










# “Influence of financial support of human capital development on economic growth”

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# INFLUENCE OF FINANCIAL SUPPORT OF HUMAN CAPITAL DEVELOPMENT ON ECONOMIC GROWTH

## Abstract

The COVID-19 pandemic has intensified the issue of strengthening the financial support of human capital development and enhancing its impact on economic growth. This study aims to assess the impact of financial support of human capital development in terms of public spending on health and education on economic growth. Economic-statistical methods and correlation-regression analysis are used to determine the impact of the share of public spending on health and education in GDP on real GDP, and to assess the characteristics of financial support of human capital development. The study reveals evidence of a link between the level of public funding for human capital development and real GDP. At the same time, for Ukraine and the countries-full members of the Commonwealth of Independent States, in particular Armenia, Azerbaijan, Kazakhstan, Moldova, Belarus, the Kyrgyz Republic, Uzbekistan, and Russia, the results of the study were mixed. In recent years, with the share of public spending on health and education in GDP growing by 1 percentage point, real GDP has grown in 4 and 5 countries, respectively, and decreased in 5 and 4 countries out of 9 studied. The results show that a significant deterrent to strengthening the financial support of human capital development and its impact on economic growth is a significant level of uncertainty in economic processes, which determines the importance of revising the forms and methods of public financing of human capital.

## Keywords

finance, regulation, policy, welfare, financing, education,  
healthcare

## JEL Classification

G28, H50, I18, I28

## INTRODUCTION

Currently, the strategic task in both developed and transition economies is to ensure the implementation of sustainable development goals. The current COVID-19 crisis has highlighted the relationship between social and economic spheres and the importance of creating the conditions for human capital development. The success of this task directly depends on the quality of systemic regulation of its development, taking into account economic dynamics. Important areas are improving the welfare of citizens, reducing asymmetries and imbalances in the human capital development, which requires strengthening the financial support of human capital development, taking into account the complexity of the internal and external environment of countries, and strengthening its impact on economic growth. The quality level of financial support for human capital development is a fundamental basis for the diversification of social development. Moreover, globalization exacerbates external factors in the development of human capital in both developed and transition economies. Thus, the issues of strengthening the financial support of human capital development have intensified.

Effective financial instruments to support human capital development include ensuring the coherence of government regulation at various levels. At the same time, they include new approaches to the formation of human capital as the basis of social development and substantiation of ways to improve the quality of the system of financial regulation. The basis for strengthening the financial support of human capital development is the coherence of the components of public financial policy and its compliance with strategic directions of society, considering economic cyclicalities, which leads to a number of specific tasks with limited public financial resources.

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## 1. LITERATURE REVIEW AND HYPOTHESES

The intensification of globalization requires significant attention to human capital development, and the coherence of economic and social aspects of human life through effective investments in human development.

Human capital is defined as knowledge, skills, competencies, and qualities of human development acquired through training in institutions at different levels of the education system (OECD, 2020). It is also knowledge, skills, and health that people accumulate throughout their lives, which allows them to realize their potential in society development (World Bank, 2020). According to the United Nations Development Program human development is a process of expanding the range of choices. The most important elements of choice are living a long and healthy life, getting an education, and having a decent living standard. Additional elements of choice include political freedom, guaranteed human rights, and self-esteem (UNDP, 1965). In the context of globalization, human capital is an essential tool for ensuring the competitiveness of the national economy in world markets (Khasanova & Rabtsevich, 2013). The level of human capital development and the level of economic growth are interdependent categories. In order to accelerate economic growth, state regulatory authorities should create conditions for increasing GDP by strengthening budget funding for social services, particularly for education and healthcare (Djokoto, 2022).

