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## PREREQUISITES OF HYBRIDIZATION OF UNIVERSITY FINANCING AS A TOOL FOR ENSURING SUSTAINABILITY AND STRATEGIC DEVELOPMENT

**Purpose.** To assess the state of budget financing of Ukrainian HEIs, determine their funding structure, and identify prerequisites for developing hybrid financing as a tool for stability and strategic development.

**Methodology.** Dynamic and structural analysis, the Hirschman-Herfindahl index (HHI(DI) and such methods as quantitative, arithmetic mean, limit values, graphic, visualization, and system methods were used in the research process. The practical testing of research hypotheses was carried out on the basis of a comprehensive approach to the financing of HEIs of Ukraine and a panel sample of 35 universities, which takes into account rating indicators, industry and regional aspects.

**Findings.** Transformation processes at various levels are linked to trends such as reduced budget funding, structural changes, staff and student migration, decreased demand for additional services, and military factors, creating prerequisites for hybrid university funding. The article identifies conditions for hybrid financing, highlights negative trends in HEIs budget financing – including systemic underperformance and inflation impacts – and analyzes income diversification in Ukrainian universities using the HHI(DI). Limiting and average values were determined using the quantitative method, which made it possible to classify universities into sustainable ( $\text{HHI(DI)} \leq 0.55$ ) and risky ( $\text{HHI(DI)} > 0.55$ ) ones; tendencies towards a slight diversification of universities' incomes are revealed; a conceptual model is proposed of hybrid financing of universities to expand their financial autonomy, based on cooperation between university management, stakeholders, and staff core, with the aim of creating value propositions which satisfy the needs of stakeholders and generate cash flows; a new approach to the division of hybrid financing tools into three groups is proposed: passive or image-based, active-intellectual, and passive-innovative ones. This approach is innovative in the development of financial strategies for universities.

**Originality.** New tools for making management decisions aimed at ensuring financial stability and developing financial strategies for universities are proposed. In particular, they include an original approach to the classification of universities into sustainable and risky ones based on the value of the HHI; the conceptual model of hybrid financing of universities, which promotes the expansion of their financial autonomy; the innovative approach to the division of hybrid financing instruments into three categories: passive or image-based, active-intellectual, passive-innovative.

**Practical value.** The study's results can be used to make management decisions on expanding financial autonomy of universities. The introduction of the conceptual model of hybrid financing will contribute to the diversification of income, increase in financing, as well as ensuring financial stability and strategic development of universities.

**Keywords:** *finance, HEIs, financing tools, sustainability, university, hybrid financing, strategic management*

**Introduction.** The transformational processes occurring in higher education present distinct challenges and opportunities for Ukrainian universities. On the one hand, universities are confronted with the problem of diminishing student populations, shifts in demographic structures, the outflow and declining motivation of key personnel, and the necessity to alter educational organizational approaches. Additional threats include the potential destruction of infrastructure due to missile attacks, budgetary constraints, and other atypical challenges precipitated by the COVID-19 crisis and Russia's full-scale invasion of Ukraine. Conversely, any crisis can create opportunities for competitive and forward-thinking universities that can swiftly adapt to contemporary challenges and generate value propositions aligned with stakeholder demands, thereby satisfying and shaping the demand. These trends are exacerbated by financial constraints stemming from reduced budgetary funding and the disparity between the actual costs of training students and the limited special funds available. This scenario necessitates the exploration and implementation of additional, hybrid sources of financing.

Funding of universities is increasingly correlated with the mission and strategy, which requires the involvement of new tools in conditions of limited access to budget funding. Transformation processes are taking place in higher education in terms of digitization and the development of various forms of international cooperation, which makes it possible to receive hybrid forms of funding, while the issues of targeted funding (by whom? for what? how? how much?) remain important. Issues of sustainability of universities in the long term are becoming more and more important, and therefore require the development of financial strategies to identify novel innovations in financing and ensure the priority areas of development of universities [1].

**Literature review.** The hybrid model of financing universities in Ukraine is often conceptualized through the lens of transparent, accountable, and effective management [2]. This approach emphasizes increasing productivity and exploring ways to implement modern forms of hybrid financing. Expanding financial autonomy and easing regulatory restrictions in financial activities are foundational to transforming the operational paradigm of Ukrainian universities. These changes facilitate qualitative advancements at all levels, driven by the commercialization of value propositions initiated by motivated staff.

The financial stability of universities during the COVID-19 period has significantly deteriorated due to reduced budget

funding [3]. Financial restrictions have amplified the need for income diversification, extending beyond traditional methods such as course rebranding to hybrid models, including the development of public-private partnerships (PPPs) in education and the adoption of entrepreneurial organizational models. Quarantine restrictions exacerbated the issue by eliminating additional sources of financing, necessitating the search for alternative funding avenues. The research using regression methods has demonstrated that the growth of income in hryvnias does not accurately reflect the real financial situation. When income is converted to dollars at the official exchange rate, a nonlinear intensive downward trend is observed [4]. Expanding the financial autonomy of universities in utilizing budget funds can facilitate rational financial decision-making and the implementation of hybrid financing models. These models focus on leveraging funds from research and educational projects, particularly international ones, which typically offer significantly higher financing compared to domestic projects. This approach will enable universities to achieve their strategic development goals.

