

ENTREPRENEURSHIP IN HIGHER EDUCATION: THE FORMATION OF ENTREPRENEURIAL UNIVERSITIES

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Abstract. The paper analyzes the emergence of entrepreneurial universities as a new phenomenon in higher education of Ukraine. The number of scientific publications formed essential characteristics of the concept with the emphasis on entrepreneurial thinking in the HEIs. The scientists suggest variety of approaches from internal hybrid form to a “third-generation” university. Ukrainian researchers concentrate on the question of how to integrate entrepreneurship in the HEIs. They focus mainly on commercialization of knowledge and scientific results within existing organizational forms without improving social, economic or legal environment.

The article aims to consider the evolution of entrepreneurial universities model in Ukraine. The authors applied methods of legal comparative analysis to determine the level of autonomy. Then the authors used financial analysis methods to measure the potential for entrepreneurship. In particular, the paper examines the dynamics of both absolute and relative financial indicators.

The analysis of legal environment revealed that the autonomy of public HEIs remains relatively limited despite first promising steps. The paper identified private HEIs as main players in the development of entrepreneurial model in Ukraine. Thus, the findings are based on the financial performance analysis of 77 private universities collected from statistical reports of Ukraine. The research demonstrates sufficient potential of private HEIs to ensure financial autonomy providing the opportunity to form entrepreneurial universities as a new organizational structure of an education institution. Moreover, the introduction of an entrepreneurial behavior model could lead to the growth of their financial results and, consequently, to the sustainable development on a long-term basis.

Keywords: *Entrepreneurial University, entrepreneurship, higher education.*

JEL code: K42

Introduction

The formation of entrepreneurial universities as a new organizational structure of an educational institution is based on the decentralization of management. Decentralization of management that is the autonomy of universities involves a combination of the traditional scientific and education (academic) model of an education institution with an entrepreneurial model of behavior, providing employees and students with the opportunity to engage in innovative entrepreneurship, commercializing their research through an active interaction with regional authorities, public organizations and industry.

“Entrepreneurial university” appears in the research literature in the 80th (Rothaermel et al., 2007). The study reveals the intensification in the development of entrepreneurial universities in the USA and in the EU from 2000 to 2005. However, the analysis shows diverse interpretation of entrepreneurial university model depending on the context, purposes, tasks and activity area.

According to Burton Clark, the entrepreneurial university puts emphasis on the innovative mission, improvement of their internal organizational architecture and new ways of interaction with key stakeholders (Clark, 1998). The researcher analyzes financial autonomy of entrepreneurial universities as an important factor to diversify the financing while preserving public funding for R&D and creating a new inter- and multidisciplinary learning environment. Burton Clark supported the idea of promoting the entrepreneurial culture at the university that formed the basis of many

subsequent studies.

Later, the concept of an entrepreneurial university was transformed in the “third-generation university” that portrays a successful institution of the future (Wissema, 2009). This idea was detailed by using hybrid organizational forms in order to find a balance of relationships between the entrepreneurial university, business, industry, public organizations and other stakeholders (Etzkowitz & Ranga, 2010). In short, the growth of university autonomy should be accompanied by the change of organizational forms of entrepreneurial universities.

In other study, one of main findings was to stimulate student skills as most useful for developing entrepreneurial thinking (Urbano & Guerrero, 2013). Entrepreneurial thinking focuses on innovations (in HEIs and in private firms), so that business becomes more and more eager to innovate. Thus, entrepreneurship strengthens the university environment by encouraging to acquire new knowledge demanded by the market.

Johann Bronstein and Markus Reihlen demonstrate a difference in the interpretation of entrepreneurial university by different authors depending on their concentration on research, industrialization, servitization and commercialization (Bronstein & Reihlen, 2014). Authors have proposed archetypes such as research driven, industry driven, service innovation driven, and knowledge commercialization driven. This classification clarifies the idea of how to create an entrepreneurial university or the third-generation university.

Recent higher education reform motivated Ukrainian researchers to (re)consider the creating of entrepreneurial universities. It should be noted rather narrow scope of their interest on commercializing university research and development without deep reforming of legal, business and social environment. Thus, national researchers pay more attention to implementing advanced managerial, expert and design decisions for the commercialization of university research and development.