At the same time, the diversity of processes of strengthening human capital as the basis of social development is determined (Tang et al., 2021; Adesina, 2021; Perez-Alvarez & Strulik, 2021). Attempts to assess these processes in countries with developed and transition economies show

that the causal links between the instruments of the mechanism of state financial regulation of human development and its quality level are unusual. The costs associated with ensuring the human capital development contribute to the growth of labor productivity (Smith, 1993). The level of economic development depends on the quality of human capital development (Petty et al., 1993). Human capital influences the long-term growth of labor productivity (Ghosh & Parab, 2021; Enami et al., 2021; Karalis Noel & Finocchio, 2022).

It is specified that technical innovations at this stage of social development have not been able to ensure economic development fully. In this regard, an important task is to improve the quality of education, which will accelerate economic growth (Dovbenko & Osyk, 2011). Furthermore, countries with a high human development index have much higher rates of technological progress and economic development. Therefore, state regulation aims to attract international talents by increasing human capital and accelerating economic growth (Liu et al., 2021).

It is argued that a 10% reduction in tuition costs increases long-term employment by almost 0.5 percentage points (Marvel et al., 2020; Naval et al., 2020). Bobba et al. (2021) determined that the accumulation of human capital negatively impacts the productivity of labor market institutions. Creating conditions for human capital development is an effective tool for state regulation of social processes, reducing the level of differentiation of citizens' incomes and poverty (Tang et al., 2021).

Strengthening of immigration processes has a positive effect on the quality of human capital development. However, these processes are heterogeneous: the demand for education depends on the experience of immigrants in state education, their religious background, as well as migration

goals and demographics, while the supply of education depends on social capital and the size of the immigrant community (Craig & Faria, 2021; Su et al., 2021; Coen-Pirani, 2011). Improving the quality of the workforce and justified pricing policies play an important role in countries with an aging population and increasing fiscal risks (Egert et al., 2020). In addition, human capital development helps mitigate the effects of natural resource depletion. Accordingly, this causes multiplicative effects in promoting sustainable human capital development. In order to ensure a sufficient level of support for the human capital development, it is advisable to combine education with other factors of interaction, such as social security, good financial management, private sector development, and efficient use of human resources (Adejumo et al., 2021; Nathaniel et al., 2021).

As the quality of education increases, human capital strengthens, while industries respond to these processes by increasing their investment in human capital. Accordingly, sectors of the economy that use human capital more intensively are characterized by relatively higher production volumes and lower prices; each new industry has a relatively higher share of the human capital factor (Gillman, 2021).

At the same time, the issue of benefits of state and corporate funding for education and healthcare remains controversial. The issues that stimulate human capital development to a greater extent remain open. In conditions of limited access to higher education, an important task for state regulatory authorities is to keep the share of state expenditures on higher education at the appropriate level, as low-income citizens are unable to pay for those educational services (Di Gioacchino et al., 2019). In the long run, a significant level of state funding for higher education leads to increased demand for higher education (Haupt, 2012). The increase in state expenditures on education is due to a significant reduction in tuition fees, homogeneous for households with different income levels (Yuan & Zhang, 2015; Languille, 2019). In the short run, state funding for education and healthcare has a restrictive effect; in the long run, increasing the appropriate level of state funding helps mitigate the sharing of economic status between generations (Li et al., 2014). The applica-

tion of the mechanism of fixed contributions with the goal of financing healthcare has a restrictive effect on low-income citizens. In order to ensure a fair redistribution of budgetary financing of health care, it is advisable to improve healthcare packages provided on preferential terms (Zhou et al., 2020; Nuscheler & Roeder, 2015). The mechanism of financing healthcare depends on social, economic, and political models of state regulation. Therefore, determining the priorities of financial regulation of human capital development requires public consensus (Hanson, 2022).

At the same time, it is determined that in countries with developed economies, the efficiency of state expenditures on human capital development is much higher than in countries with transition economies (Cristóbal et al., 2021). A lower level of mobilization of domestic revenues and higher dependence of the human capital financing system on borrowing increase the fiscal burden on state finances (Behera & Dash, 2019; Sawicki et al., 2021). Balanced budget financing of human capital is the basis of social development (Ganguly & Acharyya, 2021).