The financial potential of a university, defined as its ability to achieve current and strategic goals [5], is realized through income diversification. This involves engaging stakeholders in financing roles as service recipients, investors, grantors, or benefactors. With financial autonomy, universities [6] can pursue alternative financing sources such as project financing and grants. The challenges in financing HEIs are not solely due to reduced budget funding but also involve factors such as personnel availability and motivation, the absence of a comprehensive financial strategy, inadequate financial management, and the level of internationalization.

The presence of alternative funding sources is crucial for ensuring the sustainable strategic development of universities. For instance, student loans serve as an alternative financing tool [7] that impacts the ability of potential students to pursue higher education. However, these loans must include adequate recovery mechanisms based on the borrower's repayment capacity. Income-dependent loans are preferable over traditional term loans, as they offer a more attractive financing option for students.

The issue of financing during a crisis [8] was addressed by the management of the Ghana Institute of Management and Public Administration (GIMPA) through a flexible approach to commercializing academic services, thereby generating additional income. Flexibility is regarded as a crucial tool for maintaining stability under crisis conditions. In the European Union, various funding models are employed; although there is no universal model, there is a discernible trend [9] towards combining different instruments to ensure sustainable funding and achieve the strategic development of universities.

The scientific literature presents the transition from traditional to hybrid forms of university financing based on performance indicators [10]. The impact of income generation potential on the financial sustainability of universities has been studied [11], and the need for changes in the funding model, including the transition to formula-based funding of HEIs, has been substantiated [12, 13]. It has been determined that no single funding model can adequately address all contexts and institutional needs of HEIs. The centralized system of budget allocation does not provide financial opportunities for university development [14]. In contrast, funding models based on performance indicators incentivize universities to enhance their competitive positions through specific educational and research products and their commercialization. However, performance-based funding has a negative impact on enrollment numbers [15], thereby reducing the accessibility of higher education and overall funding. This approach is not universally effective, and its success depends on the specific indicators included in the funding formula.

The German Excellence Initiative [16] exemplifies a successful funding practice, encompassing three funding lines: clusters of excellence, postgraduate and doctoral studies, and

university strategies. These funding lines not only provide additional financial resources but also enhance the innovativeness of university activities, achieve strategic development priorities, and activate the outcomes of scientific schools. This is corroborated by G. Buenstorf & J. Koenig [17], who found that increased funding for scientific activities compared to general funding is associated with financial flows and donor relationships.

The uncertainty of budget funding necessitates the implementation of new funding models based on responsibility center management (RCM). In [18], the scientists discuss the design and implementation of distributing university incomes and expenses by responsibility centers, highlighting several obstacles in terms of complexity and the potential positive or negative impacts on funding performance indicators. The RCM implementation emphasis [19] has shifted towards a real option financing model that accounts for risks and estimates future budget needs. This model proposes fund distribution considering the heterogeneity of academic units, thereby motivating them to seek additional, alternative funding sources.

The war in Ukraine has catalyzed the development of inter-institutional partnerships, providing financial support to Ukrainian institutions for scientific activities, academic potential development, and funding for national reforms in higher education, thereby enhancing development potential and sustainability [1].

The commercialization of educational and scientific activities at universities is a bureaucratic process requiring significant time for document preparation and approval. It lacks clearly defined business processes, and responsibility typically falls on the initiator and developer (usually the scientist) of the value proposition. These factors create obstacles for developing hybrid financing at universities, necessitating strong motivation among core personnel for successful implementation.

Limited budget funding necessitates the development of hybrid funding models [20]. Global practices reveal various budget funding models based on performance indicators that stimulate the efficiency of educational and scientific activities. Additional funding sources for universities include income from additional educational services, asset sales and leases, financial income, grant and project financing, fundraising, crowdfunding, philanthropy, endowment funds, and investment funds. These sources are relatively new and not widely popular. A review of scientific literature reveals heterogeneous studies on the problem of hybrid financing in universities, with many researchers considering alternative, non-traditional funding sources. The emergence of these sources requires a core personnel capable of creating and commercializing value propositions.

**Purpose.** The purpose of this article is to assess the state of budget financing of HEIs in Ukraine, to determine the structure of their funding, and to identify the prerequisites for the development of hybrid financing of universities as a tool for ensuring stability and strategic development. To achieve this objective, the research is founded on three hypotheses that are essential for the development of hybrid university financing tools:

*Hypothesis 1:* The reduction in the actual and real budgetary funding of HEIs in Ukraine may stimulate the need for the implementation of hybrid financing instruments.

*Hypothesis 2:* Low diversification of university income may contribute to the implementation of hybrid financing instruments necessary to achieve strategic development goals and ensure the financial stability of universities.

*Hypothesis 3:* Performance-based financing of HEIs encourages the pursuit of hybrid financing tools for universities.

