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THE SUSTAINABLE HUMAN CAPITAL DEVELOPMENT AND FINANCING OF EDUCATION IN EUROPE AND UKRAINE

Abstract. Human capital is a key to unlocking a child's potential and to improving economic growth in every country. But the COVID-19 pandemic threatens hardwon gains in health and education over the past decade, especially in the developing countries. The research is devoted to the analysis of the European experience of financing education for sustainable human capital development and provides practical recommendations for implementing tools for financing education for sustainable human capital development in Ukraine. In order to achieve the stated purpose theoretical bases, legislative and regulatory official documents were analyzed. The main problematic areas are: participation of adults in learning; the share of employed graduates; the low level average expenditure per pupil/student and others. The review shows that the most perspective approaches to financing education for sustainable human capital development are partnership of governments, local authorities, educational, business and household institutions; reform the mechanism of education funding. As a result, the roles of the EU and international organizations in the development of mechanisms and tools for financing education at all levels by different groups of actors have been identified. The objective need for cooperation of international organizations, state institutions, economic entities and human capital carriers to finance quality and affordable education is substantiated. The results of the study can be used in governance models. The study actualizes the value of human capital development and financing of education, and proves their impact on the sustainable growth.

 $\ensuremath{\mathrm{Keyword}}$ s: human capital, education, education expenditure, government expenditure.

JEL classification: J24, I15, I18, I22, I25, Q01.

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СТАЛИЙ РОЗВИТОК ЛЮДСЬКОГО КАПІТАЛУ І ФІНАНСУВАННЯ ОСВІТИ В ЄВРОПІ ТА УКРАЇНІ

Анотація. Проведено аналіз європейського досвіду фінансування освіти для сталого розвитку людського капіталу та надано практичні рекомендації щодо впровадження відповідних інструментів фінансування в Україні. Для досягнення поставленої мети проаналізовано теоретичні основи, законодавчі та нормативні офіційні документи. Наголошено, що основними проблемними сферами є: участь дорослих у навчанні; частка зайнятих випускників; низький рівень середніх витрат на одного учня/студента та ін. Зроблено висновки, що до найперспективніших підходів до фінансування освіти для сталого розвитку людського капіталу належать: партнерство урядів, місцевих органів влади, освітніх, ділових установ; реформа механізму фінансування освіти. Обґрунтовано об'єктивну необхідність співпраці міжнародних організацій, державних установ, суб'єктів господарювання та носіїв людського капіталу для фінансування якісної та доступної освіти.

К лючові слова: людський капітал, освіта, витрати на освіту, державні витрати.

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УСТОЙЧИВОЕ РАЗВИТИЕ ЧЕЛОВЕЧЕСКОГО КАПИТАЛА И ФИНАНСИРОВАНИЕ ОБРАЗОВАНИЯ В ЕВРОПЕ И УКРАИНЕ

Аннотация. Проведен анализ европейского опыта финансирования образования для устойчивого развития человеческого капитала и даны практические рекомендации по внедрению соответствующих инструментов финансирования в Украине. Для достижения поставленной цели проанализированы теоретические основы, законодательные и нормативные официальные документы. Отмечено, что основными проблемными сферами являются: участие взрослых в обучении; доля занятых выпускников; низкий уровень средних расходов на одного ученика/студента и т. п. Сделаны выводы, что к наиболее перспективным подходам к финансированию образования для устойчивого развития человеческого капитала относятся: партнерство правительств, местных органов власти, образовательных, деловых учреждений; реформа механизма финансирования образования. Обоснована объективная необходимость сотрудничества международных организаций, государственных учреждений, хозяйствующих субъектов и носителей человеческого капитала для финансирования качественного и доступного образования.

К лючевые слова: человеческий капитал, образование, расходы на образование, государственные расходы.

The European vector of Ukraine's development, based on the principles of sustainable and comprehensive growth, raising living standards and human capital development, provides for the activation of new opportunities for social

development and economic growth, among which the most important are the introduction of learning mobility (short-term, group or virtual mobility), mobility of young people participating in non-formal and informal learning programs, lifelong learning, inclusive education, professional development, preservation and acquisition of skills that allow individuals to influence future benefits and be mobile in the labor market. At the same time, the financing of education and training significantly affects economic growth, increases labor productivity, promotes personal and social development of people, reduces social inequality and poverty in all its forms.

Despite the fact that companies and households are active in financing education and training in the Member States of the European Union (EU), the actions and financial resources of national governments and EU institutions are crucial in financing education and training and thus play a key role in the development of human capital.

The challenges facing Ukrainian education require flexible management and funding systems, ensuring the autonomy of educational institutions, improving the quality and efficiency of education; use of innovative approaches to learning at all levels of education and training. In this regard, it is important to overview and research experience of financing education and training in the EU.

Interest in the study of human capital as a factor of production and education as an investment in sustainable human capital development is motivated by the following aspects:

First, society becomes mobile, multicultural and digital, and in conditions which changing, members of society must have relevant knowledge, skills and skills to be more competitive in the labor market;

Second, there is a need to constantly fund human capital development to ensure future sustainable growth;

Thirdly, institutions working in the field of education, science and training play a key role in the development of civic education and in the formation of knowledgeable, active individuals who are willing and able to fully participate in society.

