“Hybridization of financing as a transition strategy to transparent, accountable, and efficient university management: The case of Ukraine”

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Hybridization of Financing as a Transition Strategy to Transparent, Accountable, and Efficient University Management: The Case of Ukraine

Abstract

The development of universities in Ukraine requires explicit proposals for the financial component under the hybrid forms of management. A hybrid form is created by combining functional and product divisions, i.e. university staff are required to work on many projects, study programs, and report to multiple managers under a hybrid organizational structure, but not only to the chief of department and the vertical managers over them. The development of universities as public state institutions or as public institutions with the prevailing private financing requires a detailed examination and justification of the possible concourse ways. The study aims to present the theoretical analysis of the hybridization of financing in Ukraine, its ways, abilities, and benefits. This paper presents the findings of a systematic review of the academic literature, as the extant literature has seldom explained what hybridity signifies when it occurs and how it is shown, nothing to say about the practical case, especially in counties like Ukraine. The paper suggested a fine-grained understanding of what constitutes the hybrid nature of financing for a Ukrainian university. Practical use of hybridization of financing in university allows creating a reliable institutional framework for the development of financial autonomy, which is confirmed by analysis of the six largest universities in Ukraine in 2010–2020. Accordingly, this study suggests ways forward by revealing questions toward a better understanding of the hybridization in the higher education of Ukraine.

Keywords

new public management, assessment, stabilization, indicators, a hybrid form of management

JEL Classification

I22, I23

INTRODUCTION

Ukrainian universities understood, at last, the existence of new trends in organization, accountability, and transparency on their way to the high ranks and modified development (Shandruk & Shatrova, 2015; Shevchenko, 2018; Zhykhor et al., 2021). Even though most top management of universities is not aware and eager to look for new methods and applications to adapt to new trends, Stavytksyy et al. (2019), Bugrov et al. (2021), Kapustian et al. (2021), and Petlenko et al. (2021) claim the high necessity of changes in management and financing models of the universities. The government of Ukraine put the agenda of the advances to universities, but they still keep the road of declining actual financing over the past two decades, meanwhile increasing the number of contract students, receiving grant support from NGOs, and international technical assistance. At the same time, public financing remained the key source, which enhances the inefficient financial governance of universities.
The government and academia in Ukraine are increasingly discussing ways to reform the university governance system for the further strategic development of higher education in the country, including the real launch of financial autonomy. The most discussed models of financial autonomy include the creation of business universities, the development of dual education, the establishment of decentralized financial management based on existing departments – faculties, colleges, and institutes.

Generally, the educational reforms carried by the government resulted in the hybridization of universities, where the latter is driven by the competing logics of academic (public capital) and business (private capital). Therefore, contemporary universities have to operate in an organizational context of two co-existing strategies: advancing knowledge and generating revenue via increasing commercial activities (Argento et al., 2020). The hybridization of universities can provide greater flexibility and autonomy, with the capacity for diversification of the sources of financing reaching the goal of financial stability in the long run (Gomilko et al., 2016).

This study is a theoretical-based discussion on the possible strategies for the universities in the adoption of new forms of evolutionary development and transforming into hybrid organizations. The paper aims to explore the modern manifestations of the ways in how different concepts and paradigms of university development in terms of financing hybridization are amalgamated. The study gains insight into the peculiarities of mutual infusion of modern, pre-modern, and outdated forms of university financing. It takes into account the opinion that this approach develops new prospects for hybridization of financing of universities and allows: 1) analyzing the peculiarities of new public management in the universities of Ukraine; 2) identifying the key problems and contradictions that hinder the reform of financial decentralization in Ukrainian universities thus calling into question the introduction of systemic reform of accountability, transparency and efficiency based on the financial autonomy of universities as hybrid organizations.

