

FINANCIAL AUTONOMY AND FINANCIAL PERFORMANCE IN INDONESIAN PUBLIC UNIVERSITIES: STRENGTHENING THE ROLE OF HIGHER EDUCATION INSTITUTIONS TOWARD SUSTAINABLE DEVELOPMENT GOALS

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Abstract

Financial Autonomy and Financial Performance in Indonesian Public Universities: Strengthening the Role of Higher Education Institutions toward Sustainable Development Goals

The transformation of higher education governance positions universities as strategic actors in economic development and sustainability. While institutional autonomy is expected to enhance performance, comparative evidence in developing countries remains limited. This study examines differences in financial performance of Indonesian public universities based on autonomy levels and their implications for strengthening institutional capacity in supporting Sustainable Development Goals (SDGs).

This study uses a quantitative approach with a cross-sectional comparative design across 63 PTNs in Indonesia in 2025: 21 PTN Satker, 21 PTN BLU and 21 PTN BH. Financial performance is measured using official national indicators, namely Budget Performance Evaluation (EKA), Budget Execution Performance Indicator (IKPA), and Budget Performance Value (NKA). It is then analyzed using one-way ANOVA, supplemented by the Tukey HSD test, and effect size (Eta Squared).

The results of the One-Way ANOVA test showed no significant difference in the EKA ($P > 0.05$), but significant differences in the IKPA and NKA ($p < 0.001$). Tukey HSD indicated that differences mainly occurred between PTN BH and both PTN BLU and Satker, while no significant difference was found between PTN BLU and Satker. Effect size analysis showed large effect on IKPA and NKA ($\eta^2 > 0.5$), but small on EKA.

These findings indicate that financial autonomy improves managerial processes and budget governance but does not directly affect output effectiveness. The study enriches NPM theory by showing that autonomy's impact is partial and contextual. Improved budget performance reflects stronger institutional capacity, supporting SDG 16 (strong institutions) and indirectly contributing to SDG 4 (quality education).

Keywords: financial autonomy, EKA, IKPA, NKA, SGDs

INTRODUCTION

In recent years, the higher education sector has undergone significant global transformation. Initially, higher education was viewed solely as an institution producing educational services, innovation, and knowledge, but now the view is emerging that higher education is also an economic actor. This is demonstrated by the growing phenomenon of higher education as an economic commodity, where higher education is increasingly integrated into market choices and international competition, giving rise to debate about its position as a public good or a private

commodity (Marginson, 2011). This shift has driven demands for efficiency, transparency, and accountability in the governance of higher education institutions.

Theoretically, the New Public Management paradigm and fiscal decentralization theory argue that increased institutional autonomy will drive improved organizational performance through managerial flexibility and efficient resource allocation (Hood, 1991; Oates, 1999). In the context of higher education, university autonomy is believed to enhance global competitiveness (Aghion et al., 2010). However, the literature also shows that the relationship between autonomy and institutional performance is not always linear and is often influenced by the institutional context, managerial capacity, and the accompanying accountability systems (Enders et al., 2013).

Although research on university autonomy has developed extensively in various countries, most previous studies have focused primarily on aspects of university governance, academic performance, or research productivity (Aghion et al., 2010). These studies have relatively rarely examined the specific relationship between the level of institutional autonomy and an institution's financial performance, as measured using standardized national budget indicators. Furthermore, research comparing various university governance models within a single higher education system simultaneously is still limited, particularly in the context of developing countries with multi-layered governance systems.

In the Indonesian context, empirical research on higher education autonomy generally uses a case study approach or regression analysis that focuses on a single type of institution, such as a legal entity state university or a public service agency state university (PTN). This approach has not often compared the three main governance models: PTN Satker, PTN BLU, PTN BH, simultaneously within the same analytical framework. Furthermore, most previous studies have used partial institutional performance indicators, such as managerial performance or financial independence, and have not utilized integrated national financial performance indicators as measures of public sector financial performance.

