Journal of Applied Economic Sciences
Volume XXI, Summer, Issue 3(93), 2026

Financial Autonomy and Institutional Performance under Economic Instability: Evidence from Educational Systems

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Article's History
Received 23rd of April, 2026; *Revised* 29th of May, 2026; *Accepted* 12th of June, 2026; *Available online*: 30th of June, 2026. *Published* as research article in the Volume XXI, Summer, Issue 3(93), 2026.

Suggested Citation
Sokrovolska, N., Poliak-Sverhun, M., Lytvyn, L., Shchokin, R., & Hryhorieva, N. (2026). Financial Autonomy and Institutional Performance under Economic Instability: Evidence from Educational Systems. *Journal of Applied Economic Sciences*, Volume XXI, Summer, 3(93), 877 – 891. https://doi.org/10.57017/jaes.v21.3(93).10

Abstract

The relevance of the research topic stems from the increasing impact of global crises on the stability of education system funding, necessitating a rethinking of resource management mechanisms. In such conditions, financial autonomy emerges as a strategic tool for enhancing the resilience and efficiency of educational institutions. The aim of the article is to identify effective mechanisms for managing the financial autonomy of educational institutions under economic instability. The study focuses on establishing the relationship between the level of financial independence and the performance of educational institutions in the context of their capacity for strategic adaptation.

The methodology is based on cross-country comparative analysis, regression modelling, and dynamic financial data analysis. The research covers 30 educational institutions from six countries over the period 2016–2023. An integrated financial autonomy index was calculated on a scale from 0 to 1. A positive correlation was found between the level of autonomy and institutional effectiveness: an increase of 0.1 in the financial autonomy index correlates with a 2% increase in graduates' average scores and a 1.5% rise in employment rates ($p < 0.01$). This study is the first to combine regression analysis of financial autonomy and educational outcomes at the international level, offering a quantitative model for evaluating the effectiveness of autonomy as a strategic management tool in education. Future research should expand the quantitative analysis by including more countries with diverse autonomy models and development levels. It is also advisable to use qualitative methods to gain deeper insights into internal management practices related to financial autonomy.

Keywords: financial autonomy; education finance; economic instability; resource allocation efficiency.

JEL Classification: H75; I22; I28; O43; C33.

Introduction

Financial autonomy of educational institutions is an important tool for enhancing resource management efficiency, fostering innovation, and adapting to a changing economic environment. At this point, it is important to clearly distinguish between the concepts of financial autonomy and financial sustainability, which are closely related but not identical. Financial autonomy primarily refers to the institutional capacity and formal right to independently allocate and manage financial resources, including decisions on expenditure structure, internal redistribution of funds, and budgetary flexibility. In contrast, financial sustainability reflects the ability of an institution to generate stable and diversified income streams over time, including tuition fees, grants, and other non-budgetary sources. While financial autonomy concerns "how funds are managed," financial sustainability addresses "how funds are generated." These two dimensions are interdependent: a higher level of financial sustainability expands the real scope of autonomy, whereas effective autonomy enhances the efficiency of resource use. However, the presence of one does not automatically guarantee the other, which necessitates their separate analytical consideration in this study.

In the current climate of economic instability, triggered by global financial crises, pandemic-related challenges, and geopolitical conflicts, the issue of financial independence in educational institutions has become particularly pressing (Semenets-Orlova et al., 2023). Countries implement financial autonomy models according to their socioeconomic realities, necessitating comparative analysis of their effectiveness (Bulvinska, 2023). In EU countries, mechanisms of budgetary flexibility and diversified funding sources are actively employed (Yurchyshena, 2023), while Ukraine faces issues with funding, regulatory support, and management efficiency (Dobrianska, 2023).

This study aims to identify best international practices and adapt effective strategies to the Ukrainian context, thereby strengthening the financial resilience of the education sector. The scientific novelty of the work lies in the comprehensive integration of quantitative analysis of financial indicators with educational performance metrics. This enables justification of the strategic value of autonomy not merely as a political statement but as a tangible tool for enhancing the sustainability of the education system in times of instability. The study hypothesizes that financial autonomy has a positive impact on the performance and resilience of educational institutions in economically unstable conditions - particularly through improved academic outcomes, more efficient resource use, and higher graduate employment rates.

The purpose of this research is to determine effective mechanisms for managing the financial autonomy of educational institutions under conditions of economic instability.