It should be noted that public authorities use the system of financial regulation of human capital development as a political lever of government. Accordingly, the government, which seeks to maximize the number of voters, is implementing a policy of increasing the cost of human capital development. However, trends in the growth of relevant state expenditures take into account economic cyclicity. In conditions of economic increase, the growth rate of human capital development costs increases, while in conditions of recession, these state expenditures are kept at the appropriate level by diverting financial resources from other state expenses programs (Abbott & Jones, 2021; Ndayikeza, 2021; Liang & Tussing, 2019).

In the context of the COVID-19 pandemic, the main problem in countries with transition and developed economies is the insufficient state funding for human capital development, particularly in healthcare. Accordingly, the issues of increasing the pace of attracting investment on preferential terms were raised (Chen et al., 2021). Reiter and Steensma (2010) and Jiang et al. (2022) substantiated that although public authorities pay much at-

tention to attracting investments, the connection between investments, economic and human development is still weak. Therefore, it is determined that attracting foreign direct investments has a significant impact on human capital development.

Thus, assessing the impact of financial support for human capital development on economic growth is an essential condition for improving the soundness of the public policy, which determines the purpose of this study. The working hypothesis of the study is the feasibility of combining the implementation of state financial regulation of human capital financial and budgetary instruments, taking into account economic cyclicalities, and changes in exogenous and endogenous socio-economic environment.

## 2. METHODS

In order to assess the level of human capital development, the Human Development Index is used. It provides an opportunity to assess this process in three areas: longevity and healthcare level, access to knowledge and their level, and decent standard of living. The classification of the human development index groups countries by level of development into the following categories: low, medium, high, and very high. It is important to note that the Human Development Index is an average indicator of the most significant human development achievements in different countries.

In revealing the impact of financial support for human capital development on economic growth, the basic tenets of neo-institutionalism were used (North, 1991). One of the starting points of the evaluation methodology is to consider the fact that changes in the institutional framework of state regulation of human capital development take place in stages, paying attention to each country's socio-political and economic development. This allows this paper to most reasonably assess the impact of financial support for human capital development on economic growth in countries with developed and transforming economies.

The method of correlation-regression analysis was used to determine the impact of the share of public spending on education and healthcare in GDP

on real GDP. Combination of analysis and synthesis, transition from abstract to concrete was used to assess GDP per capita (purchasing power parity) and the growth rate of real GDP; average life expectancy and average pensions; the ratio of pupils and teachers (primary school), the level of completion in primary schools, the ratio of male and female students in universities. These provided an opportunity to reveal the features of human capital development in the studied countries and justify ways to improve state regulation of human capital development and strengthen its financial security.

## 3. RESULTS

The positive impact of adequate financial support for human capital development is reflected in both social and economic development. For society, strengthening the financial support of human capital development is expressed in improving the standard and quality of life.

The vast majority of countries with a significant level of human capital development are members of the European Union. However, it should be noted that in recent years the topics of relevant indicators are declining. There are processes of depopulation, which are due to a steady decline in the birth rate. In addition, in the conditions of accelerated population aging, the risks of reducing the level of competitiveness of the economy increase due to the reduction of the number of young skilled workers – the main carriers of new technologies. Reduced number of people who are able to work highlights the need for more efficient use of accumulated human capital. Based on this, the strategic development goals are to create acceptable conditions for public authorities to develop human capital, increase social responsibility, and ensure stability in the labor market.

In countries with transition economies, the human development index is below the average for developed economies. In particular, in 2015–2020 the human development index in Finland was 0.93; Belgium – 0.92; Slovenia and France – 0.89; Cyprus – 0.87; Portugal – 0.85; Russian Federation, Belarus, Kazakhstan – 0.82; Armenia – 0.76, Ukraine – 0.76; Azerbaijan – 0.75; Moldova – 0.72; Uzbekistan –



**Table 1.** Growth rate of real GDP, GDP per capita (purchasing power parity)

Source: Based on the data from World Bank (n.d.).