1. THEORETICAL BASIS

Universities are becoming the important centers of higher education reform, the introduction of modern technologies in education and research, which required significant financing (Shevchenko, 2018). At the same time, the amount of financing allocated from the state budget decreased sharply compared to the Soviet period, which created certain contradictions (Shandruk & Shatrova, 2015) during the transition to a market model of higher education management in Ukraine in 1991–2021. Until now, Ukrainian universities have focused mainly on satisfying the domestic market for higher education professionals, and little has changed since Soviet times in the education for international students. At the same time, after Ukraine acceded to the WTO in 2008, the Bologna Process began its active introduction into the educational process of universities, which increasingly delved into the development of a hybrid model of their existence, and the educational process increasingly focused on the needs of global multinational corporations. Before the universities, mostly classical, have developed the fundamental education and required significant state support. In recent years, the public finance sector has been significantly reduced under the process of privatization, which has reduced the need for fundamental and applied research, as well as the training of senior executives at the expense of the state budget. In addition, in 2014–2016 there have been legislative changes in Ukraine regarding higher education caused by the reforms. These events particularly changed the vector of the educational system development, including the financing issues of the universities in Ukraine. In particular, public universities historically have been extremely conservative, as they could not exist without sufficient financial support, and there were no other legal sources. The situation was aggravated by the fact that the balance sheets of universities included both the assets related to educational and scientific services and a large social infrastructure – dormitories, kindergartens, canteens, clubs, entertainment centers, etc., demonstrating the low-efficacy bureaucratic models of management in general (Velychko et al., 2020). The new reality of open international edu-
cational borders, Ministry reforms put the universities in the new paradigm, pushing them to the new hybrid form of management that is supposed to be reflected in financial management.

All the above indicates the need for an in-depth reform of the entire system of financing and management of universities in Ukraine, finding new sources and ways to finance the universities, changing the paradigm of university structures, introducing financial autonomy under new public management (NPM) technologies. The introduction of NPM approaches allows the identification of the centers of financial and managerial responsibility, the initiation of an entrepreneurial approach to the organization of innovative research, and the deep assessment of the efficiency and productivity of staff, faculties, and universities as a whole. It is supposed to strengthen the control overspending, to transfer centers of decision-making in management closer to their direct executors, both ensuring transparency and accountability of all business transactions. However, all modern trends and hybrid models that are widely used abroad are not easily adopted by the Ukrainian universities because of the resistance in the institutional logic of the national financial system in Ukraine, inherited from the Soviet past.

The present study focuses on the variety of interactions between public and private university financing. Kleinmann (2019) defines a university as a special multiple hybrid organization with particular structures of decision-making programs, the interaction of the academics, and communication channels. Thus, universities as hybrid organizations combine numerous types of activities (de Aquino & Batley, 2021). Therefore, for a university as a hybrid organization, it is important to develop a scientifically sound financing structure that integrates educational, research, support, and production processes (Gehringer, 2021). Equally important for a university is a coordination of activities with accountable institutions, because frequent duplication of functions of the higher-ranking organizations creates inefficient work of planning, accounting, financial, and control activities of the university.

The process of reforming university management and concomitant financing issues according to the hybrid form are the subjects of Rago and Venturi (2015) and Gehringer (2021). Under such conditions, the examination of financing hybridization should be carried out considering the broader context of the roles and functions of the modern university, the quality and competitions issues along with the general strategy development under the new public management technologies (de Aquino & Batley, 2021; Pachciarek et al., 2020). However, Ukrainian universities in their nature are mostly clumsy management systems that are difficult to reform due to being mostly state-owned or largely state-funded (Zhykhor et al., 2021). It should be acknowledged that most universities in the post-Soviet countries that have chosen the strategy of European integration have to overcome several barriers to financial decentralization, the introduction of hybridization of financing, and, ultimately, full financial autonomy, as applied to government regulation, university leadership, academic and managerial self-government, competition for limited resources (Enders & Leisyte, 2004). But, the diversification of funding could be challenged with such things as staff, receiving salaries at fixed rates, not showing initiatives to participate in grant competitions, as there are both intra-industry and cross-disciplinary conspiracies to allocate grant funding for research and development (Oleksiyenko, 2016).