The objectives of the research are to:

- conduct a comparative analysis of financial autonomy models in different countries;
- assess their impact on the effectiveness of educational institutions;
- develop recommendations for improving financial autonomy in Ukrainian educational institutions.

1. Literature Review

In recent academic discourse, financial autonomy of educational institutions is viewed as a key factor in improving the efficiency of resource management. It also ensures the stable functioning of the education system amid economic challenges and serves as a tool for strategic development. According to Hong (2023), financial autonomy contributes to improved budget management and increased accountability of educational institution leaders, while also requiring a high level of managerial maturity. The author rightly emphasizes the importance of enhancing financial transparency and increasing the professional competence of managers. This is a valid point; however, it should be noted that the study does not cover the context of economic crises, in which autonomy may take on specific forms. Liang (2023) emphasizes that financial autonomy is achieved through the development of internal reserves and the ability of higher education institutions (HEIs) to self-finance, which reduces dependence on budgetary funding.

A comparative analysis of university autonomy models in the EU, conducted by Bulvinska (2024), highlights the importance of balancing financial independence of HEIs with social responsibility. In her previous research, Bulvinska (2023), examined mechanisms for implementing such responsibility through European experience. Despite the value of the proposed approach, both studies are predominantly normative in nature and require empirical validation.

Yurchyshena (2023) proposed a methodology for assessing the financial sustainability of HEIs, focusing on the role of financial diagnostics in strategic planning. In a previous study (Yurchyshena et al., 2021), the authors analysed universities' revenue bases, identifying risks of dependence on the state budget. Despite their practical value, these approaches do not take into account the institutional capacity to implement financial autonomy. In this context, Yurchenko et al. (2022) draw attention to weaknesses in the regulatory framework and the lack of proper coordination in financial management. This aligns with the conclusions of Zhuravel et al. (2022), who emphasize the importance of administrative mechanisms as part of strategic autonomy management. At the same time, Ramskyi (2023) stresses that the current model of funding general secondary education does not meet the needs of post-crisis transformation.

The issue of digitalization of management processes is addressed in the work of George & Wooden (2023), which demonstrates the potential of artificial intelligence for strategic transformation in educational management. Similar arguments are advanced by Nicola-Gavrilă (2023), who highlights both the opportunities and challenges associated with the digital transformation of educational systems, emphasizing the need for institutional adaptability, technological readiness, and sustainable governance mechanisms. Also, the study by Gkrimpizi et al. (2023) classifies barriers to digital transformation in HEIs. All these three sources emphasize the need for institutional support for digital autonomy.

Meanwhile, Shofolova (2022) points out the risks of digital inequality and the lack of personnel readiness for such changes, which calls for deeper analysis from a public policy perspective. Heaton et al. (2023) presented the concept of dynamic capabilities, according to which the effectiveness of financial autonomy depends on the flexibility of management structures. This idea deserves special attention, as it highlights the importance not only of resources but also of organizational culture and innovation capacity.

Particular mention should be made of Goziev's (2023) work, which explores funding models in a comparative context, pointing to the need for normative integration of autonomy principles into education legislation. In the study by Efriliyanti et al. (2022), financial management under regional autonomy is analysed, offering interesting parallels for examining the Ukrainian context of decentralization.

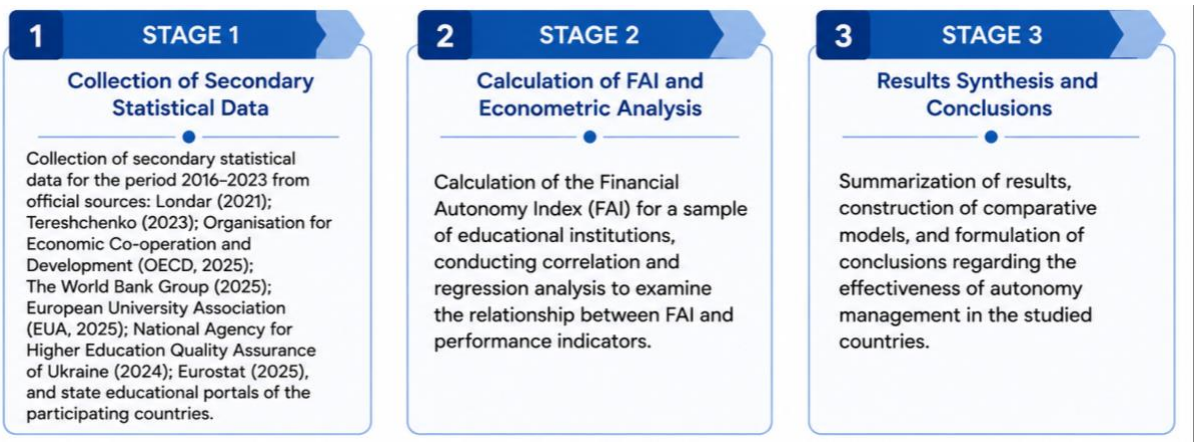
Semenets-Orlova et al. (2022; 2023) explore the transformation of educational management under wartime conditions, with an emphasis on adaptive management and remote formats. Although these works highlight important aspects of autonomy, they do not offer scalable models suitable for more stable conditions. Additionally, Titova & Titova (2023) compare foreign administrative practices in education, pointing to the importance of managerial adaptability. Dos Santos et al. (2022) analyse the experience of educators working with digital platforms, emphasizing the need to combine digital and financial autonomy.