Research results and discussion

The Lisbon Declaration (EUA, 2010) identifies four varieties of autonomy of universities: academic, organizational, financial, personnel. Autonomy is understood as the possibility and ability to own, use, and dispose of the property, as well as an independent determination of the personnel, internal structure, and academic freedom. However, all this is possible only with accountability not only to the target audience but also to the society represented by authorized bodies. Following the principles of the Lisbon Declaration, the European University Association monitors universities in 29 European countries on four mentioned types of autonomy, evaluates the achieved results according to the established methodology (EUA, 2019). A high level of autonomy of higher education institutions is considered as a prerequisite for the formation and development of entrepreneurial universities.

By joining in 2005 the Joint Declaration of Ministers of Education of Europe “The European Higher Education Area”, Ukraine has declared its desire to make an effective contribution to the creation of a European Higher Education Area based on the principles of the Bologna Declaration. Thus, the principle of the independence of educational institutions and the need to create conditions for its implementation are put at the forefront. The first major step towards implementing autonomy was the adoption in 2014 of the Law of Ukraine “On Higher Education” (Parliament of Ukraine, 2014), in which the first paragraph of the first article provides for the autonomy of higher education institutions. However, it was immediately indicated that this autonomy is limited by applicable law.

Organizational autonomy should be manifested in the complete freedom of compiling the staff timetable and the establishment of legal entities, as well as the election of the leadership of the university, its qualifications, and term of office, the possibility of attracting specialists from outside. However, the legislation contains restrictions on this autonomy, such as the qualification requirements for the candidate and a well-defined procedure for his election (Cabinet of Ministers, 2014).

Personnel autonomy lies in the ability to hire and fire academic and administrative staff, to determine the level of wages, make decisions for career development. At the moment, state universities approve the staffing table with the representatives of the Ministry of Education and Science of Ukraine, there are standards for the number of students per scientific and pedagogical staff unit, a strict procedure for conducting competitive selection when filling vacant posts of scientific and pedagogical staff (Cabinet of Ministers, 2002; Ministry of Education and Science, 2015).

Academic autonomy is independence in determining the number of students enrolling at different levels of study, as well as program content, terms of opening and closing, the language of study, and quality assessment criteria. This autonomy is also limited, for example, there are precisely defined types and results of the professional activity of persons by specialty to recognize the qualifications of the corresponding specialty (Cabinet of Ministers, 2015).

Financial autonomy gives the right to independently determine the duration and type of financing, the possibility of making a profit, lending, and setting the tuition fees. In Ukraine, at the legislative level, the procedure for the placement of income received by state universities as payment for services, charitable contributions and grants on current accounts only in state banks has been defined; the procedure for distributing temporarily surplus funds on deposits is prescribed (Cabinet of Ministers, 2015), a mechanism for institutions to incur expenses of a special fund received as payment for services is provided (Cabinet of Ministers, 2015), the exhaustive list of services that state and municipal universities can provide is established (Cabinet of Ministers, 2010).

The draft regulation of the Cabinet of Ministers of Ukraine “On Some Issues of Introducing Indicative Value” deserves special attention, under which a lower threshold for the cost of training will be established. Students of state universities will pay more than the average cost of training in commercial institutions.

Thus, private universities become the main participants in the process of forming entrepreneurial universities in Ukraine.

Currently, 77 private higher education institutions of the III-IV level of accreditation are functioning in Ukraine (Ukrstat, 2019) (Table 1).

Table 1

The dynamics of the number of HEIs of III-IV accreditation level

	2010/2 011	2011/2 012	2012/2 013	2013/2 014	2014/2 015	2015/2 016	2016/2 017	2017/2 018
Number of HEIs, including by ownership:	330	326	316	309	277	288	287	289
state and communal	231	227	220	218	197	208	209	212
Private	99	99	96	91	80	80	78	77

Source: authors' construction based on Ukrstat, 2019

The centers of preparation of bachelors, masters, PhD students in private universities are Kyiv (28 universities), Kharkiv (8 universities), Dnipro (5 universities), Lviv region (5 universities). The number of students enrolled in these universities is: Kyiv - 58266 people (16% of all students studying in Kyiv), Kharkiv - 1473 people (1%) Dnipro - 5493 people (5%), Lviv region - 6272 people (6%). It should be noted that according to these educational centers (cities and regions of Ukraine) the share of students studying at the expense of individuals is: 187350 people in Kyiv (52.59% of all students studying in Kyiv), Kharkiv - 79885 people (49.85%) Dnipro - 43034 people (42.66%), Lviv region - 51713 people (46.56%), which means that there are potential students for private universities.