The theoretical and methodological foundations of studying the human capital and the Economy are considered in the work of Gary S. Becker [1]. This work provides a framework for understanding the role of education and training for human capital development. The author substantiate that education and training are the most important investments in human capital.

The work of Abhijeet Chandra presents the results of a study of linear and non-linear Granger Causality methods to determine the causal relationship between education spending and economic growth in India for the period 1951-2009. The authors substantiate that economic growth affects the level of government spending on education irrespective of any lag effects, but investments in education also tend to influence economic growth after some time-lag [2]. Author of this study found that the direction of causation is from education expenditure to economic growth is not immediate to take effect, rather it can be said that investment in education is expected to affect economic growth of a country after some period, 5 or 6 years in present study.

Special attention has been given to studies of the relationship between human capital development efforts of the Government and economic growth in developing countries. For example, the results of the study of Oluwatobi S. et al [3] show the impact of government recurrent and capital expenditures on education and health in Nigeria and their effect on economic growth. The result of this research shows that there exists a positive relationship between government recurrent expenditure on human capital development and the level of real output, while capital expenditure is negatively related to the level of real output. The authers recommends appropriate channeling of the nation's capital expenditure on education and health to promote economic growth [3].

A lot of research has been devoted to the analysis of the effects of education on economic growth [3; 4]. So, the studies that did look at the impact of government education expenditures on economic growth generally reported a positive effect of education on growth.

In essay "Human capital" Claudia Goldin explored human capital in terms of its use and production. The author argue that the stocks of human and physical capital are produced through a set of investment decisions, where the investment is costly in terms of direct costs and, for human capital investment, in terms of the opportunity cost of the individual's time [4].

Two main types of human capital have been considered by Claudia Goldin. The key findings of the study are as follows: 1) both types – education and training, and health – are produced in schools, families, firms, and a variety of other facilities; 2) both types of investments require good information and reseach; 3) information regarding the effectiveness of education is required for public investments in schools [4].

Nabil Annabi, Simon Harvey, and Yu Lan focuses on whether governments should increase investments in human capital. They simulating the effects of additional education spending using an overlapping-generations model applied to Canada [5].

Abdulsalam Abubakar et al consider financial-growth nexus and human capital in the ECOWAS region. Their results revealed that bank private credit and domestic private credit contribute significantly to economic growth in the ECOWAS, both directly and through their influence on human capital accumulation. Thus, providing access to credit to both enterprises and individuals, through appropriate financial policies, will encourage economic growth [6].

Another study [7] defines Higher Education Financing in Different Countries. So, each country uses a different higher education financing model with a different success rate. Also, aouthers concludes that some countries apply mainly private sector financing; others employ higher education systems which are financed by public sectors. At the same time, the contribution of public sector to higher education financing varies significantly in each country.

A number of studies describe the nature and goals of family and community partnerships in education between different actors in the education system to remove existing barriers [8], and parental involvement children's learning, education funding by states and municipalities [8; 9].

Scientists systematically study such issues as the place and role of education in ensuring sustainable development of human capital and achieving the Global Goals of Sustainable Development [10].

According to literature review, education is an important constituent of the human capital, improved education scenario certainly influences a country's economic growth. So, governments should feel the need to focus on increased investments in education which contributes to economic growth, both directly and indirectly.

So, the studies that did look at the impact of government education expenditures on economic growth generally reported a positive effect of education on growth.

As for international institutions and the world community, the international organizations also explore the theoretical and practical features of sustainable human capital development and financing education. Experts from international organizations (OECD, The World Bank, and UNESCO) and unions (EU) believe that education is a prerequisite for sustainable human capital development in such conditions as comprehensive support for education and training for all throughout life, as well as funding for education and training, wages and training materials cooperation between states, educational institutions, business, and households.

In the European Union "Everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market" [11]. Other, no less key rights in the context of human capital reproduction include: the right to receive support for job search, training and requalification, social protection and training entitlements during professional transitions; the right to fair wages that provide for a decent standard of living; the right to a high level of protection of their health and safety at work etc.

Education and training as training for future Europeans is important for the development of a competitive economy, but a new priority is lifelong learning, as it allows both employers and individuals to respond successfully to changes in the nature of work and market demands. Lifelong learning is especially valuable and relevant for the unemployed and socially vulnerable, which can improve their skills, retrain, and acquire new skills and abilities.

In the European Union, all responsibility for education and training policies are decided at the level of the individual Member States, while EU is therefore mainly a supporting, coordinating one and complementaring the financing and development of education.

It should also be noted that the system of coordination of education in Member States began with the beginning of European integration (1950) on the basis of the adoption of a number of documents of the financing of retraining programs (1951); creation of educational institutions (including university level) for the training of qualified specialists (1957); definition of general principles of implementation of the common policy in the field of professional training for the development of national economies and the common market.