**Methods.** In the article, dynamic and structural analysis are employed to examine trends in financing HEIs. The Hirschman-Herfindahl Index (HHI) is utilized to calculate the degree of income diversification.

The indicator of the degree of income diversification for HEIs is calculated using the Hirschman-Herfindahl index  $HHI(DI)$  [21]

$$HHI(DI) = \sum_{i=1}^N \left( \frac{Income_i}{Income} \right)^2, \quad (1)$$

where  $DI$  is the diversification index;  $N$  – the number of sources of income;  $Income_i$  – the amount of the  $i^{th}$  source of income;  $Income$  – the total amount of university income.

The HHI is used to determine the concentration or diversification of income and the financial stability of organizations in both public and private sectors, as well as in higher education. A high level of income diversification indicates financial stability. Some researchers standardize the indicator values for calculating the HHI [21, 22].

The calculation of the HHI(DI) was carried out using publicly disclosed data from Form 2, “Report on Financial Results”, according to which the universities’ income is categorized into the following items: 1) budget allocations; 2) income from the provision of services (execution of works); 3) income from the sale of assets; 4) financial income; 5) other income from exchange operations (rent, income from property rights, income from revaluation, asset recovery, income from exchange rate difference); 6) transfers; 7) other income from non-exchange operations (income from assets (works, services) received free of charge, charitable contributions, grants, gifts, funds received from other entities for the implementation of targeted activities, etc.). The lower the value of the indicator, the more diversified the university’s income is, which has a positive effect on financial stability. The approach of DI to 1 indicates the concentration of incomes, because of their weak diversification.

Using the quantitative method, and considering the limit values of the indicators, the arithmetic mean was determined to assess whether the income diversification of a university indicates financial stability or risk. The analytical part of the research was conducted on a panel sample of 35 HEIs in Ukraine, which includes 12 classical universities, 9 polytechnics, 8 pedagogical universities, and 6 other institutions. This approach considers rating indicators, as well as industry and regional aspects. Graphical and visualization methods were employed to present the results. Additionally, the system method and grouping method were used to justify the prerequisites for the introduction of hybrid financing for universities and to categorize hybrid instruments into specific groups.

**Results.** One of the prerequisites for developing hybrid financing at universities is the reduction of budget expenditures for HEIs. To evaluate this, the percentage of actual expenditures of HEIs compared to the planned expenditures, and the adjusted actual expenditures relative to the official inflation rate in Ukraine [23, 24], were selected as evaluation indicators.

The assessment of state budget expenditures for HEIs in Ukraine from 2018 to 2023 (Fig. 1) reveals a systemic underperformance of planned allocations, averaging 13.0 % or 6.42 billion UAH. With the onset of the full-scale war in Ukraine in 2022, this underperformance increased to 14.8 % (7.7 billion UAH) and 16.7 % (9.0 billion UAH) in 2023.

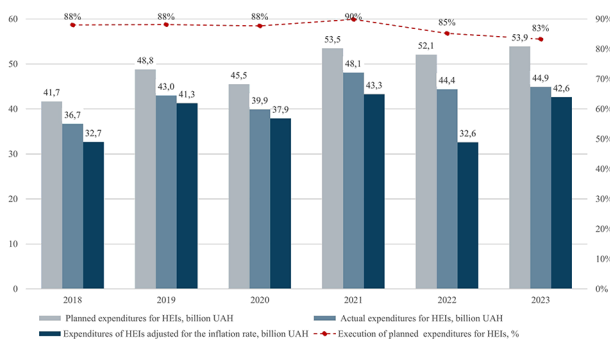


Fig. 1. Financing of HEIs of Ukraine from the state budget in 2018–2023

The actual expenditures for HEIs showed growth in 2019 at 17.2 % and in 2021 at 20.6 %. However, in 2020 and 2022, there was a contraction in expenditures, averaging a decline of 7.4 %. Considering the impact of inflation in Ukraine, the real funding for HEIs decreased on average by 10.3 % (–4.45 billion UAH) over the 2018–2023 period, including a 26.6 % reduction or 11.8 billion UAH in 2022.

Comparing the average growth rates of actual expenditures for HEIs with the average inflation rate, it becomes evident that real funding has decreased, as the growth rates of expenditures were 5.5 % lower over the 2018–2023 period, including a decrease of 34.3 % in 2022. These trends confirm the first hypothesis that the reduction in budgetary funding requires universities to seek alternative, including hybrid, sources of funding.

The HHI(DI) is calculated for 35 HEIs of Ukraine for 2018–2023 (Fig. 2).

Using a dot chart (Fig. 2), we compared the sets of calculated HHI(DI) values by year. The widest range of the indicator in HEIs was observed in 2023: min = 0.40, max = 0.76. In previous periods, the gap between the minimum and maximum values was as follows: 2022 (min = 0.39, max = 0.70), 2021 (min = 0.45, max = 0.70), 2020 (min = 0.44, max = 0.70), 2019 (min = 0.47, max = 0.72), 2018 (min = 0.43, max = 0.72).