Furthermore, the integration of analysis between university financial autonomy, institutional financial performance, and its contribution to the sustainable development agenda remains relatively limited in the international literature. Yet, within the framework of the Sustainable Development Goals (SDGs), strengthening public institutional governance is a crucial element in supporting SDG 16 (Peace, Justice, and Strong Institutions), while the quality and sustainability of the higher education system are part of achieving SDG 4 (Quality Education). Therefore, evaluating the effectiveness of higher education governance reforms is not only important in the context of national education policy but also relevant in the global discourse on the role of universities as key institutions in sustainable development (Trencher et al., 2014; Marginson, 2016).

The Indonesian context is of global interest because its higher education system implements a multi-layered governance model with varying levels of autonomy within a single national system. This model creates a policy laboratory that allows for comparative analysis of how levels of institutional autonomy influence institutional performance within the public sector. With its large number of public universities and a nationally standardized financial performance measurement system, Indonesia provides an important empirical context for testing the relevance of institutional autonomy and fiscal decentralization theories in the higher education sector in developing countries.

Against this backdrop, this study aims to examine differences in the financial performance of public universities based on their level of financial autonomy (PTN Satker, PTN BLU, and PTN BH), as measured by three indicators: EKA, IKPA, and NKA. It also analyzes their implications for strengthening the role of higher education in supporting the Sustainable Development Goals.

This study contributes theoretically by expanding understanding of the relationship between institutional autonomy and financial performance in higher education, while enriching New Public Management and fiscal decentralization discourse. Empirically, it addresses gaps by comparing three PTN governance models using official performance indicators. Practically, it provides insights

for evaluating governance reforms and improving financial performance measurement. Academically, it offers a reference for future research and supports integrating financial governance with sustainable development and SDGs discourse.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

The literature review in this study was conducted to establish a conceptual foundation for the relationship between financial autonomy, public sector financial performance, and the strategic role of higher education institutions in sustainable development. The literature utilized integrates perspectives from modern public governance, performance-based budgeting, and the concept of higher education institutions as economic actors in a global context.

Modern public sector reforms demonstrate a shift from traditional bureaucratic models to more flexible, adaptive, and performance-oriented governance. In this context, institutional autonomy is a key instrument believed to improve organizational efficiency and performance by granting broader decision-making authority. Studies show that increased autonomy in public organizations has the potential to foster innovation, responsiveness, and effective resource management, particularly when supported by adequate managerial capacity (Lapiente & Van de Walle, 2020; OECD, 2020).

In the context of higher education, university autonomy is not only related to academic aspects but also encompasses authority in financial management, human resources, and organizational strategy. Universities with greater autonomy tend to have flexibility in allocating resources and responding to increasingly competitive environmental dynamics. However, several studies have shown that the relationship between autonomy and performance is contextual and not always linear, particularly in developing countries that still have strong fiscal regulations and nationally standardized budgeting systems (OECD, 2020). This suggests that autonomy should be understood as part of a broader governance design, rather than as the sole determinant of institutional performance.

In line with these developments, the measurement of public sector financial performance has also undergone significant transformation through the implementation of performance-based budgeting, which emphasizes the link between budget allocations and achieved results. This approach focuses not only on budget compliance but also on the effectiveness, efficiency, and accountability of public resource use (OECD, 2019; World Bank, 2018). In practice, public sector financial performance reflects an institution's ability to manage the integrated processes of budget planning, implementation, and evaluation. Empirical studies have shown that the quality of financial management and organizational governance is significantly related to improved public sector performance, although this influence is often influenced by contextual factors such as organizational capacity and institutional complexity (Andrews et al., 2011).

In the Indonesian context, financial performance measurement has been standardized through national indicators such as Budget Performance Evaluation (EKA), Budget Execution Performance Indicators (IKPA), and Budget Performance Values (NKA). These three indicators represent different dimensions of financial performance, ranging from the effectiveness of output achievement, the quality of budget implementation, to comprehensive budget performance that integrates planning and realization aspects (Ministry of Finance of the Republic of Indonesia, 2023). Furthermore, this measurement system is part of the government agency performance accountability framework that emphasizes the link between budget use and achievement of results (LAN RI, 2020). This approach reflects the government's efforts to integrate the state financial management system with performance-based accountability mechanisms, thus enabling a more comprehensive and objective evaluation of the performance of public institutions.