Consolidated ratings of private higher education institutions formed by the Information resource "Osvita.ua" (Osvita.ua, 2019) show that the top ten included 4 HEIs from Kyiv, 1 – from Kharkiv, 1 – from Dnipropetrovsk region, 3 from Lviv and 1 - from Poltava HEI (Table 2).

Table 2

The best private educational institutions of Ukraine 2019

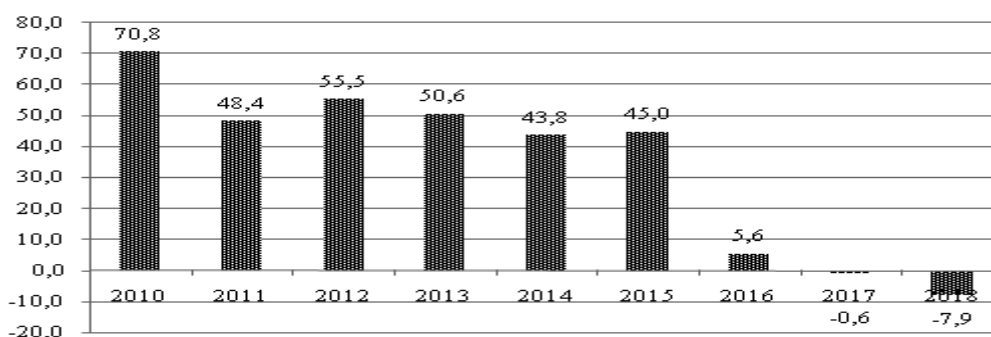
HEI	Place	Place in total rating	TOP 200 Ukraine	Mark of external independent testing for contract	Scopus	Total mark
Kyiv Medical University	1	78	131	8	147	286
Alfred Nobel University	2	80	103	49	142	294
Poltava University of Economics and Trade	3	90	109	88	113	310
Ukrainian Catholic University	4	100	161	1	167	329
Academy of Advocacy of Ukraine	5	120-121	144	58	167	369
Kyiv International University	6	123	143	72	159	374
Ukrainian-American University Concordia	7	131	201	19	167	387
Kharkiv Humanitarian University “Narodnaya Ukrainskaya Academy»	8	137-138	168	62	167	397
IT University “Step”	9	139-140	201	30	167	398
Lvov MedicaUniversity	10	143	201	35	167	403

Source: Information resource "Osvita.ua", 2019

Up to the rating “TOP 200 Ukraine” these universities are not in the top hundred. The index includes three complex components: the quality index of scientific and pedagogical potential, the quality index of education and the international recognition index. “The mark of external independent testing for contract” rating distinguishes two leaders - the Ukrainian Catholic University (1st place) and Kyiv Medical University (8th place), 4 more universities are in the top 50, and the rest are in the top hundred. The Scopus rating, based on tracking the number of scientific publications and their citations, shows a steady lag behind the highest-rated state and communal higher educational institutions.

Satu Kahkonen has marked, that the current model of higher education funding does not contribute to quality improvement; funding is not performance-based and results-based (Ministry of Education and Science, 2019).