The frequency of HHI(DI) values across Ukrainian HEIs based on the calculations shows that 53 calculated values are in the range of 0.47–0.51, 51 in the range of 0.55–0.59, 39 in the range of 0.51–0.55, 22 in the range of 0.59–0.63, 16 in the range of 0.43–0.47, 14 in the range of 0.63–0.71, 7 in the range of 0.67–0.71, 4 in the range of 0.39–0.43, 3 in the range of 0.71–0.75, and 1 in the range of 0.75–0.79. The average HHI(DI) index for classical universities is 0.53, with a minimum of 0.39 and a maximum of 0.76; for pedagogical universities, it is 0.57, with a minimum of 0.44 and a maximum of 0.72; for polytechnical universities, it is 0.57, with a minimum of 0.42 and a maximum of 0.70; and for other HEIs, it is 0.55, with a minimum of 0.48 and a maximum of 0.74. Given that the average HHI(DI) index for the sample of Ukrainian HEIs is 0.55 (min = 0.39; max = 0.76), the following hypothesis can be proposed: if the HHI(DI) index for Ukrainian HEIs is  $\leq 0.55$ , this indicates a positive impact on financial stability, and the activities of the HEIs can be considered stable; if it is greater than 0.55, the activity is considered risky.

According to the proposed distribution based on the calculated HHI(DI) values (Fig. 3), three universities with the highest level of financial stability were identified: Sumy State University, State University “Uzhhorod National University”, and SI “South Ukrainian NPU named after K. D. Ushynsky”. The three most at-risk universities are KSPU, NTUU “Igor Sikorsky KPI”, and NTU “Kharkiv Polytechnic Institute”. Instability and a wide range of HHI(DI) values from 2018 to 2023, indicating a shift from stability to risk, are observed in KSU (0.43–0.76) and VITE KSUTE (0.51–0.74). A decrease in the index, signaling a transition from risk to financial stability, was recorded in Vasyl’ Stus DNU (0.63–0.48) and UHSP (0.72–0.51).

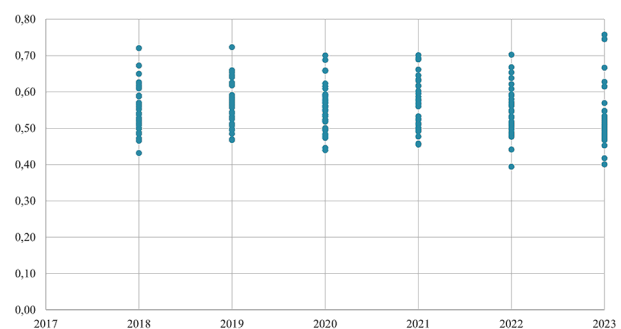


Fig. 2. The level of income diversification of universities according to the HHI(DI) indicator

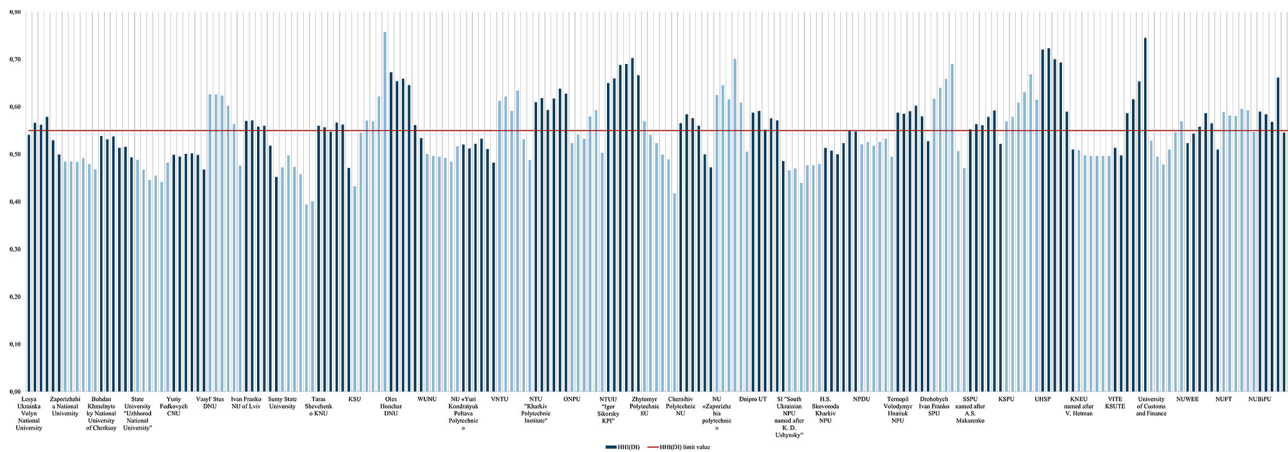


Fig. 3. HHI(DI) values of Ukrainian universities for 2018–2023

Based on management information, the university management can detail the income and get a more accurate indica-

tor, the calculation of which in dynamics will show how diversification contributes to the growth of the financial stability of