Furthermore, from a broader perspective, universities are now no longer viewed solely as educational institutions, but also as anchor institutions with a strategic role in local and global economic development. Universities contribute through human resource development, innovation,

and collaboration with various stakeholders. Studies show that university involvement in local development can increase regional economic competitiveness and strengthen community institutional capacity (Trencher et al., 2014; Leal Filho et al., 2019). Furthermore, increased participation in higher education also contributes to social mobility and long-term economic stability (Marginson, 2016).

Within the framework of the Sustainable Development Goals (SDGs), the role of higher education institutions is increasingly important, particularly in supporting SDG 4 (Quality Education) and SDG 16 (Peace, Justice, and Strong Institutions). The quality of governance and financial performance of higher education institutions are key factors in ensuring the sustainability of educational services and strengthening institutional capacity. The literature shows that institutions with good governance and strong financial management systems tend to be better able to contribute to sustainable development, both through improving educational quality and through strengthening transparency and accountability (OECD, 2019; World Bank, 2018).

Thus, this literature review demonstrates that the relationship between financial autonomy and higher education institution performance is not simple, but rather influenced by various factors such as governance capacity, accountability systems, and institutional context. In this context, research on differences in financial performance based on the level of autonomy is crucial to provide empirical evidence that can enrich the discourse on the effectiveness of higher education governance reform, particularly in developing countries like Indonesia.

RESEARCH METHODS

This study uses a quantitative approach with a cross-sectional comparative design. The objective of this research design is to examine the differences in financial performance between three models of public university governance based on their level of financial autonomy for a specific period, namely 2025.

The population in this study included all 125 public universities under the Ministry of Higher Education, Science, and Technology, including state universities operating under the purview of the Ministry of Higher Education, Science, and Technology. The sample size was selected using a purposive sampling technique, with 63 public universities having complete financial performance data for 2025: 21 state universities operating under the purview of the Ministry of Higher Education, Science, and Technology, and 21 state universities operating under the purview of the Ministry of Higher Education, Science, and Technology.

This study uses secondary data obtained from official financial performance data for state universities under the Ministry of Higher Education, Science, and Technology in 2025. The data used include Budget Performance Evaluation (EKA), Budget Execution Performance Indicators (IKPA), and Budget Performance Values (NKA). All of these data are official indicators calculated in accordance with the provisions of the Ministry of Finance of the Republic of Indonesia.

The independent variable used in this study is financial autonomy measured based on the classification of PTN governance including PTN Satker (for low level of financial autonomy), PTN BLU (for medium level of financial autonomy) and PTN BH (for high level of financial autonomy). While the dependent variable in this study is financial performance measured through three indicators EKA (as an indicator of the effectiveness of achieving budget output), IKPA (as an indicator of the quality of budget implementation), and NKA (as an aggregate indicator of budget performance achievement based on planning and realization). The measurement scale used for the dependent variable is an interval scale, namely 0-100.

Furthermore, the data analysis technique in this study was carried out through several testing stages. The first is descriptive statistics techniques used to describe the characteristics of the data through measures of centralization and dispersion, such as the average value (mean), standard deviation, and data distribution. This technique aims to provide an initial overview of the financial performance patterns in each PTN governance model. According to Ghocali (2018), descriptive

statistics is the initial step in data analysis to understand empirical conditions before conducting inferential testing. The second stage is the One-Way ANOVA test, where this technique is used to test whether there is a difference in the average financial performance between the three PTN governance groups, namely Satker, BLU, and PTN BH. ANOVA is a parametric statistical method used to compare the average of more than two groups simultaneously (Field, 2013). The significance level in this study was set at $\alpha = 0.05$. If the results of the One-Way ANOVA test show a significant difference, then the third stage is to conduct further testing (post hoc test) using Tukey Honest Significant Difference (HSD). This test aims to specifically identify which pairs of groups have significant mean differences. According to Hair et al. (2018), the Tukey HSD test is a commonly used method because it is able to control type I errors in multiple comparisons. The fourth stage in this study is measuring the magnitude of the effect (effect size) using Eta Squared (η^2). This measure is used to determine the proportion of variation in the dependent variable that can be explained by the independent variable. Cohen (1988) stated that effect size is important for assessing the practical significance of a research result, because a significant p-value does not always indicate a substantial effect. The final step is to interpret the results of the data analysis by linking the empirical findings to the theoretical framework, specifically New Public Management and fiscal decentralization theory, as well as the context of higher education governance reform. In addition, the interpretation is also linked to the role of higher education institutions in supporting the Sustainable Development Goals (SDGs), especially aspects of strengthening institutional capacity (SDG 16) and improving the quality of education (SDG 4).