Country	2015		2016		2017		2018		2019		2020	
	GDP per capita (purchasing power parity, U.S. dollars)	Growth rate of real GDP (%)	GDP per capita (purchasing power parity, U.S. dollars)	Growth rate of real GDP (%)	GDP per capita (purchasing power parity, U.S. dollars)	Growth rate of real GDP (%)	GDP per capita (purchasing power parity, U.S. dollars)	Growth rate of real GDP (%)	GDP per capita (purchasing power parity, U.S. dollars)	Growth rate of real GDP (%)	GDP per capita (purchasing power parity, U.S. dollars)	Growth rate of real GDP (%)
Ukraine	11.2	-9.77	11.5	2.40	11.9	2.47	12.4	3.41	12.8	3.23	13.1	-0.7
Azerbaijan	14.9	1.05	14.2	-3.06	14.1	0.15	14.2	1.50	14.4	2.22	14.5	-4.3
Armenia	11.3	3.20	11.3	0.20	12.1	7.50	12.7	5.20	13.7	7.60	13.3	-7.6
Belarus	18.3	-3.83	17.8	-2.53	18.3	2.53	18.9	3.15	19.1	1.22	20.2	-0.9
Kazakhstan	24.3	1.20	24.2	1.10	24.9	4.10	25.5	4.10	26.4	4.50	26.7	-2.6
Kyrgyz Republic	4.8	3.88	4.9	4.34	5.0	4.74	5.1	3.76	5.3	4.51	5.0	-8.6
Moldova	10.4	-0.34	10.9	4.41	11.7	4.69	12.4	4.30	13.0	3.46	13.0	-0.7
Russian Federation	25.6	-1.97	25.6	0.19	26.0	1.83	26.7	2.54	27.0	1.34	28.2	-3.1
Uzbekistan	6.1	7.45	6.3	6.09	6.5	4.46	6.8	5.45	7.0	5.56	7.7	1.6

0.71; and Kyrgyz Republic – 0.68. The average level of GDP growth in the EU for 2015–2020 is 9.82%. During this period, the average GDP growth rate in Ukraine is 0.17%, while GDP per capita is 12.15 US dollars. Azerbaijan has (-0.41)%, while GDP per capita is 14.38 US dollars; Armenia has 2.68%, while GDP per capita is 12.40 US dollars. Belarus has (-0.06)%, while GDP per capita is 18.77 US dollars; Kazakhstan has 2.07%, while GDP per capita is 25.33 US dollars; Kyrgyzstan has 2.11%, while GDP per capita is 5.02 US dollars, Moldova has 2.64%, while GDP per capita is 11.90 US dollars. Russia has 0.14%, while GDP per capita is 26.52 US dollars; Uzbekistan has 5.10%, while GDP per capita is 6.73 US dollars (Table 1).

The life expectancy and education of citizens living in countries with transition economies are much lower than citizens living in countries with developed economies. For example, the average life expectancy in the EU for 2015–2020 is 79.71 years. During this period, the average life expectancy in Ukraine is 71.59 years, with an average pension of 93.38 US dollars; Azerbaijan – 72.85 years, with an average pension of 126.35 US dollars; Armenia – 74.58 years, with an average pension of 83.87 US dollars; Belarus – 74.34 years, with an average pension of 171.77 US dollars; Kazakhstan – 72.57 years, with an average pension of 160.48 US dollars; Kyrgyzstan – 71.23 years, with an average

pension of 116.12 US dollars, Moldova – 71.39 years, with an average pension of 90.82 US dollars; Russia – 72.00 years, with an average pension of 203.72 US dollars; Uzbekistan – 71.69 years, with an average pension of 101.80 US dollars (Table 2).