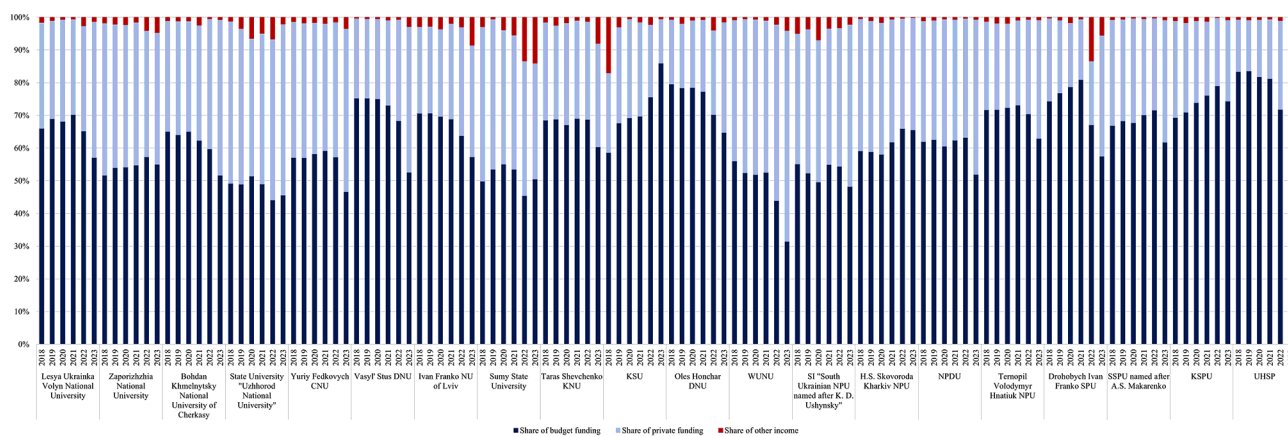


Fig. 4. Income diversification of classical and pedagogical universities of Ukraine in 2018–2023

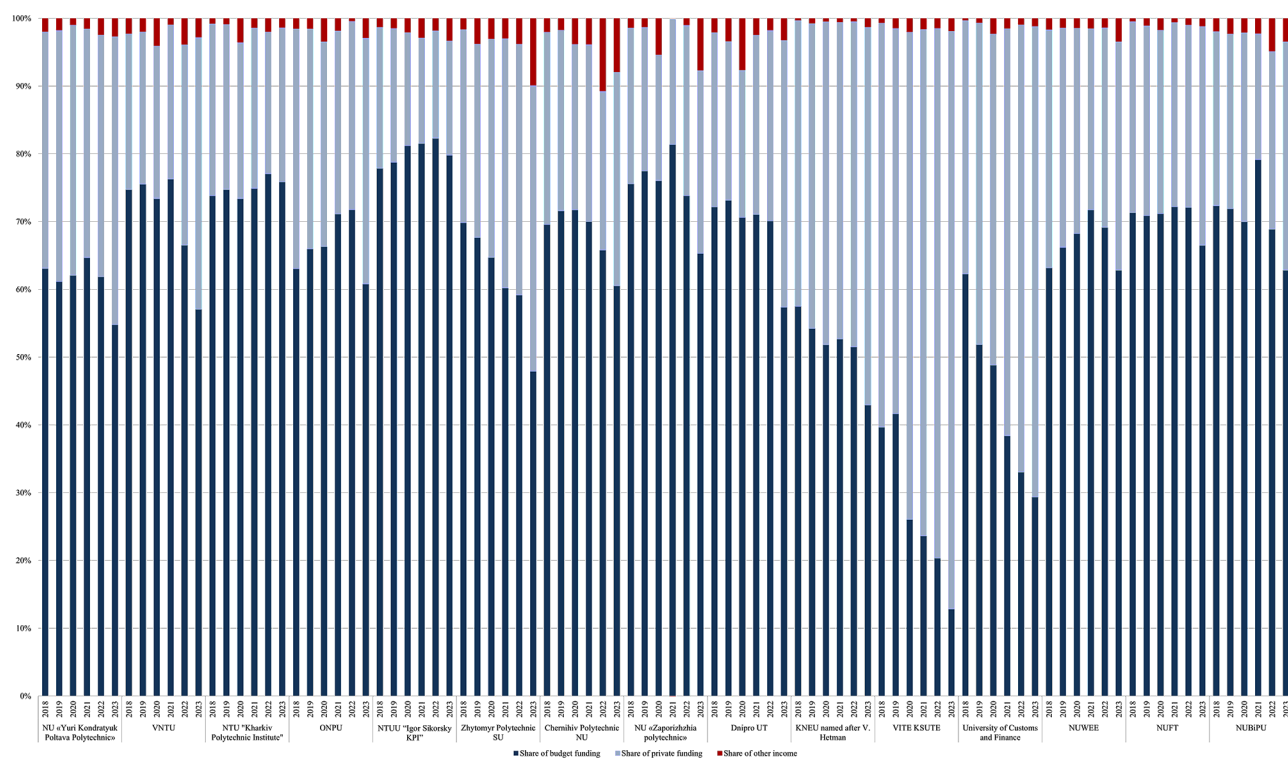


Fig. 5. Income diversification of polytechnical and other universities of Ukraine in 2018–2023



the university. Let us examine the trends in income diversification among classical, pedagogical, polytechnical, and other universities in Ukraine (Figs. 4, 5).