In order to implement the common policy in education, in 1974 the Education Committee was established, and a number of documents were adopted: Resolution on Cooperation in Education (1974), Program of Activities in the Field of Education

(1976), Resolution on the Commission Memorandum on Higher Education in the European Community (1992).

Thus, according to The Maastricht Treaty, the EU must promote the development of quality education [12].

The Lisbon Strategy, also known as the Lisbon Agenda [13] was adopted subsequently, which did not change the strategic principles of the EU's role in education and training. The aim of the Lisbon Strategy, was to make Europe "he most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" at the expense of investing more in knowledge and innovation; increasing employment opportunities for priority categories; by protection and improvement of health, and compliance with social guarantees.

In general, European policy on the strategic development of education is also enshrined in documents such as the Europe 2020 Strategy and the Strategic Framework for European Cooperation in Education and Training, which aim at "smart", "sustainable" and "comprehensive" growth through more efficient investment in education, research and innovation.

The Strategic Framework for European Cooperation in Education and Training [14] is outline the instruments and arrangements for set main objectives such as: the rate of early leavers from education and training should be less than 10% (10.6% in 2018); the rate of 30 to 34-year-olds with tertiary educational attainment should be at least 40% (40.7% in 2018); an average of at least 15% of adults (aged between 25 and 64) should participate in lifelong learning (11.1% in 2018); at least 82% of graduates (20 to 34-year-olds having successfully completed upper secondary or tertiary education) who left education one to three years ago should be in employment (81.6% in 2018).

At the heart of the renewed EU Higher Education Program are priorities for action such as tackling future skills mismatches and promoting excellence in skills development; building inclusive and connected higher education systems; ensuring higher education institutions contribute to innovation; supporting effective and efficient higher education systems [15].

The document "Building a stronger Europe: the role of youth, education and culture policies" describes the Commission's vision of building a European Education Area, including: a strengthened Erasmus+ programme; the creation of at least 20 European Universities by 2024; the creation of a European student card to facilitate mobility; a proposal for a Council recommendation on promoting automatic mutual recognition of higher education and upper secondary education diplomas and the outcomes of learning periods abroad [12].

Experts from The United Nations Educational, Scientific and Cultural Organization (UNESCO) overviews major problems in education funding: some countries do not have sustainable systems for collecting, disseminating and analyzing data on education funding and cannot report on the total cost of education, cannot report who is the main investors (for example, expenditures on education of households and non-governmental organizations), how resources are spent.

Therefore, it is important for each country to improve national statistical systems and use the new methods proposed by The UNESCO Institute for Statistics

(UIS), which is an official and reliable source of internationally comparable data on education, achieving goals in education, as well as attracting financial resources in education, in order to meet the most pressing needs and counter modern challenges [13].

Thus acording to experts and reseats, education allows to development the human capital and promoting the sustainable development. In this context, it is necessary to rethink the role of government, non-educational private sector, and international organizations expenditures on education, espeshelly for the developing ones, Ukraine as well.

Purpose: to ensure quality education for all and to eliminate discrimination in access to education, governments are implementing progressive and strategic measures, as well as allocating sufficient funds – at least 6% of GDP. However, the challenges of ensuring access to quality education for all are still. The main difficulties are different levels of education, differentiation of funding sources, complexity and, sometimes, inability to link education, number of years of study, quality of education, and the benefits that can be gained through training.

This article aims to research of the European experience of financing education and provide practical recommendations for implementing tools for financing education for sustainable human capital development in Ukraine.

So, the human capital is important for several reasons.

First, human capital embodied in the ability to perform labour so as to produce economic value [4].

Second, the education creates more productive impacts upon the future generation and the future generation becomes superior to the current generation.

Thirdly, human capital is a significant step for countries in achieving higher levels of development.

Fourth, human capital is needed for companies to achieve goals, develop and remain innovative.

Multiplier effect of financing education for sustainable human capital development at national level is presented in Figure.

Thus, human capital is unique and differs from any other capital. Countries, companies, and people can invest in human capital through education and training enabling improved of economic activity and effective employment in the labor market increase in productivity, achieving the goals of sustainable development, and reducing poverty. In addition of education funding, factors such as, factors such as reputation, personal relationships, F-connection are important and necessary.

According to a review of European experience, in the European Union main actions are aimed at:

- Developing a European dimension in education;
- Encouraging mobility of students and teachers, the academic recognition of diplomas and periods of study;
- Promoting cooperation between educational establishments;
- Developing exchanges of information and experience on issues common to the education systems of the Member States;
- Encouraging the development of distance education [13].

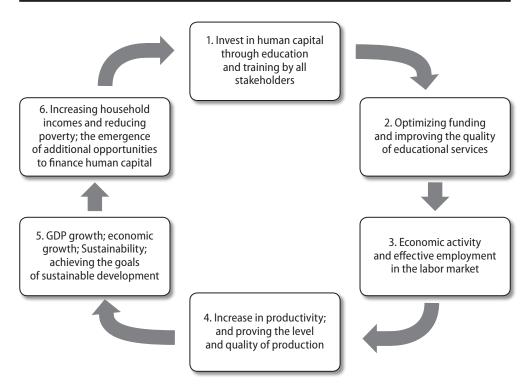


Figure. Multiplier effect of financing education for sustainable human capital development at national level

Created by authors.