Overall, the literature review demonstrates that research on financial autonomy is multidimensional, covering economic, managerial, digital, and institutional aspects. At the same time, several "blind spots" have been identified. First, there is a lack of comprehensive cross-country empirical comparison of autonomy models under conditions of economic instability. Second, insufficient attention is paid to the local level of governance (communities). Third, there are contradictions in the interpretation of the boundaries of autonomy between the state and educational institutions. These aspects indicate the need for further research that takes into account not only the macroeconomic context but also the specifics of institutional implementation of financial autonomy.

2. Research Methods

The study included three main stages, illustrated in Figure 1. These stages served as the empirical foundation for assessing the effectiveness of financial autonomy of educational institutions under conditions of economic instability, using Ukraine and a number of foreign countries as examples.

Figure 1. Research Design and Study Stages

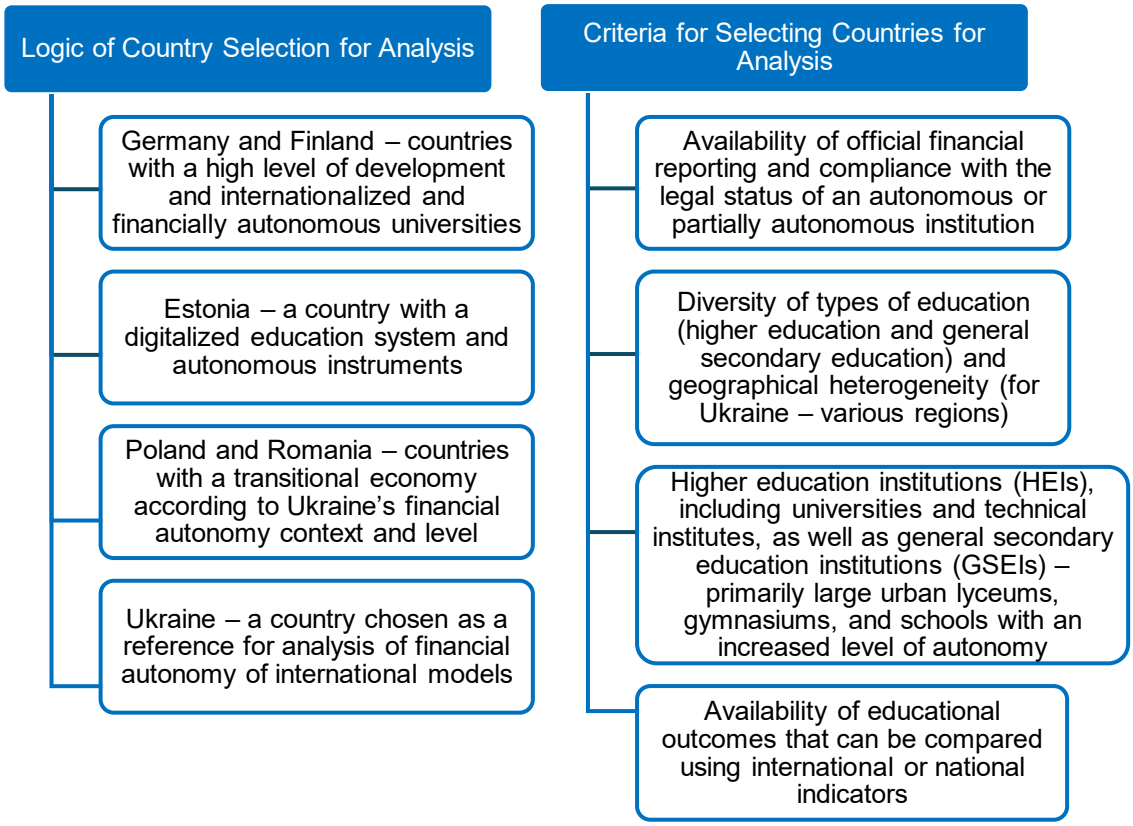


Source: Authors' elaboration.