No doubts that a clear positioning of university activities in the market, certain flexibility, and standardization of the quality parameters of educational services make it possible to optimize the university financing and operating costs, as well as to scale up the offered services on the market (Kromydas, 2017). The described parameters of doing business for universities relate to the hybridization of financing, where the university’s ability to build up competitive market power through the growth of production capabilities and distribution, creation of organizational capabilities within the institution to compete under crisis and changes, which include flexibility, are of particularly critical importance (Bugrov et al., 2021). Thus, there is an urgent need to search for effective mechanisms to develop the modern financing model to ensure the creation and implementation of a unified state policy of strategic management at the universities in Ukraine.
However, there is a lack of distinct identification of the financially viable models of modern university activities in the conditions of increasing competition, quality enhancement requirements, and the need to strengthen the educational-scientific component that Ukrainian universities have faced. Therefore, further development of hybrid models of financing as a part of the change in the general university management in terms of accountability, transparency, and efficiency is required in Ukraine to create the framework for the development of financial autonomy.

Still, the simple calque of the world experience of hybrid financing is not possible for Ukraine because of a few reasons. Initially, the introduction of new public management technologies in Ukraine began with the reform of the entire public finance sector in the early 1990s, but this economic paradigm has faced not only external but also internal contradictions. As an example, state intervention should be minimized and all key functions performed on a competitive basis. If one considers the state intervention in the activities of universities, it is also necessary to note the need to reduce state intervention and focus on regulation mainly under the market forces. At the same time, it is necessary to enhance the accountability system by improving mutual coordination between the Ministry of Education and Science of Ukraine, being the institution responsible for developing state policy in education, and universities, as institutions implementing public policy and pursuing their own strategic development goals. Despite two pathways to hybridization that most social enterprises and public organizations choose worldwide (by the assimilation of compatible institutional logic and by the accommodation of contradictory logics) (de Aquino & Batley, 2021), Ukrainian universities could potentially provide an example of the third one. It can be based on the post-soviet background of the higher education performance and modern policy reforms that are applied in Ukraine.

Generally, hybrid financing is defined as characteristics of both debt and equity, two ends within the financial spectrum, to provide financial security (Alexius & Furusten, 2019). Thus, hybrid financing exists where debt and equity meet in the middle, offering investors the potential benefits of both. If transferring this to the universities, the obvious struggle is revealed with finding funding options that fit their needs (Grossi et al., 2019, 2020). Traditionally, gaps have formed between securing grant funding and getting the investment capital required to start and scale a business, the start-ups, and innovations in the scale of the universities. This was especially noticeable under the global COVID-19 pandemic when most universities in the world in a few months changed their work from the traditional classroom to remote. This caused a radical change in investment cash flows from capital ones, construction of training facilities, classroom renovation to the acquisition of new technology platforms for remote work, development of new skills for all categories of staff. Thus, there are grounds to reconsider the requirements for the organization of internal management systems, accountability, transparency in interaction, and the effectiveness of the results obtained at the end that are supposed to be supported with the adequate reconsideration of the financial model of the universities. The trend that emerged in 2020–2021 will have implications for many future generations. There has been a rapid shift in university education priorities, accelerating the hybridization of both management systems within the university and hybridization of financing a range of new services, such as document automation, tender procedures, creation of electronic teaching guides, interaction with international students, organization of scientific conferences, seminars, practical and laboratory classes for those specialties where it is the main component of studying, etc. Significant changes have also been taken place in the system of control and interaction with controlling organizations – the State Audit Service of Ukraine, which controls the efficiency of the use of budget funds, tax authorities, etc. All this requires the use of new forms of reporting along with traditional paperwork, the use of which has long needed improvement.