The share of budgetary funding in the total income of universities from 2018 to 2023 averaged 0.64. However, there were significant fluctuations, ranging from a maximum of 0.86 (KSU, 2023) to a minimum of 0.13 (VITE KSUTE, 2023). In contrast, the share of private funding averaged 0.13, and the share of other income sources averaged 0.02, not exceeding a maximum of 0.17 (KSU, 2018). Overall, there is a trend toward a reduction in budgetary funding across all higher education institutions (HEIs) in Ukraine, although the rate of this reduction varies depending on the type of university.

Specifically, the share of budgetary funding was:

- for classical universities: average = 0.61, max = 0.86 (KSU, 2023), min = 0.31 (WUNU, 2023);

- for pedagogical universities: average = 0.67, max = 0.84 (UHSP, 2019), min = 0.48 (SI “South Ukrainian NPU named after K. D. Ushynsky”, 2023);

- for polytechnical universities: average = 0.70, max = 0.82 (NTUU “Igor Sikorsky KPI”, 2021–2022), min = 0.48 (Zhytomyr Polytechnic SU, 2023);

- for other HEIs: average = 0.55, max = 0.79 (NUBiPU, 2021), min = 0.13 (VITE KSUTE, 2023).

During the period from 2018 to 2023 (Figs. 4, 5), a general trend of declining budgetary funding can be observed, although the rates differ between universities. Factors influencing this include the location, ranking, and reputation of the HEIs, the structure of educational programs, and the level of budgetary funding per student. This indicator may be somewhat asymmetrical due to the overall decrease in student numbers, including those in the contract form of education, and the discrepancy between the cost of education under contract and the actual expenses for education. This situation is more common for regional HEIs, where price is a decisive factor for prospective students when choosing an institution.

The share of other income is insignificant in the total income of universities, and only a few HEIs have a share above 0.10, including: Drohobych Ivan Franko SPU (0.13; 2022), Chernihiv Polytechnic NU (0.11; 2022), Zhytomyr Polytechnic SU (0.10; 2023), KSU (0.17; 2018), Sumy State University (0.13–0.14; 2022–2023). These data indicate a low diversification of university income, prompting university management to seek alternative, including hybrid, sources of funding. The results obtained confirm the second hypothesis that low income diversification may contribute to the implementation of hybrid forms of financing to achieve strategic development goals and ensure the financial stability of universities.

Despite the reduction of budget funding, it remains a priority source for HEIs, therefore, taking into account the fact that a formulaic approach to the distribution of budget funds is determined at the legislative level, taking into account performance indicators and criteria included in the formula [20, 25], university management should implement hybrid forms financing, which will have a positive effect on the growth of the special fund’s income. Universities will be able to get a double effect: increase income from the special fund and create opportunities to increase income from the general fund due to the growth of indicators included in the formula.

The identified trends in the financing of HEIs determine the need for the development of a conceptual model of hybrid university funding, the generalized tools of which are presented in Fig. 6.

Hybrid financing of universities are atypical financing instruments, the prerequisite for which is collaboration between university management, stakeholders and the personnel core, the result of which is the creation of value propositions capable of satisfying the needs of stakeholders and generating cash flows. Collaboration ensures the exchange of value propositions in the field of educational and scientific activities, affects the expansion of partnership relations, and is a prerequisite for