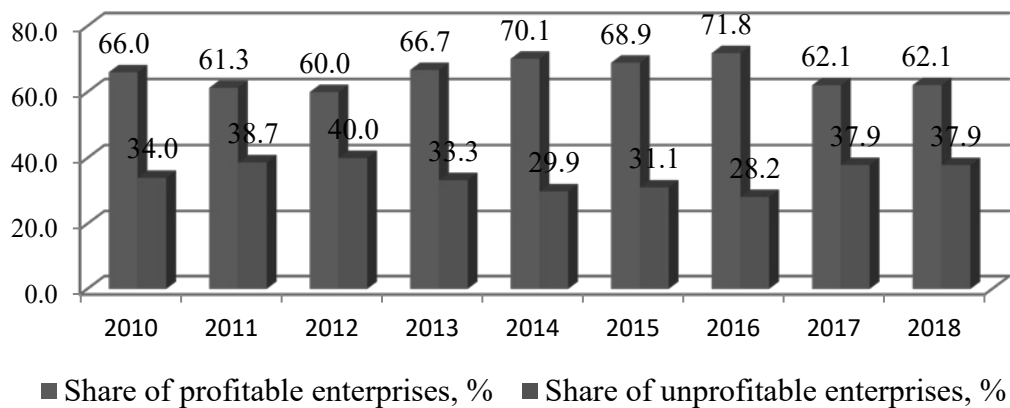
Analysis of the dynamics of the financial results of non-state HEIs, conducted according to data, indicates their stable and significant decrease during 2010-2018 (Access to the Truth, 2019). So, in the reporting period from 2010 to 2016 the volume of profit before tax decreased by more than 10 times, from 70,8 mln UAH in 2010 up to 5,6 mln UAH in 2016, and in 2017 - 2018 the overall financial result showed a negative value, the amount of losses reached 7,9 mln UAH (Figure 1).



Source: authors' construction based on Ukrstat reports 2010-2018

Fig. 1. Dynamics of profit (losses) of non-state HEIs

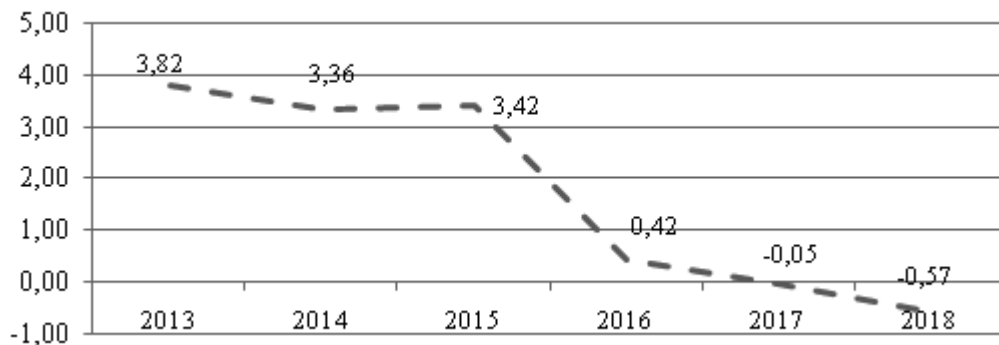
At the same time, the structure of non-state HEIs by financial results demonstrates the presence of a rather high share of unprofitable ones, which ranges from 34% in 2010 to 37.9% in 2018 (Figure 2).



Source: authors' construction based on Ukrstat reports 2010-2018

Fig. 2. Structure of non-state HEIs by financial results

Despite the fact that the volume of assets used by HEIs remained relatively stable, their level of profitability decreased significantly (Figure 3). Since 2017 it had a negative value and showed a sharp drop in the rate of return on funds invested in HEIs activities.



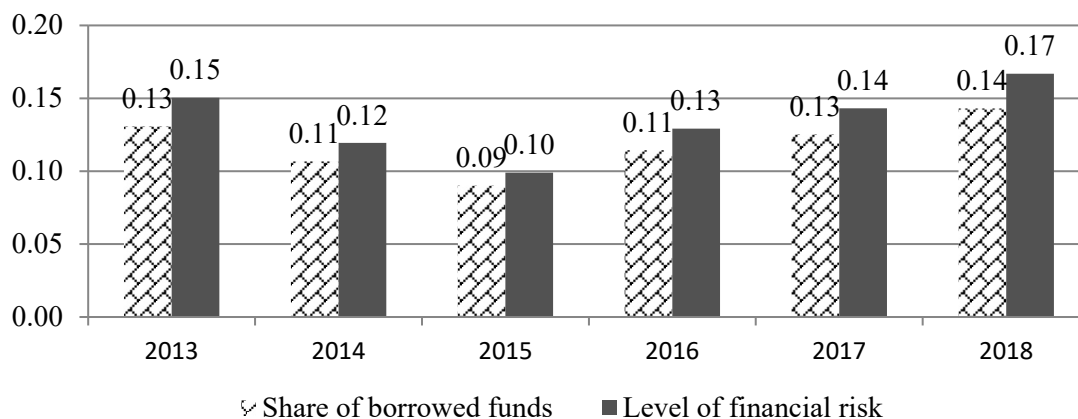
Source: authors' construction based on Ukrstat reports 2010-2018

Fig. 3. Dynamics of profitability of assets of non-state HEIs

Thus, all this indicates the presence of a pronounced tendency to reduce productivity and reduce the level of efficiency of HEIs, which is confirmed by the dynamics of both absolute and relative indicators.