In this regard, it is suggested that the transition to financial autonomy of universities should overcome several negative phenomena that affect the system of subordination and accountability of universities (Enders & Leisyte, 2004). Mostly the following is defined: 1) state accountability, which is most often implemented on the principle of vertical integration “from top to bottom” and pro-
vides for accountability of lower-level institutions, higher-level institutions, budget managers (Grossi et al., 2015; Haigh & Hoffman, 2014); 2) university management, which implements its strategy by setting goals and measures to achieve it (Skelcher & Smith, 2017; Kleinmann, 2019).

2. RESULTS

In countries such as Ukraine, the universities are heavily dependent on the policy of the chief budget administrator. The reason is that their views on development may cost not only underfunding but also the possibility of revoking the license on educational and scientific activities. Thus, the speed and dynamics of changes in the financing environment of Ukrainian university being an educational organization impose special requirements on its adaptability and ability to adequately respond to emerging challenges. The management of a modern university should ensure continuous and stable financing to increase the competitiveness in the educational and scientific areas via continuous improvement of the education quality and the implementation of the principle of lifelong education, the development and deepening of fundamental and applied research. Dynamic changes in the external environment and requirements for university financing should also be taken into account. The efficiency and adaptability of the university’s financial support are of particular importance at the stage of serious transformational changes connected with the emergence of a new quality of the university as a pivotal element of the territorial scientific and educational system.

The policy in the field of education, pursued in recent years in Ukraine, is focused on the consolidation of universities through their unification via the implementation of projects to create regional universities. The merger of universities is accompanied by a transition from the existing sectoral structure to an academic system based on universities as diversified corporations of knowledge, science, and technology. The organizational structure of a higher education institution of a new quality at the stage of its dynamic development must be financially viable, ensure the effective pursuit of managerial influences and information about the obtained results. The systematization of the main external organizations that currently collect the reports of the universities’ financial system and results in Ukraine is presented in Table 1. Therefore, this is the list of accountability of Ukrainian universities.

Table 1. Accountability of classical universities of Ukraine as of January 1, 2021

<table>
<thead>
<tr>
<th>Institution</th>
<th>Type of required reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Education and Science of Ukraine</td>
<td>Financial reporting, budget reporting, statistical data</td>
</tr>
<tr>
<td>State Tax Service of Ukraine</td>
<td>Tax reporting</td>
</tr>
<tr>
<td>Ministry of Social Policy of Ukraine</td>
<td>Information on orphans studying at the university, other inquiries about the social status of students</td>
</tr>
<tr>
<td>Social Insurance Fund of Ukraine</td>
<td>Reports on compulsory state social insurance</td>
</tr>
<tr>
<td>Pension Fund of Ukraine</td>
<td>Reports on contributions to the State Pension Fund of Ukraine</td>
</tr>
<tr>
<td>State Statistics Service of Ukraine</td>
<td>Statistical reporting</td>
</tr>
</tbody>
</table>

The financing structure should not only function effectively in the open information and educational space and provide access to financial resources but also stimulate the generation of new knowledge, create new growth points and promote the competitiveness of graduates in the labor market. It is disclosed that Ukrainian universities, as non-profit organizations, are more focused on attracting funds to a special budget fund, which allows diversifying financing sources and reducing risks of dependence on the state orders to educate professionals under the qualification level of bachelor and master. The paradox is that Ukraine’s public sector has been reduced in size over the years of independence, and public sector education has remained almost unchanged, which is why revenues to the special fund show how effectively universities use their competitiveness to train public sector professionals. The data presented in Table 2 gives an idea of the average value of the financing structure of classical universities in Ukraine calculated according to the data for 2010–2020.

As one can see, two out of eight universities are dominated by sources of financing from the private sector, which makes these universities more vulnerable and dependent on market conditions. It also shows the effectiveness of management in providing conditions for future development of
the university and positive consequences from the introduction of new public management technology, which allowed the emergence of new forms of hybridization, different from those developing in the universities of countries with established financial infrastructure. It is worth emphasizing that the underdevelopment of the stock market and the low level of the corporatization of the private sector make it impossible to introduce such type of financing as with the help of an endowment fund.

