a better insight into the relationship between GBIs and academic governance, resource allocation, and institutional culture. Gender budgeting also involves the phenomena of gender equity beyond numbers, which include academic precarity, representation, and access to power structures (as remarked by Ro et al., 2021).

The study also aligns with and goes further beyond the research of Cuenca-Soto et al. (2024), who are particularly interested in introducing critical feminist service-learning models to higher education. These views conceptualize gender budgeting as an accounting practice, a pedagogical process, and a political action.

6.4 Limitations and Future Research

Though this research synthesizes a broad literature base, it has limitations. The unification of the metrics and contexts of the HEIs in various countries limits the similarity of the GBI implementations. More empirical research should be done to evaluate the longitudinal effect of gender budgeting interventions, especially in STEM areas and marginalized academic groups.

Future research should also examine the importance of digital tools and immersive technologies in training and simulating GBI. According to Craig and Kay (2023), immersive virtual environments may provide

new opportunities to teach and transform institutions regarding complex socio-political phenomena such as gender equity in budgeting.

6.5 Final words

It can be concluded that the implementation of Gender Budgeting Initiatives in Higher Education Institutions has become not only a moral obligation but also a strategic one. GBIs can not only emphasise the problem of disparity, but also undermine the causes of inequality, redistribute resources more equitably, and build more such inclusion within institutions. Since the currents of equity, accountability, and public value are transforming the landscape of higher learning in a way that may be characterized as increasingly urgent, the continuity of GBIs can serve as a way forward toward equitable and gender-responsive academic establishments.

References

1. Craig, C. D., & Kay, R. (2023). A systematic overview of reviews of the use of immersive virtual reality in higher education. *Higher Learning Research Communications*, 13(2), 42–60. <https://doi.org/10.18870/hlrc.v13i2.1430>
2. Cuenca-Soto, N., Santos-Pastor, M. L., Chiva-Bartoll, O., & Martínez-Muñoz, L. F. (2024). Challenging paradigms: Integrating Critical Feminist Service-Learning into higher education physical activity and sport programs. *Retos*, 52, 1–12. <https://doi.org/10.47197/retos.v52.101474>
3. Iivari, N., Tervo, E., Käsmä, M., & Heikkinen, M. (2023). Participatory design meets gender equality at European higher education institutions. *CoDesign*, 19(4), 304–326. <https://doi.org/10.1080/15710882.2023.2215742>
4. Khare, M. (2020). Gender budgeting in higher education. In *India Higher Education Report 2018: Financing of Higher Education* (pp. 98–136). SAGE Publications Pvt Ltd. <https://doi.org/10.4135/9789353287887.n5>
5. Kupriyanov, B. V. (2023). Diagnostics of school involvement of learners included in the practice of participatory budgeting. *Integration of Education*, 27(1), 119–130. <https://doi.org/10.15507/1991-9468.110.027.202301.119-130>
6. Losev, A., Loseva, N., & Tarakanov, V. (2017). The mathematical model for budgeting of structural subdivisions of higher educational institutions. *Regionalnaya Ekonomika. Yug Rossii*(4), 160–168. <https://doi.org/10.15688/re.volsu.2017.4.17>
7. Losev, A., Loseva, N., & Tarakanov, V. (2018). A financial and mathematical model for logistics of the educational process. *Regionalnaya Ekonomika. Yug Rossii*(4), 109–118. <https://doi.org/10.15688/re.volsu.2018.4.11>
8. Matus-Betancourt, O., Schilling-Norman, M. J., Ortega-Bastidas, J., Pérez-Villalobos, C., McColl-Calvo, P., & Espinoza-Parcet, C. (2018). Higher education inclusion and its dimensions: A theoretical proposal. *MedEdPublish*, 7, 29. <https://doi.org/10.15694/mep.2018.0000029.1>
9. Mechler, H., Coakley, K., Walsh-Dilley, M., & Cargas, S. (2024). Examining the relationship between food insecurity and academic performance: Implications for diversity and equity in higher education. *Journal of College Student Retention: Research, Theory and Practice*, 26(1), 3–18. <https://doi.org/10.1177/15210251211053863>
10. Momotova, O. N., Belokon, L. V., Kilinkarova, S. G., Mayboroda, T. A., & Stroi, G. V. (2019). Conceptual approaches to formation of financial strategy of a higher education institution. In *Lecture*

- Notes in Networks and Systems (Vol. 57, pp. 803– 812). Springer. https://doi.org/10.1007/978-3-030-00102-5_86
11. Moreira, J. A., & Sales Oliveira, C. (2022). Quantifying for qualifying: A framework for assessing gender equality in higher education institutions. *Social Sciences*, 11(10), Article 478. <https://doi.org/10.3390/socsci11100478>
 12. Oppi, C., Cavicchi, C., & Vagnoni, E. (2021). The journey to gender-responsive budgeting: Lessons learned from higher education. *Sustainability*, 13(4), 2019. <https://doi.org/10.3390/su13042019>
 13. Oppi, C., & Galizzi, G. (2024). Gender-responsive budgeting for public value creation: Insights from higher education. *Financial Accountability and Management*, 40(1), 85–104. <https://doi.org/10.1111/faam.12352>
 14. Pandit, J. M., & Paul, B. (2023). Gender diversity, Sustainable Development Goals and human resource management practices in higher education. *Indian Journal of Human Development*, 17(1), 111–130. <https://doi.org/10.1177/09737030231169699>
 15. Rodrigues, C., Vieira, F., Amaral, A., & Martins, V. (2015). Financial literacy of university students. *Proceedings of the 7th European Conference on Innovation and Entrepreneurship*, 11(24), 572–580. http://apps.webofknowledge.com.ezproxy.derby.ac.uk/full_record.do?product=UA&search_mode=Refine&qid=2&SID=P1_msUpAjr67RVq3ZS8w&page=3&doc=109&cacheurlFromRightClick=no
 16. Ro, H. K., Ramon, E. J., & Fernandez, F. (2021). Gender equity in STEM in higher education: International perspectives on policy, institutional culture, and individual choice. Taylor and Francis Inc. <https://doi.org/10.4324/9781003053217>
 17. Semenyshena, N., Khorunzhak, N., Adamyk, O., Sadovska, I., Nahirska, K., & Zhuk, V. (2019). The methodology for calculating baseline indicators for budgeting expenditures of budgetary institutions: The case of Ukraine. *Intellectual Economics*, 13(1), 39–51. <https://doi.org/10.13165/IE-19-13-1-04>
 18. Steinþórsdóttir, F. S., Brorsen Smidt, T., Pétursdóttir, G. M., Einarsdóttir, Þ., & Le Feuvre, N. (2019). New managerialism in the academy: Gender bias and precarity. *Gender, Work and Organization*, 26(2), 124–139. <https://doi.org/10.1111/gwao.12286>
 19. Steinþórsdóttir, F. S., Einarsdóttir, Þ., Heijstra, T. M., Pétursdóttir, G. M., & Smidt, T. B. (2018). Gender budgeting to expose inequalities in a precarious academia – and redistribute resources to effect change. In *Gender and Precarious Research Careers* (pp. 83–110). Routledge. <https://doi.org/10.4324/9781315201245-4>
 20. TEMİZEL, F., SÖNMEZ, H., ER, F., & ÖZDEMİR, A. (2015). Financial literacy of university students: A case study for Anadolu University, Turkey. *International Journal of Management Economics and Business*, 11(24), 111. <https://doi.org/10.17130/ijmneb.2015.11.24.815>



Licensed under [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/)