European Parliament encourages Member States to invest more in higher education and to foster cooperation between of higher education, the world of work, industry, research communities and society as a whole [12].

In general, European policy and activities of support and financing education are very effective, as, for example, education is publicly funded; most of the funding comes from local budgets.

Other achievements include the following:

- 1. High-quality early childhood education and care are an efficient investment in human capital of the subsequent generations.
- 2. Financing to ensure equal opportunities for all is a key feature of the national education cultur; the EU offers a wide range of funding opportunities for education and training.
- 3. Education providers are autonomous regarding their teaching and research; they have independent regarding their finances and administration.
- 4. The funding of education mainly comes from government, with a smaller role for private sources (including households, enterprises, non-profit organisations and religious institutions), while an even smaller role is generally played by international organisations (such as the United Nations or the World Bank).
- 5. Expenditure by the government including payments and transfers for education to the non-educational private sector. The highest overall levels

- of government expenditure on education (excluding early childhood educational development) were unsurprisingly recorded in the most populous EU Member States.
- 6. Education from pre-primary to higher education is free (school meals, school transport, health, and welfare services).
- 7. Adult education includes self-motivated education, staff training and labour market training, because individuals must rely on continuous professional development to remain competitive on the labour market.
- 8. All the EU Member States have a value of human capital in the rating of The Human Capital Index from 0.7 to 0.81 points [16]. But the number of points and place in the ranking do not depend on government expenditure on education. It is obvious that the development of human capital is also influenced by such factors as the efficiency of use of funds, financing by other sectors, organizational aspects, etc.

So, in the European Union the motivation to education and efficiency financial policy (alternative tax instruments, public expenditures on education) increase the rate of human capital accumulation and mitigate the negative effects of slowing labour force growth, espeshelly in the context of population ageing. The European experience shows that the educational improvement of labor-force does have a significantly positive effect on the economic growth.

In Ukraine during 2017-2020, the process of reform took place in four areas: secondary education, vocational (technical) education, higher education, and creation of a new science management and funding system. The education reform include introducing new education standards, improving learning facilities at educational and scientific institutions, engaging the best teaching and research staff, and implementing a fair and transparent system of education and science funding.

The problems of theory and practice of financial mechanisms reforming for higher education and science in Ukraine, taking into account international experience, have been comprehensively studied in the monograph of the Academy of Financial Management, edited by T. I. Iefymenko and A. M. Sokolovska [17], in the paper by T. I. Iefymenko, S. S. Gasanov and I. V. Bogdan [18], as well as in a series of articles published in the journal "Finance of Ukraine" [19–25].

In Ukraine the state and local budgets are the main source of expenditure on education. Government expenditures on education are used to finance: early childhood education; general secondary education; vocational education; higher education; postgraduate education; extracurricular education and extracurricular activities with children; programs of material support of educational institutions; basic and applied research and development in the field of education; other institutions and activities in education.

In addition within the framework of international cooperation to achieve the Global Development Goals and to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, Ukraine actively participates in all international initiatives and projects.

However, the decisions taken are not a panacea (for example, according to PISA-2018 Ukraine ranked 39th out of 80 countries [26].

Ukraine have lower middle income, and value of human capital in the Human Capital Index 0.65 [16].

So, Ukrainian education and training does not meet contemporary needs of the individual, the society, or economy, and does not follow global trends, and does not ensure the sustainable human capital development. Therefore, it is important for Ukraine to systemic transformation of this area.

It is obvious that in order to ensure quality education and promote lifelong learning opportunities for all as well as sustainable development of human capital in accordance with modern challenges, in Ukraine requires new mechanisms for implementing comprehensive measures based on valuable and many years of experience. Education system of Ukraine needs reforms, rethinking and additional funding through such financial instruments as grants, educational loans, Individual Learning Accounts [27], philanthropic educational partnerships and others. In this context, the European experience is valuable.

In continuation of the study, we compare the financing of education in the Member States of the European Union and Ukraine. Attaining sustainable development goals is not possible without support and financing education, namely the involvement of central and regional authorities, business, households and other stakeholders. The governments are bearing great responsibility for financing education, and shaping the financial conditions for providing such public goods as education and traning. In Table, we can see support and financing education in the Member States of the European Union and Ukraine.