Thus, there is a growing need to optimize the functions of financial management due to their significant concentration, eliminate duplication, reduce the number of levels of management and increase its efficiency.

The new organizational design of financing the hybrid university in Ukraine involves solving some problems:

- financial support of a wide range of educational services to meet the quality needs of the economy at the regional and national levels;
- financing the integration of scientific research and the educational process to create a collaborative system of practice-oriented learning, to implement the concept of life-long education;
- creating an internal structure of financial interaction between the diversified scientific and educational clusters of the university;
- creating the points of growth using the cluster approach to the integration of the existing research, human, material, and technical potential to ensure the dynamic development and synergy of each cluster;
- providing for the development of interdisciplinary research on the principles of project management;
- eliminating the duplicating functions and processes at different levels of the financial management hierarchy to ensure the unity of mechanisms for the implementation of management decisions;
- reducing the number of management levels to provide the necessary financial autonomy in decision-making at the level of university departments;
- optimizing the structure of expenses, eliminating ineffective and unreasonable costs associated with the mismatch of goals of individual structural units;
- defining the clear boundaries of making strategic and tactical financial management decisions at the levels of the management hierarchy of the university;
- reducing the complexity level of control and management procedures in finances on the part of the top management level.

In this regard, it is possible to explore how transparent the interaction between different departments of the university is and how open the classic universities of Ukraine are to the public, their public

<table>
<thead>
<tr>
<th>Place in the ranking</th>
<th>University</th>
<th>General Fund</th>
<th>Special Fund</th>
<th>Total financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>V.N. Karazin National University of Kharkiv</td>
<td>43.1</td>
<td>56.9</td>
<td>100.0</td>
</tr>
<tr>
<td>2</td>
<td>Yuri Fedkovych National University of Chernivtsi</td>
<td>55.1</td>
<td>44.9</td>
<td>100.0</td>
</tr>
<tr>
<td>3</td>
<td>Oles Honchar National University of Dnipro</td>
<td>61.5</td>
<td>38.5</td>
<td>100.0</td>
</tr>
<tr>
<td>4</td>
<td>Ivan Franko National University of Lviv</td>
<td>63.2</td>
<td>36.8</td>
<td>100.0</td>
</tr>
<tr>
<td>5</td>
<td>I.I. Mechnikov National University of Odessa</td>
<td>64.3</td>
<td>35.7</td>
<td>100.0</td>
</tr>
<tr>
<td>6</td>
<td>Taras Shevchenko National University of Kyiv</td>
<td>65.6</td>
<td>34.4</td>
<td>100.0</td>
</tr>
<tr>
<td>7</td>
<td>National University “Kyiv-Mohyla Academy”</td>
<td>68.1</td>
<td>31.9</td>
<td>100.0</td>
</tr>
<tr>
<td>8</td>
<td>National University of Uzhhorod</td>
<td>73.9</td>
<td>26.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 2. Efficiency ranking of classical universities on the share of revenues to the special fund in 2010–2020 (average data)

Source: Calculated based on the rectors’ reports published on the official websites of universities and data of the State Scientific Institution “Institute of Educational Analytics”.

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tential applicants, and different types of contractors. A ten-point scale is applied to evaluate the quality of data and open access on average over the last ten years. Table 3 shows the final assessment of the level of transparency in the disclosure of financial information on the activities of universities.

Table 3. Universities’ transparency scale

<table>
<thead>
<tr>
<th>Transparency index</th>
<th>Transparency level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–16</td>
<td>Nontransparent display of financial information</td>
</tr>
<tr>
<td>17–48</td>
<td>Satisfactory level of transparency of financial information</td>
</tr>
<tr>
<td>49–71</td>
<td>High level of transparency of financial information</td>
</tr>
<tr>
<td>72–100</td>
<td>Innovative level of transparency of financial information</td>
</tr>
</tbody>
</table>

According to the data, all evaluated universities have a satisfactory level of transparency of financial information; however, this situation requires enhanced transparency to increase the level of competitiveness of educational services. The obtained rating data are presented in Table 4.