RESULTS AND DISCUSSION

This research began with processing data on higher education financial performance, measured using the EKA, IKPA, and NKA indicators. The following are the results of the processed descriptive statistical analysis:

Table 1. Descriptive Statistical Analysis Results

STATISTICAL ANALYSIS RESULT	EKA			IKPA			NKA		
	PTN BH	PTN BLU	PTN SATKER	PTN BH	PTN BLU	PTN SATKER	PTN BH	PTN BLU	PTN SATKER
Count	21,00	21,00	21,00	21,00	21,00	21,00	21,00	21,00	21,00
Mean	100,00	99,77	99,65	98,82	93,81	93,52	99,41	96,79	96,59
Standard Error	-	0,12	0,32	0,48	0,53	0,58	0,24	0,27	0,28
Median	100,00	100,00	100,00	99,77	93,17	93,61	99,89	96,59	96,67
Standard Deviation	-	0,54	1,47	2,21	2,41	2,64	1,11	1,25	1,29
Minimum	100,00	98,18	93,25	90,31	90,29	87,42	95,16	95,11	93,71
Maximum	100,00	100,00	100,00	100,00	98,65	98,47	100,00	99,33	99,24

Source : Directorate General of Treasury (data processed with Ms. Excel)

Based on descriptive statistics of 63 state universities in Indonesia, several key findings were identified. For the EKA indicator, the average scores for PTN Satker, BLU, and BH were 99.65, 99.77, and 100.00, respectively, with minimal differences and low standard deviation (0–1.47), indicating similar output effectiveness across governance models. For the IKPA indicator, average scores were 93.53 (Satker), 93.81 (BLU), and 98.82 (BH), showing a notable difference, particularly for PTN BH, with higher variability (2.21–2.64). This suggests better budget execution performance in institutions with higher autonomy. Similarly, for the NKA indicator, average scores were 96.59 (Satker), 96.79 (BLU), and 99.41 (BH), again indicating higher performance among PTN BH. Overall, the findings suggest that while output effectiveness remains consistent, higher autonomy is associated with improved performance in budget implementation and overall financial management.

In general, the results of the descriptive statistical analysis indicate differences in financial performance between state university governance models in terms of budget execution (IKPA) and planning and evaluation (NKA). However, no significant differences were observed in terms of output achievement effectiveness (EKA). The results of this analysis are illustrated in the following graph:

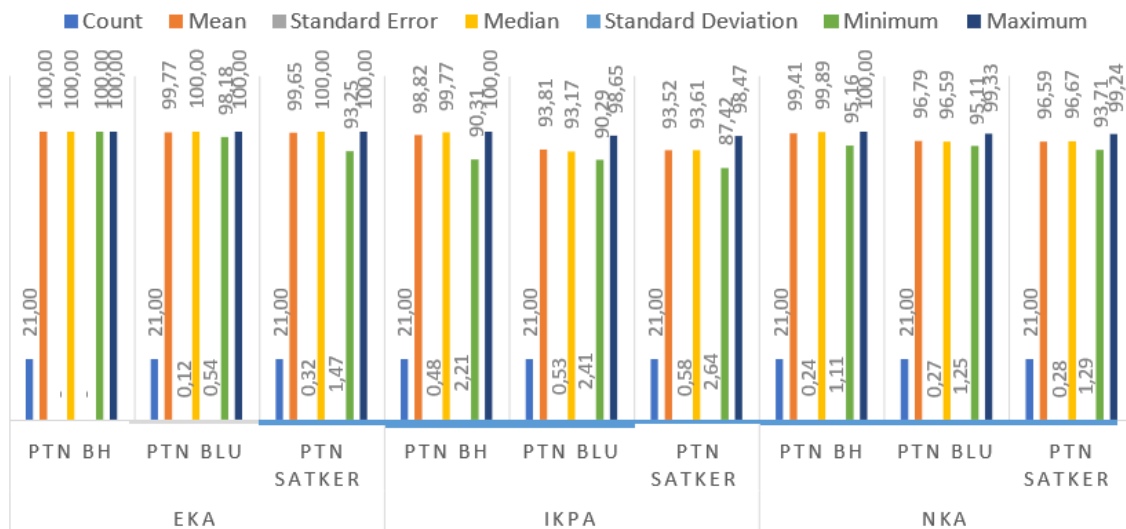


Figure 1. Descriptive Statistical Analysis Results

After conducting the descriptive analysis, the next step is to conduct a One-Way ANOVA test. The following are the results of the One-Way ANOVA test for each indicator:

ANOVA

EKA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,310	2	,655	,799	,454
Within Groups	49,196	60	,820		
Total	50,507	62			

Figure 2. One-Way ANOVA Test Results for EKA Indicators

From the results of the One-Way ANOVA test on the EKA Indicator, an F value of 0.799 and a p-value of 0.454 were obtained. Thus, the p-value > 0.05. This indicates that there is no significant difference in financial performance in terms of the effectiveness of achieving budget outputs between PTN Satker, PTN BLU and PTN BH. Thus, the level of financial autonomy does not statistically differentiate the achievement of budget outputs between PTN governance models.

ANOVA

IKPA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	372,175	2	186,088	31,574	<,001
Within Groups	353,618	60	5,894		
Total	725,794	62			

Figure 3. One-Way ANOVA Test Results for IKPA Indicators

From the results of the One-Way ANOVA test on the Budget Execution Performance Indicator (IKPA), an F value of 31.574 and a p-value of <0.001 were obtained. Thus, the p-value <0.05 . This indicates that there are significant differences in financial performance in the aspect of budget implementation between PTN Satker, PTN BLU and PTN BH. This finding indicates that the level of financial autonomy in PTN is related to differences in discipline and managerial quality of budget implementation.

ANOVA

NKA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	103,820	2	51,910	34,979	<,001
Within Groups	89,042	60	1,484		
Total	192,863	62			

Figure 4. One-Way ANOVA Test Results for NKA Indicators

The One-Way ANOVA test results for the Budget Performance Value (NKA) indicator yielded an F-value of 34.979 and a p-value of <0.01 . Thus, the p-value is <0.05 . This indicates a significant difference in financial performance in the planning and evaluation aspects between PTN Satker, PTN BLU, and PTN BH.

Thus, the hypothesis stating that there are differences in financial performance based on the level of financial autonomy at Indonesian public universities (PTN) is accepted for the IKPA and EKA indicators. Conversely, the hypothesis is rejected for the EKA indicator. This finding indicates that the influence of financial autonomy is more evident in the quality of budget implementation and aggregate performance than in the effectiveness of achieving budget outputs.

After the One-Way ANOVA test results showed significant differences in several financial performance indicators, the analysis continued with a post hoc test using the Tukey HSD method. For the Budget Performance Evaluation (EKA) indicator, the One-Way ANOVA test results indicated no significant differences between higher education governance models, therefore, a post hoc test was not conducted on this indicator. Furthermore, the Budget Execution Performance Indicator (IKPA) showed significant differences between several pairs of governance groups, with the Tukey HSD test results as follows:

Post Hoc Tests

Multiple Comparisons

Dependent Variable: IKPA
Tukey HSD

(I) OTONOMI KEUANGAN	(J) OTONOMI KEUANGAN	Mean Difference (I-J)	Std. Error	Sig.
PTN BH	PTN BLU	5,010*	,749	<,001
	PTN SATKER	5,290*	,749	<,001
PTN BLU	PTN BH	-5,010*	,749	<,001
	PTN SATKER	,280	,749	,926
PTN SATKER	PTN BH	-5,290*	,749	<,001
	PTN BLU	-,280	,749	,926

Figure 5. IKPA Indicator Post Hoc Test Results

In detail, the analysis results show a significant difference between PTN BH and PTN BLU ($p<0.001$), with PTN BH having a higher IKPA score. Furthermore, there is a significant difference between PTN BH and PTN Satker ($p<0.001$), indicating that PTN BH has better budget execution performance. Conversely, there is no significant difference between PTN BLU and PTN Satker ($p=0.926$). These results are further supported by the homogeneous subsets analysis, which shows

that PTN Satker and PTN BLU are in the same group, while PTN BH is in a different group with a higher average score.