So, support and financing education in the Member States of the European Union and Ukraine are different from each other, and the main problematic aspects

 $$\operatorname{Table}$$ Support and financing education: the European and Ukrainian experience

Areas	The Member States of the European Union	Ukraine
Early childhood education	 5 key components of a qualitative system: access to early childhood education and care; training and working conditions of staff in charge of early childhood education and care; definition of appropriate curricula and governance; funding; Monitoring and evaluation of systems 	The creation of additional places at preschool establishments.
School policy	All pupils should develop Key Competences for Lifelong Learning; Each pupil should benefit from high-quality learning experiences and Early Childhood Education and Care should be more widely available	 A new content of education aimed to form 21st century competences. A new school teacher who has mastered present-day teaching methods and can implement the pedagogics of partnership. Modern school management and administration system. New system of education quality control

Areas	The Member States of the European Union	Ukraine
Vocational Education and Training	Vocational education and training can boost enterprise performance, competitiveness, research and innovation and is a central aspect of successful employment and social policy. Vocational education and training systems in Europe can rely on a well-developed network of providers. These networks are governed with the involvement of social partners, such as employers and trade unions and in different bodies, for example chambers, committees and councils. Vocational education and training systems consist of initial vocational education and training and continuing vocational education and training. Financial instruments supporting vocational education and training policy: The Erasmus+; The European Social Fund	 Multiple-channel funding (oblast budgets, budgets of oblast-level cities that are oblast centers, and budgets of oblast-level cities). Starting from 2017, the national budget allocates educational subventions for secondary education in vocational schools and funds nationally significant occupations and creates sector-specific learning and practice centers. Upgrading physical facilities. Modernizing the content of vocational (technical) education. Introducing elements of dual education
Adult learning	Adult learning refers to a range of formal and informal learning activities, both general and vocational, undertaken by adults after leaving initial education and training	Ensuring lifelong learning (by drafting and submitting the Law On Adult Education to the Cabinet of Ministers of Ukraine)
Higher education	 Key goals for European cooperation in higher education: Tackling future skills mismatches and promoting excellence in skills development; Building inclusive and connected higher education systems; Ensuring higher education institutions contribute to innovation; Supporting effective and efficient higher education systems 	 Key components of a qualitative system: Creating a system for assuring and consistently improving the quality of higher education; Ensuring academic integrity; Enhancing expert training and ensuring adherence to standards of integrity and equal access to higher educational institutions

Created by: [14; 29; 30].

of financing education for sustainable human capital development in the Member States of the European Union are low level of indicators such as:

- participation of children in early childhood education;
- the rate of early leavers from education and training aged 18-24;
- participation of adults in learning;
- The share of employed graduates and others.

In accordance, there are four common EU objectives:

- To make lifelong learning and mobility a reality;
- Improve the quality and efficiency of education and training;
- Promote equity, social cohesion, and active citizenship;
- Enhance creativity and innovation, including entrepreneurship, at all levels of education and training [12].

Key problems and challenges related to the education and traning in Ukraine are:

- 1. The educational process at educational institutions is out of touch with needs of the labor market and economy overall. Ukrainian pupils/students mostly gain a body of knowledge without being aware of how it can help them with self-realization.
- 2. Educational and scientific institutions suffer from a lack of physical facilities, ineffective administration, and inferior management.
- 3. Low level average expenditure per pupil/student [29].
- 4. Results of research and scientific developments only insignificantly contribute to Ukraine's GDP.
- 5. The system of public funding still remains a highly centralized and strongly budgetary dependent based on the state planning methods, which in the situation of lack of resources becomes more imbalanced and inefficient [30].

So, for the effective functioning of the state system of financing education, Ukraine needs to adapt to the world positive experience.

Strategic prerequisites for ensuring inclusive and quality education and promote lifelong learning is implementation of the next measures:

- 1. Further study of foreign experience, because the development of high quality education is depends on ideas and transfer of best practices.
- 2. Training by professional programs and implementation the strategic management training of future specialists in the system of higher education [29]. The content of vocational and higher education should be continuously updated to meet the personnel needs of businesses.
- 3. Reform of the mechanism of public higher education funding [30].
- 4. Optimization of funding for formal, non-formal and informal education, including sustainable public funding of education and training; adequate sharing of costs between public authorities and private entities as well as, individuals and other stakeholders.
- 5. Partnership of governments, local authorities, educational, business and household institutions on reforming and financing education and training [8].
- 6. It is necessary that higher education is provided to the ones who demand it. Higher education institutions should prompt the dynamics of social development and lead the society towards a better future [7].
- 7. Review and regularly monitor the efficiency of tax and benefit systems so to make work pay with a particular focus on the low skilled, whilst removing measures that discourage self-employment [15].
- 8. To stimulate economic growth by encouraging human capital accumulation, through proper financial policy reforms aimed at easing credit constraints and thereby enhancing access to credit [2]. Accumulation of human capital should not be only a public sector affair, but rather, individuals should be

- empowered and allowed access to financial resources, such that they can fund human capital accumulation.
- 9. Recognition of sustainable development of human capital as a systematic controlled process of acquisition and development of personal production assets used in economic activities to increase its efficiency, ensuring sustainable development of regions and the state as a whole; Sustainable development of human capital meets current and future needs and is due to sustainable funding of education and training, health, nutrition and mobility of individuals [10].
- 10. Cooperation with the European Union, EU Member States and international organizations (such as OECD, The World Bank, and UNESCO) is very important for our country. The results of the study indicate that the priority issues are: the format of international cooperation, ways to implement foreign experience in financing education and training, fulfillment of commitments, and so on.