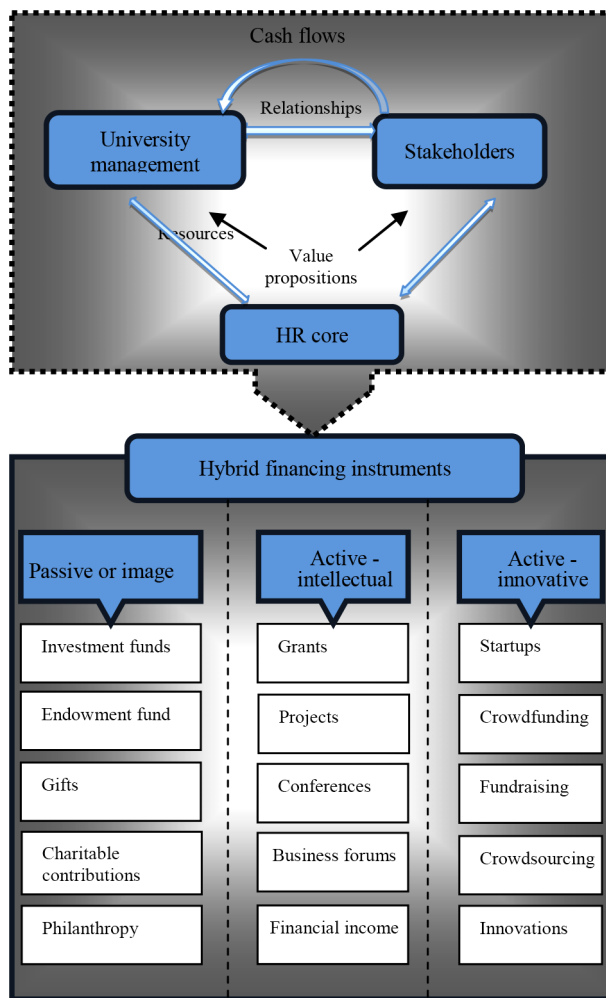


Fig. 6. Conceptual model of hybrid financing of universities

obtaining additional income of the university. Hybrid financing instruments should be divided into three groups:

- *the first group* – passive or image-based ones (investment funds, endowment fund, gifts, charitable contributions, philanthropy) are created as a result of the university’s top positions in national and world rankings, leading positions at the national and local levels, the presence of famous graduates, stable partnership relations with key stakeholders;

- *the second group* – active or intellectual ones (grants, projects, conferences, business forums, financial income) are the result of a powerful core of personnel with significant indicators of scientific activity, motivated to develop new projects, receive grants of the international and national level, commercialize the created valuable suggestions;

- *the third group* – active or innovative ones (start-ups, crowdfunding, fundraising, crowdsourcing, innovations) are atypical tools for financing universities, which is due to the innovative approaches of universities to the development of the personnel core and students.

The specified hybrid financing tools are atypical for most Ukrainian universities, because the availability of stable budget financing and limited financial autonomy over the past years did not encourage the search for new financing tools. However, transformational processes and the financial crisis in higher education became a prerequisite for the transition to a business model of operation, commercialization of value propositions, and the search for hybrid financing tools. It is under such conditions that universities can ensure sustainability and achieve strategic development priorities.

The prerequisite for introducing hybrid funding for universities is the reduction and limitation of budget funding.

Global practice highlights differences in universities' abilities to secure funding, as indicators related to quotas and performance measures are typically embedded in the funding models. These indicators consider the results of scientific work and the capacity to attract funds from other activities. Thus, a strong personnel core and progressive university management are crucial, alongside an increase in student enrollment.

The funding of German universities [17] encompasses three main areas: development funding, clusters of excellence, and postgraduate studies, with the first being the largest in terms of volume and prestige. However, to secure these types of funding, it is beneficial to have indirect financing sources alongside direct financing, such as income from private and international donors, which can directly or indirectly influence the amount of direct funding received.

Dependence on state funding necessitates the diversification of university income [26] as a tool to ensure financial stability and achieve institutional missions. The Ministry of Education of Saudi Arabia legislatively creates conditions to expand the financial autonomy of universities, encouraging them to seek innovative, alternative sources of financing.

The commercialization of scientific research at universities is primarily funded by state resources [27]. Universities incorporate this commercialization into their missions, implementing it through applied research, patenting scientific activities, and subsequently transferring these patents to businesses on a commercial basis. In Ukraine, the degree of commercialization of scientific activities is minimal, as indicated by budget allocations for science and the necessity for its commercialization and integration into the business environment [28]. To address this, it is recommended to use tools that motivate employees, such as bonuses based on scientific outcomes, which in turn affect the indicators included in formula funding.

The attitudes of academic and non-academic staff toward income generation are mixed [29, 30]. While income diversification is recognized, there is an awareness of the challenges of generating income. Respondents identify potential income sources through short-term educational programs, international cooperation, and business partnerships. The capacity to attract additional income relies on experienced personnel.

Universities face significant challenges during wartime, including reduced funding, loss of personnel, and student migration [31, 32]. Despite these challenges, opportunities arise in international mobility, digitalization of educational and scientific activities, increased professionalism of teachers, and flexibility in organizing the educational process, which collectively create competitive advantages for HEIs.

The transformation of Ukraine's economy in the context of European integration affects the role of education in the country's economic development, the level of funding, and the boundaries of financial autonomy of HEIs [33, 34]. Despite the negative trends in budgetary financing, university management requires a reassessment of financial management approaches, particularly through the search for additional and hybrid sources of income.

The development of hybrid financing at universities, as a tool for ensuring financial sustainability, requires collaboration among university management, stakeholders, and core personnel. A. Afriyie [35] evaluates the financial sustainability of universities through a mathematical model that includes components such as leadership, public relations, and the investment portfolio.

**Conclusions.** Based on the results of the study, the theoretical justification and practical testing of three hypotheses were conducted, serving as prerequisites for developing hybrid university financing tools. An analysis of the financing of higher education in Ukraine for the period 2018–2023 revealed a systematic underpayment of expenditures from the state budget, ranging from 12–17%. Additionally, inflation significantly impacted the real value of these expendi-

tures, particularly in 2022, with a 26.6% increase or UAH 11.8 billion.