The sample for the empirical study was formed based on the principles of representativeness, cross-country comparison, and availability of official statistical data for the period 2016–2023. The total sample consisted of 30 educational institutions from six countries, the selection of which was based on the factors described in Figure 2. The selected countries represent different models of financing and levels of financial autonomy: from high (Estonia, Finland, Germany) to moderate or limited (Poland, Romania, Ukraine). This approach made it possible to identify structural features of financial management in education under different degrees of decentralization and economic stability.

Consideration was also given to the availability of open data, systematic participation of the countries in PISA, and their territorial inclusion in the European educational space. Within the sample, 3–6 key institutions of two types were analysed per country, which met the criteria shown in Figure 2. These included higher education institutions (universities, technical institutes) and general secondary education institutions (gymnasiums, lyceums, large urban schools) operating in the public sector and possessing elements of financial autonomy. Thus, the 30 sample units ensured the minimum required size for statistically reliable regression analysis. This corresponds to the rule that the number of observations must be at least three times greater than the number of explanatory variables in the model. In addition, this ensured a balanced ratio between the number of countries and the number of institutions per country.

Figure 2. Country Selection for Financial Autonomy Analysis



Source: Author's development.

Three practical methods were used in the study to provide empirical testing of the hypotheses (all calculations were performed using Microsoft Office Excel 2021 software).

Comparative cross-country analysis was applied for systematic comparison of financial autonomy models in selected EU countries and Ukraine. The analysis was based on indicators such as: share of own revenues in the institution's total budget, the right to independently reallocate funds, and the degree of state influence on the formation of the institution's financial policy. Normalized values on a 0–1 scale was used for comparison.

Regression analysis was used to determine the relationship between the level of financial autonomy (FAI) and the performance of an educational institution. The dependent variables included: average graduate scores, employment rate of graduates (for HEIs), and the average cost of education per pupil/student. The multiple linear regression model was as follows:

$$Y = \beta_0 + \beta_1 \cdot FAI + \beta_2 \cdot T + \varepsilon$$

where: *Y* is the performance indicator; FAI is the Financial Autonomy Index; T is the type of institution (higher education institution [HEI] / general secondary education institution [GSEI]); X_3 – the share of the population using online social services (%); β_0 – constant; β_1, β_2 – estimated regression coefficients; ε – random error term of the model.

Dynamic (trend) analysis was used to track changes in key financial parameters over time. In particular, the study examined: the change in the proportion of autonomous revenues in the institution's total budget; changes in the structure of funding sources (state budget, paid services, grants); and changes in the cost of financial management (administrative expenses). This method made it possible to assess how the level of autonomy evolved over 2016–2023 and what consequences it had for the financial sustainability of the institutions.

The selected methodological tools ensured a high level of validity and reliability of the study. The combination of a comparative approach with regression modelling and dynamic analysis made it possible to uncover cause-and-effect relationships between the level of autonomy and the performance of educational institutions under conditions of economic instability, both in Ukraine and in the international context.

3. Research Results

A comparative analysis of six countries revealed significant differences in the level of financial autonomy of educational institutions. The highest Financial Autonomy Index (FAI) values are observed in systems with decentralized governance, particularly in Germany and Finland, which are characterized by well-developed autonomy mechanisms. The FAI for these countries is estimated between 0.60–0.65 (on a scale from 0 to 1), corresponding to the "above average" classification according to the European University Association (EUA, 2025). Estonia demonstrated the highest FAI of approximately 0.75, confirming the active implementation of flexible financial practices in its educational institutions. In contrast, Poland and Romania belong to the group with relatively lower FAIs (~0.55 and ~0.45, respectively), reflecting the continued significant state control over university finances. Ukraine showed the lowest level of autonomy (FAI ~0.40), consistent with ongoing problems in regulatory and financial support for education in the country.