Conclusions. In the context of the new economic reality, the threat of new crises, human capital development is of particular relevance on the agenda of all regions and countries of the world, because human capital is an important economic growth factor for countries, and a means of production for business. Human capital also provides economic welfare of people as carriers of human capital. On the other hand, human capital development and achieving the objectives of education and training depends on the financial provision of education, which involves the formation, distribution and use of financial resources to finance all levels of education, according to international standards for the classification of education.

As studies have shown, systematic and sufficient funding of education and training provides the sustainable development of human capital in the EU Member States.

In Ukraine it is necessary to develop and improve the system of financing education, taking into consideration the European experience.

It is necessary to reform of the mechanism of education funding, to development partnership of governments, local authorities, educational, business and household institutions, to stimulate economic growth by encouraging human capital accumulation et al.

Further development of financing education will also help to increase the efficiency of public and private education expenditures. The relationship of financing education, human capital development, and growth may also warrant further investigation.

References

- 1. Becker, G. S. (1992). Human Capital and the Economy. *Proceedings of the American Philosophical Society*, 136 (1), 85–92.
- 2. Abhijeet, Ch. (2010). Does Government Expenditure on Education Promote Economic Growth? An Econometric Analysis. *MPRA Paper*, 25480. Retrieved from https://mpra.ub.unimuenchen.de/25480/1/MPRA_paper_25480.pdf.
- 3. Oluwatobi, S. A., & Ogunrinola, I. O. (2011). Government Expenditure on Human Capital Development: Implications for Economic Growth in Nigeria. *Journal of Sustainable Development*, 4 (3), 72–80. DOI: 10.5539/jsd.v4n3p72.
 - 4. Goldin, C. (2014). Human Capital. DOI: 10.1007/978-3-642-40458-0 23-1.
- 5. Annabi, N., Harvey, S. & Lan, Y. (2011). Public expenditures on education, human capital and growth in Canada: An OLG model analysis. *Journal of Policy Modeling*, 33 (6), 852–865. DOI: 10.1016/j.jpolmod.2011.08.020.

- 6. Abubakar A., Kassim, S. H., & Yusoff, M. B. (2015). Financial Development, Human Capital Accumulation and Economic Growth: Empirical Evidence from the Economic Community of West African States (ECOWAS). *Procedia Social and Behavioral Sciences*, 172, 96–103. DOI: 10.1016/j.sbspro.2015.01.341.
- 7. Goksua, A., & Goksu, G. G. (2015). A Comparative Analysis of Higher Education Financing in Different Countries. *Procedia Economics and Finance*, 26, 1152–1158. DOI: 10.1016/S2212-5671(15)00945-4.
- 8. Mitchell, L., Furness, J., Cowie, B., & Taylor, M. (2018). Family and community partnerships in education. Oxford, UK: Oxford University Press. DOI:10.1093/obo/9780199756810-0197.
- 9. Whalley, M. (2007). *Involving parents in their children's learning*. 2nd Ed. London: Paul Chapman. DOI: 10.4135/9781446278888.
- 10. Olievska, M. (2019). Human capital in the context of achieving the Sustainable Development Goals. *Finance of Ukraine*, 12, 32–43. DOI: 10.33763/finukr2019.12.032 [in Ukrainian].
- 11. European Commission. (n. d.). *The European Pillar of Social Rights in 20 principles*. Retrieved from https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles_en.
- 12. European Parliament. (n. d.). *Higher education*. Retrieved from https://www.europarl.europa.eu/factsheets/en/sheet/140/korgharidus.
- 13. European Union. (2007, December 13). *Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community*. Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A12007L%2FTXT.
- 14. European Commission. (n. d.). *European policy cooperation (ET 2020 framework). The strategic framework for European cooperation in education and training (ET 2020)*. Retrieved from https://ec.europa.eu/education/policies/european-policy-cooperation/et2020-framework_en.
- 15. European Commission. (2017, May 30). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a renewed EU agenda for higher education. Retrieved from https://www.europarl.europa.eu/RegistreWeb/search/simple.htm?searchLanguages=EN&relations=DOSSIER%23%23COM(2017)0247&sortAndOrder=DATE_DOCU_DESC
- 16. World Bank. (2019). *Human capital Index 2018*. Retrieved from https://photius.com/rankings/human_capital_index_country_rankings_2018.html.
- 17. Iefymenko, T., & Sokolovska, A. (Eds.). (2018). Funding and fiscal incentive mechanisms for investments in science and education. Kyiv: SESE "The Academy of Financial Management" [in Ukrainian].
- 18. Iefymenko, T. I., Gasanov, S. S., & Bogdan, I. V. (2018). State budget expenditures on higher education: structural changes and the problem of formula distribution. *Bulletin of KNUTD, Series: Economic Sciences*, (The effectiveness of the organizational and economic mechanism of innovative development of higher education in Ukraine), 27–51. Retrieved from https://er.knutd.edu.ua/handle/123456789/10114 [in Ukrainian].
- 19. Sushko, N., & Danylenko, S. (2018). Improving the regulation of public expenditure on higher education services. *Finance of Ukraine*, 4, 56–74. DOI: 10.33763/finukr2018.04.056 [in Ukrainian].
- 20. Sokolovska, A. (2018). Discussion aspects of formula distribution of state expenditure on higher education in Ukraine. *Finance of Ukraine*, 5, 8–21. DOI: 10.33763/finukr2018.05.008 [in Ukrainian].
- 21. Kyrylenko, O., & Marchuk, A. (2018). Modernization of budget providing of education in the process of sectoral decentralization. *Finance of Ukraine*, 6, 75–90. Retrieved from http://finukr.org.ua/?page_id=723&aid=4526 [in Ukrainian].
- 22. Oleynikova, L., & Tochylina, I. (2018). Tax instruments for support education sphere in Ukraine. *Finance of Ukraine*, 8, 106–125. DOI: 10.33763/finukr2018.08.106 [in Ukrainian].
- 23. Tymchenko, O. (2018). Theoretical principles and pragmatics of the program-target method of the higher education funding in Ukraine. *Finance of Ukraine*, 11, 7–20. Retrieved from http://finukr.org.ua/?page_id=723&aid=4565 [in Ukrainian].
- 24. Vitrenko, Yu. (2019). State financing of higher education institutions of Ukraine as actors of a modern market economy. *Finance of Ukraine*, 10, 102–123. DOI: 10.33763/finukr2019.10.102 [in Ukrainian].