Furthermore, the results of the Tukey HSD post hoc test on the Budget Performance Value (NKA) indicator show a similar pattern to the IKPA indicator, with the following results:

Post Hoc Tests

Multiple Comparisons				
Dependent Variable: NKA				
Tukey HSD				
(I) OTONOMI_KEUANGAN	(J) OTONOMI_KEUANGAN	Mean Difference (I-J)	Std. Error	Sig.
PTN BH	PTN BLU	2,617 [*]	,376	<,001
	PTN SATKER	2,818 [*]	,376	<,001
PTN BLU	PTN BH	-2,617 [*]	,376	<,001
	PTN SATKER	,201	,376	,855
PTN SATKER	PTN BH	-2,818 [*]	,376	<,001
	PTN BLU	-,201	,376	,855

Figure 6. NKA Indicator Post Hoc Test Results

In detail, there was a significant difference between PTN BH and PTN BLU ($p < 0.001$), with PTN BH showing higher NKA scores. Furthermore, there was a significant difference between PTN BH and PTN Satker ($p < 0.001$), indicating a superiority of PTN BH in achieving budget performance. However, there was no significant difference between PTN BLU and PTN Satker ($p = 0.855$). The homogeneity results also indicate that PTN Satker and PTN BLU are in a homogeneous group, while PTN BH forms a separate group with higher average scores.

The findings of the Tukey HSD post hoc test on the IKPA and NKA indicators strengthen the argument that increasing financial autonomy has the potential to improve the quality of budget execution and budget performance achievement, but the impact is not always linear across all levels of autonomy. Thus, the effectiveness of governance reform is determined not only by the level of autonomy, but also by the managerial capacity and accountability systems that support it. In addition to statistical significance testing, this study also analyzed the effect size using the Eta Squared (η^2) value to determine the contribution of different governance models to variations in financial performance. The Eta Squared (η^2) results for the EKA indicator are as follows:

ANOVA Effect Sizes^{a,b}

		Point Estimate	95% Confidence Interval	
EKA	Eta-squared	,026	,000	,123
	Epsilon-squared	-,007	-,033	,093
	Omega-squared Fixed-effect	-,006	-,033	,092
	Omega-squared Random-effect	-,003	-,016	,048

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

b. Negative but less biased estimates are retained, not rounded to zero.

Figure 7. Effect Size Test Results (Eta Squared) EKA Indicator

For the EKA indicator, the Eta Squared (η^2) value of 0.026 indicates that only approximately 2.6% of the variation in EKA can be explained by differences in PTN governance models. Based on general criteria for interpreting effect size (Cohen, 1988), this value falls within the small effect category. This indicates that differences in levels of financial autonomy do not significantly impact the effectiveness of achieving budget outputs.

Furthermore, the Eta Squared (η^2) results for the IKPA indicator are as follows:

ANOVA Effect Sizes^a

		Point Estimate	95% Confidence Interval	
			Lower	Upper
IKPA	Eta-squared	,513	,318	,627
	Epsilon-squared	,497	,296	,615
	Omega-squared Fixed-effect	,493	,292	,611
	Omega-squared Random-effect	,327	,171	,440

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

Figure 8. Effect Size Test Results (Eta Squared) IKPA Indicator

For the IKPA indicator, the Eta Squared (η^2) value of 0.513 indicates that approximately 51.3% of the variation in IKPA performance can be explained by differences in PTN governance models. This value falls within the large effect category, indicating that the level of financial autonomy has a strong substantive influence on the quality of budget execution.

The final Eta Squared (η^2) test was conducted on the NKA indicator, with the following results:

ANOVA Effect Sizes^a

		Point Estimate	95% Confidence Interval	
			Lower	Upper
NKA	Eta-squared	,538	,348	,647
	Epsilon-squared	,523	,326	,636
	Omega-squared Fixed-effect	,519	,323	,632
	Omega-squared Random-effect	,350	,193	,462

a. Eta-squared and Epsilon-squared are estimated based on the fixed-effect model.