The organizational structure of a higher educational institution of a new quality at the stage of its dynamic establishment should be financially viable, ensure the effective passage of managerial influences and information about the obtained results. For the united university, the development of a scientifically grounded financing structure is relevant, providing for the integration of educational, research, supporting, and production processes. The financing structure should not only function effectively in open information and educational space and provide access to financing but also stimulate the generation of new knowledge, create new growth points and promote the competitiveness of graduates in the labor market. Therefore, there is an increasing need to optimize the financial management functions via their significant concentration, eliminate duplication, reduce the number of management levels and increase its efficiency.

Following Petlenko et al. (2021) and Kapustian et al. (2021), evaluating the effectiveness and performance of universities in Ukraine has its characteristics indicating the need to introduce new technologies for hybridization of university funding management. It allows developing several indicative indicators to assess the effectiveness of university funding. The peculiarity of assessing the effectiveness of funding for universities in Ukraine is due to the fact that they are budgetary non-profit institutions, and therefore the approaches used by private enterprises do not give adequate results. For example, the indicator Debt ratio = Total debt/Total assets for the universities of Ukraine will be significant, not exceeding 2%, due to the legal restriction on the use of loans from commercial banks to finance the activities of universities. Accordingly, the capital structure is dominated by

Table 4. Transparency ranking of classical universities of Ukraine in 2010–2020

<table>
<thead>
<tr>
<th>Place in the ranking</th>
<th>University</th>
<th>Financial reporting</th>
<th>Budget programs</th>
<th>Other financial data</th>
<th>Administrative transparency</th>
<th>Strategic development plan</th>
<th>Total points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yuri Fedkovych National University of Chernivtsi</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>10</td>
<td>5</td>
<td>37</td>
</tr>
<tr>
<td>2</td>
<td>Ivan Franko National University of Lviv</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td>10</td>
<td>3</td>
<td>36</td>
</tr>
<tr>
<td>2</td>
<td>Taras Shevchenko National University of Kyiv</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td>3</td>
<td>V.N. Karazin National University of Kharkiv</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>4</td>
<td>National University “Kyiv-Mohyla Academy”</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>5</td>
<td>National University of Uzhhorod</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>6</td>
<td>Oles Honchar National University of Dnipro</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>I.I. Mechnikov National University of Odessa</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>0</td>
<td>25</td>
</tr>
</tbody>
</table>
equity, which for the vast majority of universities is over 98%. Table 2 defines the efficiency of the university as the ability to constantly increase the number of funds accumulated in the special fund of the budget. Based on the above and the practice of hybrid funding model in the world, the paper proposes, for a relative assessment, to use the indicator of the effectiveness of operational activities of the university (Basic Operating Power ratio – BOPR):

$$BOPR = \frac{R}{OC},$$  \hspace{1cm} (1)

where $R$ – revenues of universities, $OC$ – operating capital of universities.

If to consider that the revenues of universities consist of general (GFR) and special (SFR) funds then formula (1) will take the form:

$$BOPR = \frac{GFR + SFR}{OC},$$  \hspace{1cm} (2)

where $GFR$ – general fund revenues, $SFR$ – special fund revenues.

Meanwhile, it is proposed that the operating capital (OC) is calculated by:

$$OC = NOWC + NFA,$$  \hspace{1cm} (3)

where $NFA$ (Net Fixed Assets) – calculated as Gross Fixed Assets minus Depreciation – is based on financial statements for the public sector, prepared according to international standards (Financial Reporting according to International Public Sector Accounting Standards (IPSAS)), $NOWC$ – net operating working capital – that is calculated by:

$$NOWC = CA – NIBCL,$$  \hspace{1cm} (4)

where $CA$ – current assets, $NIBCL$ – Non-interest bearing current inabilities.