- 25. Korytnyk, L. (2020). Key approaches to the implementation of new mechanisms for funding of science. *Finance of Ukraine*, 5, 84–93. DOI: 10.33763/finukr2020.05.084 [in Ukrainian].
- 26. Mazorchuk, M., Vakulenko, T., Tereshchenko, V., Bichko, G., Shumova, K., Rakov, S. et al. (2019). *National report on the results of the international study of the quality of education PISA-2018*. Kyiv: UTsOYaO. Retrieved from https://testportal.gov.ua/wp-content/uploads/2019/12/PISA_2018_Report_UKR.pdf [in Ukrainian].
- 27. OECD. (2019). *Individual Learning Accounts: Panacea or Pandora's Box?* Paris: OECD Publishing. DOI: 10.1787/203b21a8-en.
- 28. European Commission. (n. d.). *Education and Training*. Retrieved from https://ec.europa.eu/education/policies/higher-education/about-higher-education-policy_en.
- 29. The Ministry of Education and Science of Ukraine. (n. d.). Retrieved from https://mon.gov.ua/eng.
- 30. Degtyarova, I., Hryhorash, O., & Chentsov, V. (2018). The mechanism of higher education funding in Ukraine: nationwide and local perspective. *Investment Management and Financial Innovations*, 15 (3), 223–236. DOI: 10.21511/imfi.15(3).2018.19.

Список використаних джерел

- 1. Becker G. S. Human Capital and the Economy. Proceedings of the American Philosophical Society. 1992. Vol. 136 (1). P. 85–92.
- 2. *Abhijeet Ch.* Does Government Expenditure on Education Promote Economic Growth? An Econometric Analysis. *MPRA Paper*. 2010. No. 25480. URL: https://mpra.ub.uni-muenchen.de/25480/1/MPRA_paper_25480.pdf.
- 3. *Oluwatobi S. A., Ogunrinola I. O.* Government Expenditure on Human Capital Development: Implications for Economic Growth in Nigeria. *Journal of Sustainable Development*. 2011. Vol. 4 (3). P. 72–80. URL: https://doi.org/10.5539/jsd.v4n3p72.
 - 4. Goldin C. Human Capital. 2014. URL: https://doi.org/10.1007/978-3-642-40458-0_23-1.
- 5. *Annabi N.*, *Harvey S.*, *Lan Y.* Public expenditures on education, human capital and growth in Canada: An OLG model analysis. *Journal of Policy Modeling*. 2011. Vol. 33 (6). P. 852–865. URL: https://doi.org/10.1016/j.jpolmod.2011.08.020.
- 6. Abubakar A., Kassim S. H., Yusoff M. B. Financial Development, Human Capital Accumulation and Economic Growth: Empirical Evidence from the Economic Community of West African States (ECOWAS). *Procedia Social and Behavioral Sciences*. 2015. Vol. 172. P. 96–103. URL: https://doi.org/10.1016/j.sbspro.2015.01.341.
- 7. Goksua A., Goksu G. G. A Comparative Analysis of Higher Education Financing in Different Countries. *Procedia Economics and Finance*. 2015. Vol. 26. P. 1152–1158. URL: https://doi.org/10.1016/S2212-5671(15)00945-4.
- 8. Family and community partnerships in education / L. Mitchell, J. Furness, B. Cowie, M. Taylor. Oxford, UK: Oxford University Press, 2018. URL: https://doi.org/10.1093/obo/9780199756810-0197.
- 9. Whalley M. Involving parents in their children's learning. 2nd Ed. London: Paul Chapman, 2007. URL: https://doi.org/10.4135/9781446278888.
- 10. *Олієвська М. Г.* Людський капітал у контексті досягнення Цілей сталого розвитку. Фінанси України. 2019. № 12. С. 32–43. URL: https://doi.org/10.33763/finukr2019.12.032.
- 11. The European Pillar of Social Rights in 20 principles / European Commission. URL: https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles_en.
- 12. Higher education / European Parliament. URL: https://www.europarl.europa.eu/factsheets/en/sheet/140/korgharidus.
- 13. Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A 12007L%2FTXT.
- 14. European policy cooperation (ET 2020 framework). The strategic framework for European cooperation in education and training (ET 2020) / European Commission. URL: https://ec.europa.eu/education/policies/european-policy-cooperation/et2020-framework_en.
- 15. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a renewed EU