These are summarized in Table 1. The share of own revenues in the budgets of educational institutions correlates with the FAI: countries with higher autonomy generate a greater percentage of their funds independently. In particular, the share of non-budgetary income exceeds 30% in Ukraine, largely due to tuition fees and grants. In Poland, this share is only 16%, and in Finland and Romania it does not exceed 2–5%, indicating an almost complete dependence of Polish, Romanian, and Finnish institutions on the state budget. In contrast, in Estonia and especially in Ukraine, funding sources are more diversified.

Table 1. Financial Autonomy and Own-Revenue Shares, 2016–2023

Country	FAI (0–1)	Share of Own Revenues, % of Budget
Germany	0.65	12%
Finland	0.60	3%
Estonia	0.75	15%
Poland	0.55	16%
Romania	0.45	5%
Ukraine	0.40	34%

Source: compiled by the author based on data from Londar (2021), Tereshchenko (2023), OECD (2025), The World Bank Group (2025), EUA (2025), National Agency for Higher Education Quality Assurance of Ukraine (2024), Eurostat (2025).

Dynamic analysis showed that between 2016 and 2023, the share of autonomous income increased significantly in Central and Eastern European countries. In order to further strengthen the applied dimension of the study, it is important to consider the recent dynamics of non-budgetary funding in Ukrainian higher education institutions. According to analytical reports and national statistics, the share of non-budgetary revenues in Ukrainian universities demonstrated a gradual upward trend during the period 2019 - 2023. In particular, this share increased from approximately 28% in 2019 to about 30% in 2020, followed by a rise to 32% in 2021. Despite the economic disruptions caused by the COVID-19 pandemic and the full-scale war in 2022, the indicator continued to grow, reaching around 33% in 2022 and approximately 34% in 2023. This trend reflects the increasing role of alternative funding sources, including tuition fees, international grants, and project-based financing. It also indicates the gradual adaptation of Ukrainian educational institutions to conditions of financial decentralization and economic instability. Thus, even without a radical expansion of formal financial autonomy (i.e., decision-making rights over expenditures), institutions have been forced to enhance their financial sustainability by increasing their capacity to generate non-budgetary revenues, which confirms the practical relevance of the financial autonomy model analysed in this study.

In Estonia and Poland, it grew by an average of 5%, driven by the expansion of paid educational services and project-based funding. Meanwhile, no changes were recorded in Germany and Finland, where the traditionally low share of own revenues remained stable. At the same time, the right of institutions to internally reallocate funds and the flexibility of budgets improved in Ukraine after 2017 due to the introduction of norm-based grant financing elements. This led to a slight increase in the country's FAI from 0.35 to 0.40. Overall, the results confirm that a higher level of financial autonomy is accompanied by greater financial diversification of educational institutions, which is particularly important in times of economic instability.

Data on graduate academic performance and employment indicate a positive relationship with the level of institutional autonomy. Specifically, countries with high financial autonomy demonstrate better academic outcomes. According to the latest PISA assessments, Estonia leads Europe in the quality of secondary education (523 reading points), whereas Romania shows one of the lowest results (428 points). Finland continues to show high performance (520), and Poland also exceeds the average level (512), while Ukraine (463) and Romania significantly lag behind. This correlates with the FAI: countries with higher autonomy achieve better results due to greater flexibility in resource allocation and innovation implementation. Employment is an additional indicator of effectiveness. In Germany, 91.5% of graduates find work within 1–3 years of graduation; in Poland and Finland, this is around 84–85%; whereas in Romania, it is 74.8%, and in Ukraine, only 70% (see Table 2). Despite high academic scores, Estonia has a lower employment rate (77%), influenced by market factors. In Ukraine, the employment situation for graduates is more complex. Even before the economic shocks of 2022, youth unemployment reached 15–19%, indicating difficulties in transitioning from education to employment. Thus, financial autonomy indirectly influences the quality of education and the competitiveness of graduates, as institutions with greater authority provide better educational outcomes and higher chances of employment.

Table 2: Educational Outcomes and Graduate Employment Indicators by Country

Country	Average PISA Score (Reading, Age 15)	Graduate Employment Rate, %
Germany	498	91.5%
Finland	520	83.9%
Estonia	523	77.4%
Poland	512	84.7%
Romania	428	74.8%
Ukraine	463	70%

Source: compiled by the author based on data from Londar (2021), Tereshchenko (2023), OECD (2025), The World Bank Group (2025), EUA (2025), National Agency for Higher Education Quality Assurance of Ukraine (2024), Eurostat (2025).