Figure 9. Effect Size Test Results (Eta Squared) NKA Indicator

For the NKA indicator, the Eta Squared (η^2) value of 0.538 indicates that approximately 53.8% of the variation in overall budget performance can be explained by differences in governance values. This value also falls within the large effect category, indicating that the governance model has a very strong influence on overall budget performance.

The final step in this series of test results is the interpretation of the test results/data analysis. The results of descriptive statistical analysis, one-way ANOVA, Tukey HSD post hoc test, and Effect Size (Eta Squared) test revealed several important findings. First, there was no significant difference in the Budget Performance Evaluation (EKA) indicator, indicating that the effectiveness of achieving budget outputs was relatively even across the three PTN governance models. This indicates that the planning and target output achievement mechanisms within the APBN system have been standardized nationally. Therefore, differences in levels of financial autonomy do not substantially impact budget output achievement. This finding points to the dominance of centralized institutional control, which, from the perspective of fiscal decentralization theory (Oates, 1999), indicates that local discretionary space is still limited and therefore unable to encourage economic-based performance differentiation.

Second, there were significant differences in the Budget Execution Performance Indicator (IKPA). These results indicate that the level of financial autonomy is closely related to the quality of budget execution. Legally-Based State Universities (PTN BH) have greater flexibility and authority

and demonstrate better managerial discipline and capacity in budget management. This finding supports the New Public Management (NPM) theory proposed by Hood (1991), which believes that decentralization and managerial flexibility can improve organizational efficiency and performance through more adaptive and responsive decision-making.

Third, there were significant differences in the Budget Performance Value (NKA) indicator, indicating that overall, governance models with higher levels of autonomy tend to achieve better budget performance. These results strengthen the argument that financial autonomy not only impacts operational aspects but also institutional budget performance.

However, upon more critical analysis, the findings of this study indicate that the influence of financial autonomy is uneven across all performance dimensions. Autonomy was shown to have a significant impact on process and managerial aspects, but not on outcomes. This condition reflects the phenomenon of partial reform success, where governance reforms successfully improve internal efficiency but have not yet fully impacted the achievement of more optimal outputs. These findings also challenge the linear assumption in NPM theory, which assumes that increased autonomy will automatically improve all dimensions of organizational performance. In this context, the results of this study indicate that the relationship between autonomy and performance is contextual and not universal, thus requiring a deeper and more contextual understanding in its implementation. These results align with international studies. Aghion et al. (2010) found that university autonomy can improve institutional performance, particularly in managerial aspects. However, De Boer and Enders (2017) showed that increased governance capacity is not always followed by improved academic outcomes. Thus, the findings in the Indonesian context reinforce the global literature that governance reforms impact processes more quickly than outcomes.

In the Indonesian context, the budgeting system, which is still based on the state budget (APBN) and national regulations, results in semi-limited autonomy. This results in autonomy's impact being predominantly focused on administrative and managerial aspects, but it has not yet fully driven innovation and differentiation of institutional outputs. Therefore, this study makes an important contribution to the literature on higher education governance by demonstrating that the effectiveness of financial autonomy is highly dependent on institutional design and the regulatory context. Financial autonomy in a nationally standardized system tends to result in increased process efficiency, but is not yet strong enough to drive outcome-based performance transformation.

Furthermore, the results of this study also have a strong link to the global Sustainable Development Goals (SDGs) agenda, particularly in the context of strengthening institutional capacity and the quality of higher education. This link is not only normative but can also be explained through the mechanisms by which financial governance influences institutional capacity and the sustainability of higher education services. The findings of this study demonstrate significant differences in the IKPA and NKA indicators, reflecting that governance design and the level of financial autonomy contribute to strengthening institutional capacity (institutional capacity building). From a governance capacity perspective, budget execution quality (IKPA) represents an institution's ability to manage resources effectively, timely, and in accordance with accountability principles, while overall budget performance (NKA) reflects the integration of planning, implementation, and budget performance evaluation. The literature on governance capacity emphasizes that institutions with flexible decision-making and adaptive management systems tend to be better able to manage public resources efficiently and accountably (Andrews et al., 2011). In the context of public universities (PTN), both IKPA and NKA indicate improved managerial capacity and financial governance quality. Therefore, when linked to SDG 16 (Strong Institution), this study illustrates that increased financial autonomy means increased managerial flexibility and capacity, thereby improving the quality of budget management and automatically strengthening institutions that are more effective, transparent, and accountable. These findings demonstrate that higher education governance reform in Indonesia contributes to the global agenda of building strong and integrated public institutions.