In this logic, to assess the operational efficiency of the university it is proposed to use the indicator $Non – interest bearing CL$, because a university does not use interest-bearing borrowings.

Given that in the new paradigm of a university, it is crucially important to assess the effectiveness of its activities that could be represented by a student-centered indicator, it is proposed to use an integrated indicator Revenue per Student – $RST$:

$$RST = \frac{GFR + SFR}{OC} \cdot \frac{OC}{STF} \cdot \frac{STU}{STF},$$  \hspace{1cm} (5)

where $STF$ – faculty staff of a university, $OC / STF$ – characterizes the provision of the teaching staff of the university with modern means for educational and scientific activities; $STU$ – the indicator of the average annual number of students, calculated by the formula of the arithmetic mean of the number of students at the beginning of the calendar year $STU_0$ and students at the end of the calendar year $STU_1$:

$$STU = \frac{STU_0 + STU_1}{2}.$$  \hspace{1cm} (6)

The proposed approach is newly adopted to the hybrid model of management and financing of a university and will allow qualitatively analyzing the effectiveness of the university’s operations.

3. DISCUSSION

The paper revealed that despite the well-known term hybridization of finance system (Parker, 2012; Pistor et al., 2016) it is still the grey zone for the Ukrainian financial experts. However, the modern logic of the university’s hybridization of financing has the potential of two promising development forms:

1) being an effective agent of global transformations with a focus on educating the students for the needs of the open market and performing the research integrated into international discourse (Grossi et al., 2020);

2) the focus on local markets, continuing slow transformations applying the outdated knowledge, with a lag gap of 5 to 30 years (Ahrens et al., 2018).

Each of the suggested hybridization strategies takes place in the modern world; however, there may be different forms of their combination (Wortham, 2019). The critical choice of the hybridization paradigm of the university development, in general, will determine the peculiarity in
the development of the university financing forms, the rigidity of subordination, and dependence on the central government structures that distribute limited financing. The other way is to create modern forms of hybridization of financing, focusing on existing evidence of the effectiveness of a university’s financial autonomy, which introduces technologies of new public management.

Therefore, this study attempted to give credibility for the possibilities of the Ukrainian universities’ development under the first direction – the strategy focused on the open market. In addition, the other direction is left without consideration because it requires a separate thorough study.

Several studies describing the development of hybridization of financing in universities (those that have achieved positive results in terms of organizational accountability, transparency in the distribution of resources under the education and science financing, avoiding corruption schemes, focusing on improving personal competencies and skills of teachers and researchers, identifying key effectiveness indicators of the use of funds in both public and private sectors) are examined. The given paper allowed establishing that financial stabilization of classical universities can be achieved via managing the level of demand for its services based on regulating the cost of educational services and research. However, among the main parameters of financial stabilization, the dominant role is played by internal stabilization instruments, which allow managing the liquidity and solvency of the university in the short term without external intervention (Figure 1). Prepayment for tuition for both budget and contract students is a relevant stabilizing tool. It is established that the imbalance between the cost of tuition for students with contract and budget financing under the COVID-19 pandemic has a positive impact because the main risks of insolvency of students in the short term are borne by the state. However, it should be kept in mind that in the pursuit of cheaper tuition, universities do not include depreciation in the cost of tuition. Therefore, the recovery of capital investment and investment in educational and scientific innovations is non-transparent, occurring spontaneously at the ministry level as the first level spending unit, where the universities do not have real sources of transparent tools to influence such decisions.

Milestones of the study are concealed in the statistics availability and the impact of the unpredictable crisis, i.e. pandemic quarantine of last years. The events during the previous 18 months have of course greatly influenced education around the world and the national educational systems in particular. It is important addressing the issues of both transformation and performance. The widespread quarantine, rather, did not change but accelerated the national projections of the processes that began globally, such as the development of distance education and the widespread introduction of online platforms.