The income differentiation levels of 35 universities in Ukraine for the period 2018–2023 were assessed. It was found that for most universities, the Hirschman-Herfindahl Index (HHI) ranged between 0.47 and 0.59, with an average index of 0.55. Based on this gradation, universities can be categorized as stable ( $HHI \leq 0.55$ ) or risky ( $HHI > 0.55$ ).

The income structure of Ukrainian universities is formed mainly by public and private funding, while other income is insignificant ( $\max = 0.17$ ). During 2018–2023, most HEIs showed a decrease in the share of budget funding, but this trend is heterogeneous and depends on the type, scale, location, rating, image, list of study programmes, and other factors. The increase in the share of private funding is typical for economic (VITE KSUTE, University of Customs and Finance, KNEU named after V. Hetman) and classical HEIs (State University "Uzhhorod National University", Sumy State University, WUNU). Changes in the structure of HEIs' funding do not always have a positive impact on its total volume, which forces universities to look for alternative, including hybrid, sources of funding to ensure their financial stability and strategic development.

These conclusions underscore the necessity of introducing hybrid financing tools. However, it is essential to identify not only the opportunities afforded by international support for preserving and developing Ukraine's educational and scientific potential but also the challenges, such as the presence of a motivated personnel core, high levels of scientific activity, and the ability to generate new ideas and create value propositions. The prerequisites for hybrid financing in universities are defined as collaboration between university management, stakeholders, and the core personnel, resulting in the creation of value propositions that meet stakeholder needs and generate cash flows.

Hybrid funding tools are proposed to be divided into three groups: passive or image-based, active-intellectual, and passive-innovative. The prospects for implementing hybrid financing tools require a comprehensive study of domestic and international practices, identifying positive practices and the limitations of their application in Ukrainian universities.

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## Передумови гібридизації фінансування університетів як інструменту забезпечення їх стійкості та стратегічного розвитку

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**Мета.** Оцінка стану бюджетного фінансування закладів вищої освіти (ЗВО) України, визначення структури їх фінансування й передумов розвитку гібридного фінансування університетів як інструменту забезпечення стійкості та стратегічного розвитку.

**Методика.** У процесі дослідження застосовані динамічний і структурний аналіз, індекс Хіршмана-Херфіндала та такі методи як кількісний, середньої арифметичної, граничних величин, графічний, візуалізації, системний. Практична апробація гіпотез дослідження здійснена на підставі комплексного підходу до фінансування ЗВО України й панельної вибірки із 35 університетів, що враховує рейтингові показники, галузевий і регіональний аспекти.

**Результати.** Трансформаційні процеси, що відбуваються на різних рівнях, супроводжуються такими тенденціями як скорочення бюджетного фінансування, зміна структури контингенту й фінансування, міграція кадрового ядра, студентів, скорочення попиту на додаткові освітні послуги та інші чинники, у т. ч. військові, що створюють певні передумови до розвитку гібридних інструментів фінансування університетів. У роботі визначені передумови розвитку гібридного фінансування університетів, виявлені негативні тенденції бюджетного фінансування ЗВО, включаючи системне недовиконання плано-



вих показників і вплив інфляції на їх реальну вартість; проведено комплексний аналіз рівня диверсифікації доходів українських університетів із застосуванням індексу Хіршмана-Херфіндаля (HHI(DI)). Кількісним методом визначені граничні й середні величини, що дозволило класифікувати університети на стійкі ( $\text{HHI(DI)} \leq 0,55$ ) і ризикові ( $\text{HHI(DI)} > 0,55$ ); виявлені тенденції до незначної диверсифікації доходів університетів; запропонована концептуальна модель гібридного фінансування університетів для розширення їх фінансової автономії, що базується на співпраці між університетським менеджментом, стейкхолдерами й кадровим ядром, з метою створення ціннісних пропозицій, які задовольняють потреби стейкхолдерів і генерують грошові потоки; запропоновано новий підхід до поділу гібридних інструментів фінансування на три групи: пасивні або іміджеві, активні-інтелектуальні, пасивні-інноваційні. Цей підхід є інноваційним у розробці фінансових стратегій для університетів.

**Наукова новизна.** Запропоновані нові інструменти для прийняття управлінських рішень, спрямовані на забезпечення фінансової стійкості й розробку фінансових

стратегій для університетів. Зокрема: оригінальний підхід до класифікації університетів на стійкі та ризикові на основі значення індексу Хіршмана-Херфіндаля; концептуальна модель гібридного фінансування університетів, що сприяє розширенню їх фінансової автономії; інноваційний підхід до поділу гібридних інструментів фінансування на три категорії: пасивні або іміджеві, активні-інтелектуальні, пасивні-інноваційні.

**Практична значимість.** Результати дослідження можуть бути використані для прийняття управлінських рішень, спрямованих на розширення фінансової автономії університетів. Упровадження концептуальної моделі гібридного фінансування буде сприяти диверсифікації доходів, збільшенню фінансування, а також забезпеченню фінансової стійкості та стратегічного розвитку університетів.

**Ключові слова:** *фінанси, ЗВО, інструменти фінансування, стійкість, університет, гібридне фінансування, стратегічне управління*

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