An analysis of average per-student expenditures reveals significant cross-country differences in educational resource provision. The highest spending was recorded in Finland - $27,128 per year in purchasing power parity (PPP). Next come Estonia and Germany (~$18,500–$19,000), followed by Poland at $12,000, Romania at $10,137, and Ukraine significantly trailing with $2,500. The share of public expenditure per student in Ukraine is only 0.8% of GDP per capita, compared to 1.3% – 1.6% in EU countries. As shown in Table 3, high expenditures do not contradict efficiency: Finland and Germany combine substantial investments with strong results and stable graduate employment. In contrast, low funding in Ukraine and Romania is associated with poorer outcomes. Administrative costs in EU countries amount to 10% – 15% of the budget, whereas in Ukraine they are 20%. Between 2016 and 2023, Estonia, Poland, and Finland reduced these costs by 2% – 4%, indicating improved administrative efficiency. In Ukraine and Romania, this indicator remained consistently high. Thus, financial autonomy contributes to cost rationalization: autonomous institutions manage budgets more effectively and focus resources on the educational process.

Table 3: Average Spending per Student and Financial Efficiency Indicators

Country	Spending per Student, USD (PPP)	Public Education Expenditure, % of GDP per capita	Administrative Costs, % of Budget
Germany	18,500	1.4%	12%
Finland	27,128	1.6%	10%
Estonia	18,967	1.5%	13%
Poland	12,000	1.3%	15%
Romania	10,137	0.9%	18%
Ukraine	2,500	0.8%	20%

Source: compiled by the author based on data from Londar (2021), Tereshchenko (2023), OECD (2025), The World Bank Group (2025), EUA (2025), National Agency for Higher Education Quality Assurance of Ukraine (2024), Eurostat (2025).

To quantitatively assess the impact of financial autonomy on the effectiveness of educational institutions, an econometric model was developed. A multiple regression (with a dummy variable for institution type and control variables) revealed a statistically significant positive effect of the Financial Autonomy Index (FAI) on learning outcomes and graduate employment. An increase in the autonomy index by 0.1 (10%) is associated with a ~2% rise in average graduate scores and a ~1.5% increase in employment rates (at $p < 0.01$). At the same time, a negative correlation was found between FAI and the average cost of education. More autonomous institutions, all else being equal, spend less per student ($\beta = -0.08$, $p < 0.05$), indicating higher resource efficiency. Regression coefficients are presented in Table 4. The model explains a substantial portion of the variance (coefficient of determination $R^2 = 0.57$), confirming that financial management autonomy is a significant factor in institutional success. For example, Germany (FAI = 0.65) and Finland (0.60) combine high autonomy with strong graduate performance, whereas Ukraine (0.40) and Romania (0.45) have both low autonomy and relatively weaker results. This relationship aligns with the hypothesis that granting financial freedom encourages institutions to allocate resources more efficiently and focus on improving education quality.

Table 4. Impact of FAI on Institutional Outcomes: Regression Results

Variable	Average graduate score	Graduate employment rate	Education cost per student
Constant	72.5 (p<0.001)	68.1 (p<0.001)	4.25 (p<0.01)
FAI (0–1)	+2.1 (0.7) p<0.01	+1.5 (0.5) p<0.01	–0.08 (0.03) p<0.05
Institution type (HEI=1)	+0.4 (0.5)	+0.8 (0.4)	+0.05 (0.02)
Online social services (% pop.)	+0.1 (0.05)	+0.05 (0.03)	–0.002 (0.001)
R^2	0.59	0.53	0.61

Note: β-coefficients reported; standard errors in parentheses.

Source: author's calculations based on data from Londar (2021), Tereshchenko (2023), OECD (2025), The World Bank Group (2025), EUA (2025), National Agency for Higher Education Quality Assurance of Ukraine (2024), Eurostat (2025).

It is important to emphasize that the influence of other factors (institution type, level of digitalization in society, etc.) was also accounted for in the model, but their coefficients proved to be statistically less significant. To further detail the regression analysis results and develop recommendations for improving financial autonomy in Ukraine (see Table 5).

Table 5: Financial Autonomy, Policy Actions, and Expected Outcomes in Ukraine

Empirical evidence	Policy action	Expected outcome
↑ FAI → +2.1 points in graduate performance	▪ Expand financial autonomy in schools and universities	▪ Improved educational quality and student achievement
↑ FAI → +1.5% graduate employment	▪ Strengthen education–labour market partnerships	▪ Better employability and workforce readiness
↑ FAI → −8% spending per student	▪ Promote efficient budgeting and digital governance	▪ Greater cost efficiency and resource optimization
Weak effect of digitalization alone	▪ Integrate digitalization with autonomy reforms	▪ Stronger institutional performance
Institutional type affects outcomes	▪ Extend autonomy reforms beyond universities	▪ More balanced educational development

Source: author's development.