Regarding the characteristics of the financial state of the non-state HEIS, the following trends should be noted. Share of equity in the structure of sources of financing during 2013 - 2018 remains high and varies from 87% in 2013 to 91% in 2015, returning to 86% in 2018. This, on the one hand, indicates a very high level of financial autonomy of non-state HEIs, their ability to ensure financial stability in the capital structure and independence from external sources of funds. On the other hand, such a situation may demonstrate the inability of HEIs to apply for raising funds on a credit basis, which would expand the amount of general financing of educational activities and contribute to improving the quality of educational services.

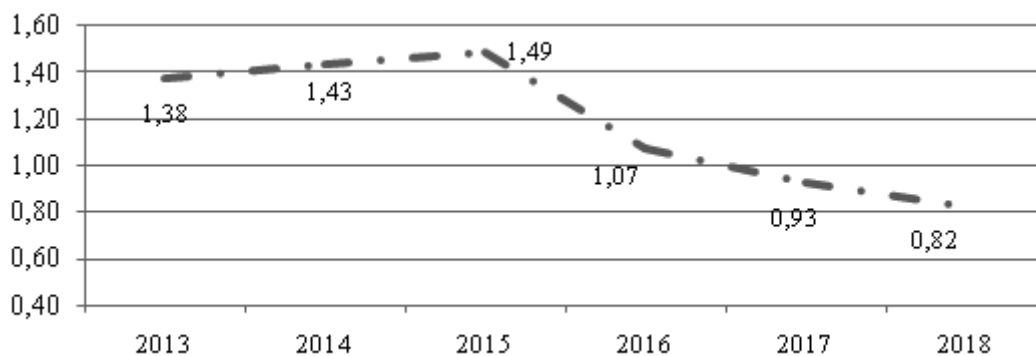
Accordingly, such a structure of funding sources provides a fairly low level of financial risk in the activities of the HEIs (Figure 4). Since the share of borrowed funds (among which current liabilities and collateral predominate) does not exceed 14%, respectively, the level of financial risk (with a critical value of the indicator equal to 1) reaches a maximum value of only 0.17 in 2018.



Source: authors' construction based on Ukrstat reports 2010-2018

Fig. 4. Dynamics of indicators determining the level of dependence on external sources of financing of non-state HEIs

At the same time, despite the rather low share of current liabilities in the structure of sources of funds, the solvency level of HEIs during 2013 – 2018 has significantly reduced (Figure 5).



Source: authors' construction based on Ukrstat reports 2010-2018

Fig. 5. Dynamics of the current liquidity ratio of non-state HEIs

Since 2015, the value of the current liquidity ratio, reflecting the ability to cover current liabilities with current assets, has been steadily decreasing, which indicates a decrease in the ability of the subjects under study to timely fulfill liabilities and generally negatively characterizes their financial condition.

Conclusions

So, based on the results of our analysis, we can conclude that the non-state ownership form of HEIs in Ukraine has sufficient potential to ensure its own financial autonomy, providing the opportunity to form entrepreneurial universities on their basis as a new organizational structure of an educational institution. In addition, the introduction of an entrepreneurial behavior model in their activities, involves the commercialization of research results, will ensure the growth of their financial results and, accordingly, ensure sustainable development on a long-term basis. In further research we will develop recommendations to amend current legislation on higher education in Ukraine. For instance, special attention will be paid to ensure real financial autonomy of public higher education institutions. The latter is regarded as a shift from public financing system to entrepreneurial model of state-owned universities. This includes focusing on profit-oriented activities of public universities and financial statements similar to private HEIs. Such a new approach to financial autonomy will allow to transform existing model of Ukrainian public universities into active entrepreneurship. Thus, a system of absolute and relative indicators would be developed to stimulate entrepreneurship of public HEIs.

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