Furthermore, although the EKA indicators do not show significant differences, the findings for IKPA and NKA still have important implications for education quality. From a public sector management perspective, governance quality is a factor influencing the sustainability of educational services and improving the quality of institutional outputs. Institutions with better budget execution are more capable of ensuring the sustainability of academic programs, the effective use of research and development funds, innovation, and educational services. This aligns with the literature stating that sound governance and financial management capacity are essential prerequisites for improving the quality of public services, including education (World Bank, 2017; OECD, 2019). Therefore, the linkage mechanism with SDG 4 (Quality Education) can be explained by explaining that improving the quality of financial governance can increase the efficiency and sustainability of education financing, thereby improving the quality of educational services, contributing to the achievement of inclusive and quality education.

Based on the discussion, the Framework for the Linkage of Higher Education Financial Governance Reform to the SDGs can be illustrated as follows:



Figure 10.

Framework for Linking Higher Education Financial Governance Reform to the SDGs

The figure shows that increased financial autonomy acts as a driving factor and strengthens institutional governance capacity. This increased capacity subsequently contributes to the quality of budget execution and institutional accountability, ultimately supporting the achievement of SDG 6 (strong institutions) and SDG 4 (quality education). Thus, governance reforms not only impact administrative aspects but also have strategic implications for sustainable development.

CONCLUSION

Based on the analysis of financial performance differences across three public university governance models in Indonesia, several conclusions can be drawn. First, no significant differences were found in the EKA indicator, indicating that output effectiveness is relatively similar across all governance models regardless of financial autonomy. Second, significant differences were identified in the IKPA indicator, particularly for PTN BH, suggesting that higher autonomy is associated with better budget execution quality and managerial discipline. Third, significant differences were also observed in the NKA indicator, showing that institutions with higher autonomy tend to achieve better overall financial performance. These findings are relevant to SDG 16, as they highlight the importance of governance design in strengthening institutional capacity and public sector management. They also relate to SDG 4, as strong financial governance supports sustainable education services. Overall, financial autonomy is a strategic instrument, although output effectiveness remains dependent on managerial capability.

Based on the research findings, the following are several suggestions and recommendations, both policy and academic. First, the government needs to avoid a top-down approach in

encouraging the transformation of state university governance. The process of change towards a higher level of autonomy should not be based solely on fulfilling administrative aspects, but should comprehensively consider the existing conditions of each state university. Thus, the transformation of state university governance can be carried out more selectively and based on institutional readiness, thereby minimizing the risk of ineffective reform implementation. Second, the government ideally needs to conduct regular monitoring and evaluation of the implementation of state university governance. Third, universities need to prioritize strengthening managerial capacity and internal control systems, especially for state universities in the transition stage towards a governance model with a higher level of autonomy. Fourth, the implementation of state university governance reforms needs to be accompanied by strengthening public transparency to minimize the perception of commercialization of education. Finally, there is a need for integration between financial performance indicators and indicators of contribution to the SDGs as part of the national higher education policy.

This study has several limitations that should be considered when interpreting the results. First, the use of one-year cross-sectional data is not capable of capturing the long-term dynamics of higher education governance reform. Second, the comparative descriptive research design does not allow for causal inferences, so the results only show differences between groups without confirming causal relationships. Third, this study did not include control variables such as institutional size, location, and budget capacity, which could potentially influence financial performance, thus creating interpretation bias. Fourth, there are indications of a ceiling effect in the EKA indicator, which has a high and relatively homogeneous value, thus limiting the analysis's ability to detect performance variations. Therefore, further research is recommended to use long-term panel data, add control variables, and apply a more robust analytical approach to gain a more comprehensive understanding.

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