Thus, the objective results of the empirical study confirm that expanding financial autonomy of educational institutions positively affects their performance. Countries with higher FAI show better student outcomes and higher graduate employment rates, while public funds are used more efficiently. Conversely, insufficient autonomy (under strict state control and chronic underfunding) is associated with mediocre outcomes and prevents institutions from responding flexibly to economic challenges. These conclusions are supported by a comprehensive cross-country, regression, and dynamic data analysis of a sample of six countries, which lends both scientific validity and practical relevance to the findings.

4. Discussion

The obtained empirical results confirm the hypothesis of a positive impact of financial autonomy on the effectiveness of educational institutions, especially under conditions of economic instability. The identified positive correlation between the FAI (Financial Autonomy Index) and the quality of educational services, graduate employment, and the efficiency of resource use aligns with the conclusions of previous studies. In particular, Hong (2023) argues that granting autonomy in budget management increases administrators' accountability and promotes better strategic planning. Our results also correspond with the findings of Liang (2023), who emphasizes the importance of internal reserves and diversified income sources as prerequisites for the resilience of higher education institutions.

Of particular note is the fact that, under limited state funding - as in the case of Ukraine - the share of non-budgetary income sources increases (up to 34%). This aligns with Dobrianska's (2023) assertion about the key role of communities in shaping the financial independence of educational institutions. At the same time, high administrative costs (up to 20%) in countries with low FAI, as noted by Zhuravel et al. (2022), point to inefficient management. A comparison with Bulvinska's (2024) data confirms that a high level of autonomy in Germany and Finland is associated with the successful implementation of decentralization principles, whereas in Ukraine, regulatory barriers still persist (Yurchenko et al., 2022).

The study also found that digital transformation is an additional factor in enhancing the effectiveness of autonomous governance. This is consistent with the conclusions of Kumar et al. (2023) and Bazeliuk et al. (2023), who stress the importance of digital literacy and the use of electronic platforms in financial management. However, as Shofolova (2022) notes, without proper staff training, digitalization cannot fully realize the potential of autonomy. This partially explains the low effectiveness of digital reforms in Ukrainian educational institutions. At the

same time, it is important to recognize that financial autonomy is not inherently beneficial without appropriate governance structures. The decentralization of financial decision-making may increase the risks of mismanagement, inefficient allocation of resources, or even corruption, particularly in institutional environments with weak regulatory oversight. In this context, the concept of "institutional foundations" becomes critically important. As emphasized by Yurchenko et al. (2022), effective financial autonomy must be supported by a system of formal rules, accountability mechanisms, and transparent financial reporting procedures. These include clearly defined regulatory frameworks, internal and external audit systems, performance-based budgeting, and digital monitoring tools. Such institutional arrangements help ensure that autonomous funds are used in accordance with strategic objectives and public accountability standards. Therefore, financial autonomy should be interpreted not as unrestricted financial freedom, but as a controlled managerial capacity embedded within a robust institutional environment. Without these safeguards, the positive effects of autonomy identified in this study may be significantly weakened or even reversed.

It is also important to note that the relationship between financial autonomy and the effectiveness of the educational process is not linear. For instance, Estonia, despite its high FAI, has a lower graduate employment rate (77%) compared to Germany (91.5%), indicating the influence of exogenous factors such as labour market structure. This supports the conclusion of Torlak et al. (2022) regarding the multifactorial nature of effective decision-making in the education sector. The empirical findings confirm the hypothesis that financial autonomy in educational institutions under economic instability is a positive factor associated with increased efficiency. This applies both to the quality of educational services and to the rational use of financial resources.

Overall, the study confirms that financial autonomy in educational institutions is not only a means of increasing efficiency but also a tool for adapting to an unstable environment. In times of economic crisis, autonomous institutions demonstrate greater resilience, capacity for innovation, and management flexibility. Therefore, granting genuine financial freedom to educational institutions should be considered a key element in Ukraine's education modernization policy. The proposed analytical approach can serve as a methodological basis for assessing the effectiveness of educational funding in other countries, as well as for policymaking at the national and regional levels. The results are particularly important for the governance system of higher and general secondary education, where autonomy can become a tool for strategic development.