There are several ways to improve efficiency at universities: revenue growth and diversification via persistence in revenue management, launching new programs, research financing, establishing new directions such as online education, execu-

![Figure 1. Stages of the university's financial stabilization](http://dx.doi.org/10.21511/ppm.20(1).2022.15)
tive and adult learning, etc.), additional revenues; enhancing capital and investment productivity, improving operating efficiencies from the introduction of the calculation model of full prime cost by showing the depreciation expenses in the structure of prime cost for restoration of capital investments, and stimulation of innovative development, student support, administrating efficiencies, and support for the faculty staff.

The essential elements to successful financial transformations in university are the commitment of leadership, faculty support, recognizing the areas of growth points, a strategy that fulfills the aims and tasks of the university in alignment with financial results and functions (educational, scientific, social), all-embracing approach, rapid actions, and sound decisions.

The literature review on the topic pushes to the conclusion that significant changes have taken place in recent years in the financing of state systems of higher education in different countries (Parker, 2012; Warshaw & Upton, 2020), as well as in the mechanisms for the distribution of budgetary funds between higher education institutions (Lee et al., 2017; Vakkuri & Johanson, 2020). This is due to the sharp increase in contingents of students in the education system and limited budgetary resources, which requires an increase in the efficiency of the usage of state (budget) funds and attraction of various off-budget (non-state) sources (Yusuf, 2017; Koehn & Uitto, 2017). Largely on change forms and mechanisms of financing influences changing the nature and content of higher education due to the need to form individual educational training programs, diversifying them on the content, timing, and forms of delivery of educational services to a consumer. These trends are characteristic for many countries, surely Ukraine is not keeping them aside. Thus, the natively adopted model is in demand and the analyses of possibilities that hybrid models in management and so in the financing are supposed to be actively discussed. This paper contributes to the theoretical discourse on the topic.

CONCLUSION

The analysis of the way of hybridization of financing facilitates in Ukraine, as was aimed in the paper, indicated that the accountability, transparency, and efficiency of universities that is the basis of the hybrid model could support a better understanding of the existing contradictions in the financial stabilization of universities of Ukraine and can smooth it. Pursuing the mission and assigned functions requires the universities to find the best solutions for their financing. The introduction of hybridization of financing has been a feature of modern development strategies of the world’s universities; on the one hand, it allows diversifying sources of accumulation of funds, and on the other hand promotes the transition to transparent, accountable, and efficient management.

These findings are particularly important for Ukrainian universities, which were traditionally financed from the state budget. Ukrainian universities face unique financial challenges now, taking the transformational approaches to improving their performance by boosting enrolment, retention, and student satisfaction, and aiming for financial stabilization along this way.

The analyses of data revealed that several leading universities have already developed effective strategies to cope with existing pressures and improve the chances of success. A key finding of this study is that while a reasonable degree of cost management, accountability, and transparency is in place, it is more important to focus on improving the overall performance and identifying new ways to create modern forms of hybridization of financing.

In conclusion, as noted, the hybridization of universities in the country creates excellent opportunities for combining old and new paradigms of higher education. In particular, the introduction of new public management technologies is becoming the norm of management in the classical universities of Ukraine and allows the creation of an institutional framework for the development of financial auton-
omy. Although financial autonomy in Ukrainian universities is just at the beginning of its assertion, the first positive results of this process are already visible, most importantly – the university management understands that reducing the deregulatory influence of central authorities inevitably shifts more and more power and responsibility for the results. However, most university leaders and staff are interested in qualitative change, as it increases their competitiveness, strengthens self-government, changes approaches not only to management but also makes it more transparent and efficient. The key to the abovementioned is in realigning the accountability system according to the Education Reform Roadmap (2015–2025). At the same time, it is still not easy for universities to move to self-financing and develop hybridization based on market mechanisms, as it depends not only on universities but also on the general level of the financial system. The lack of effective financial instruments in the financial market, the instability of the national currency, call into question the development of universities, in the long run, especially concerning modernization and innovative development.

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