- agenda for higher education / European Commission. 2017. May 30. URL: https://www.europarl.europa.eu/RegistreWeb/search/simple.htm?searchLanguages=EN&relations=DOSSIER%23%23COM(2017)0247&sortAndOrder=DATE_DOCU_DESC
- 16. Human capital Index 2018 / World Bank. 2019. URL: https://photius.com/rankings/human_capital_index_country_rankings_2018.html.
- 17. Механізми фінансування та фіскального стимулювання залучення інвестицій у науку і освіту / за заг. ред. Т. І. Єфименко ; наук. ред. А. М. Соколовська. Київ : ДННУ "Акад. фін. управління", 2018. 448 с.
- 18. *Єфименко Т. І., Гасанов С. С., Богдан І. В.* Видатки державного бюджету на вищу освіту: структурні зміни та проблема формульного розподілу. *Вісник Київського національного університету технологій та дизайну*. Сер.: Економічні науки. VIII Спецвип.: Міжнародна науково-практична конференція "Ефективність організаційно-економічного механізму інноваційного розвитку вищої освіти" (5 жовтня 2018 р., м. Київ). С. 27–51. URL: https://er.knutd.edu.ua/handle/123456789/10114.
- 19. *Сушко Н. І., Даниленко С. В.* Удосконалення регулювання державних видатків на послуги вищої освіти. *Фінанси України*. 2018. № 4. С. 56–74. URL: https://doi.org/10.33763/finukr2018.04.056.
- 20. Соколовська А. М. Дискусійні аспекти формульного розподілу бюджетних видатків на вищу освіту в Україні. Фінанси України. 2018. № 5. С. 8–21. URL: https://doi.org/10.33763/finukr2018.05.008.
- 21. *Кириленко О. П., Марчук А. П.* Модернізація бюджетного забезпечення освіти в рамках секторальної децентралізації. *Фінанси України*. 2018. № 6. С. 75–90. URL: http://finukr.org.ua/?page id=723&aid=4526.
- 22. *Олейнікова Л. Г., Точиліна І. В.* Податкові інструменти підтримки освітньої галузі в Україні. *Фінанси України.* 2018. № 8. С. 106–125. URL: https://doi.org/10.33763/finukr2018.08.106.
- 23. *Тимченко О. М.* Теоретичні засади та прагматика програмно-цільового методу фінансування вищої освіти в Україні. *Фінанси України*. 2018. № 11. С. 7–20. URL: http://finukr.org.ua/?page_id=723&aid=4565.
- 24. *Вімренко Ю. М.* Державне фінансування закладів вищої освіти України як суб'єктів сучасної ринкової економіки. *Фінанси України*. 2019. № 10. С. 102–123. URL: https://doi. org/10.33763/finukr2019.10.102.
- 25. 25. Коритник Л. П. Ключові підходи до запровадження нового механізму фінансування науки. *Фінанси України.* 2020. № 5. С. 84–93. URL: https://doi.org/10.33763/finukr2020.05.084.
- 26. Національний звіт за результатами міжнародного дослідження якості освіти PISA-2018 / М. Мазорчук, Т. Вакуленко, В. Терещенко та ін. ; Український центр оцінювання якості освіти. Київ : УЦОЯО, 2019. 439 с. URL: https://testportal.gov.ua/wp-content/uploads/2019/12/PISA 2018 Report UKR.pdf.
- 27. Individual Learning Accounts: Panacea or Pandora's Box? Paris: OECD Publishing / OECD. 2019. URL: https://doi.org/10.1787/203b21a8-en.
- 28. Education and Training / European Commission. URL: https://ec.europa.eu/education/policies/higher-education/about-higher-education-policy_en.
 - 29. The Ministry of Education and Science of Ukraine. URL: https://mon.gov.ua/eng.
- 30. *Degtyarova I.*, *Hryhorash O.*, *Chentsov V.* The mechanism of higher education funding in Ukraine: nationwide and local perspective. Investment *Management and Financial Innovations*. 2018. Vol. 15 (3). P. 223–236. URL: https://doi.org/10.21511/imfi.15(3).2018.19.