The limitations of our study lie in the fact that it covers only six countries and focuses mainly on quantitative indicators. Institutional quality, management culture, and staff motivation remain outside the scope of the study, although they may significantly affect the effectiveness of autonomy (Heaton et al., 2023). Moreover, the data from 2022–2023 may have been distorted by the impact of the war in Ukraine, limiting comparability with relatively stable countries.

The practical recommendations arising from the study's results can be implemented at several levels. For educational institutions, it is advisable to implement flexible budgeting tools, increase financial transparency, and strengthen the analytical capacity of administrative staff. At the level of educational policy, it is important to expand the regulatory possibilities for independent fund management, encourage participation in grant and project initiatives, and ensure digital support for autonomous financial governance.

Conclusion and Further Research

In the context of growing economic instability caused by global crises, war, and budget constraints, the issue of financial autonomy of educational institutions gains particular importance. It becomes a key factor in their resilience, efficiency, and competitiveness. The conducted study made it possible to determine that expanding the powers of educational institutions in budget management is significantly correlated with improvements in academic outcomes. It also has a positive impact on graduate employment rates and the efficiency of financial resource utilization. The empirical confirmation of this hypothesis based on a cross-country analysis of six states, including Ukraine, ensures the scientific credibility of the conclusions.

The study results indicate that a high FAI is typical for countries with decentralized education systems (Germany, Finland, Estonia). These countries demonstrate both stable education quality and effective financial management. Conversely, in countries with low levels of autonomy (Romania, Ukraine), educational institutions show lower performance, a higher share of unproductive expenditures, and limited capacity to adapt to crisis challenges. At the same time, Ukraine demonstrates potential for positive changes: the gradual expansion of financial self-management tools has already led to a slight increase in FAI, which requires further regulatory and institutional strengthening.

The practical value of this research lies in formulating empirically grounded recommendations for improving financial autonomy in Ukraine, taking international experience into account.

Future research should focus on a qualitative analysis of internal organizational mechanisms for implementing financial autonomy, particularly at the community level, as well as on studying the impact of digitalization on the quality of financial management. Promising directions also include expanding the geographical scope of the research and involving countries with varying levels of socio-economic development. The integration of qualitative methods (interviews, case studies) will also be important for a deeper understanding of the factors underlying effective autonomous governance.

Credit Authorship Contribution Statement

Sokrovolska, N. contributed to the conceptualization, methodology, data curation, formal analysis, supervision, project administration, and writing of the original draft. Poliak-Sverhun, M. contributed to the conceptualization, methodology, data curation, formal analysis, validation, supervision, and manuscript preparation. Lytvyn, L. contributed to the methodology, formal analysis, investigation, and manuscript review and editing. Shchokin, R. contributed to the investigation, software implementation, visualization, and manuscript review and editing. Hryhorieva, N. contributed to the investigation, software implementation, visualization, and manuscript review and editing. All authors contributed to the interpretation of results, reviewed the manuscript critically for important intellectual content, and approved the final version of the manuscript.

Acknowledgments/Funding

The authors gratefully acknowledge the institutions and organizations that provide open-access educational and statistical data used in this study, including the OECD, Eurostat, the European University Association (EUA), the World Bank, the National Agency for Higher Education Quality Assurance of Ukraine, and other public sources. No specific grant from any funding agency in the public, commercial, or not-for-profit sectors was received for the preparation of this research.

Conflict of Interest Statement

The authors declare that they have no known financial, professional, institutional, or personal conflicts of interest that could have influenced the research, analysis, interpretation of data, or publication of this article.

Data Availability Statement

The data used in this study were obtained from publicly available sources, including the OECD, Eurostat, the World Bank, the European University Association (EUA), the National Agency for Higher Education Quality Assurance of Ukraine, and other official educational and statistical databases. The compiled dataset and supporting analytical files used for the comparative, regression, and dynamic analyses are available from the corresponding author upon reasonable request.

Ethical Approval Statement

This study is based exclusively on secondary data obtained from publicly available international and national databases. The research did not involve human participants, animal subjects, surveys, interviews, experiments, or access to personal or confidential information. Consequently, ethical approval from an Institutional Review Board (IRB) or Ethics Committee was not required. All data were collected, processed, and analysed in accordance with the terms of use of the respective data providers and the principles of research integrity, transparency, and reproducibility.

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