The ratio of students and teachers (primary school) and the level of completion of primary schools in 2015–2018 in Azerbaijan is 14.97% and 105.99%, respectively; Belarus – 18.49% and 99.98%, respectively; Kazakhstan – 18.79% and 111.15%, respectively; Kyrgyzstan – 25.28% and 104.02%, respectively; Moldova – 17.62% and 90.00%, respectively; Uzbekistan – 20.53% and 99.12% respectively. At the same time, for the vast majority of countries with transition economies, a significant feature of human development is a significant level of gender inequality. It should be noted that its manifestation is most pronounced in adulthood. The average life expectancy of women is higher than that of men, but their income, economic activity, and education are much lower. For example, the average level of the ratio of male and female students in universities in 2015–2018 is: in Azerbaijan – 1.14%; Armenia, Belarus, Kazakhstan – 1.21%; Kyrgyzstan – 1.22%; Moldova – 1.25%; Russia – 1.16%, Uzbekistan – 0.65 % (Table 3).

In general, the index of gender development in Ukraine is 0.993, including 0.746 for women and

**Table 2.** Average life expectancy and average pension

Source: Based on the data from World Bank (n.d.), World Development Indicators Database (n.d.).

Country	2015		2016		2017		2018		2019		2020	
	Average life expectancy	Average pension, US dollars	Average life expectancy	Average pension, US dollars	Average life expectancy	Average pension, US dollars	Average life expectancy	Average pension, US dollars	Average life expectancy	Average pension, US dollars	Average life expectancy	Average pension, US dollars
Ukraine	71.19	69.0	71.48	66.4	71.78	87.6	71.58	91.8	72.10	125.3	71.4	120.2
Azerbaijan	72.27	113.9	72.49	108.5	72.69	122.6	72.86	130.2	73.60	105.1	73.2	177.8
Armenia	74.47	83.6	74.64	83.5	74.80	83.9	74.94	83.7	75.10	84.3	73.5	84.2
Belarus	73.62	151.1	74.83	151.6	74.13	159.3	74.18	176.5	74.80	205.0	74.5	187.1
Kazakhstan	72.00	121.3	72.30	137.2	72.95	162.5	73.15	173.5	73.60	184.2	71.4	184.2
Kyrgyz Republic	70.65	95.6	70.95	110.0	71.20	115.0	71.40	127.9	71.50	131.9	71.7	116.3
Moldova	71.48	59.3	71.62	63.8	71.72	89.3	71.81	99.7	71.90	110.5	69.8	122.3
Russian Federation	71.18	165.8	71.65	204.9	72.43	224.8	72.66	193.0	72.60	230.0	71.5	203.8
Uzbekistan	70.93	155.9	71.17	152.9	71.39	68.7	71.57	78.3	71.70	74.0	73.4	81.0

0.751 for men; in Azerbaijan – 0.949, including 0.734 for women and 0.773 for men; in Armenia – 0.969, including 0.740 for women and 0.764 for men; in Kyrgyzstan – 0.960, including 0.654 for women and 0.681 for men (UNDP, 2019).

Inequality narrows the range of opportunities for human development by slowing down social progress. Consequently, the creation of acceptable conditions for public authorities in order to ensure human capital development involves the implementation of state policy, including state finan-

cial regulation to ensure gender equality, improve the demographic situation and increase the birth rate. This policy should be quite flexible based on changes in social development and limited state financial resources. At the same time, an important component of this policy is to create conditions for combining employment and parental responsibilities.

In general, the analysis of real GDP growth rates, GDP per capita (purchasing power parity), average life expectancy, average pensions, the ratio of

**Table 3.** Ratio of students and teachers (primary school), level of completion of primary schools, ratio of male and female students in universities, %

Source: Based on the data from World Bank (n.d.).

Country	2015			2016			2017			2018		
	Ratio of students and teachers (primary school)	Level of completion of primary schools	Ratio of male and female students in universities	Ratio of students and teachers (primary school)	Level of completion of primary schools	Ratio of male and female students in universities	Ratio of students and teachers (primary school)	Level of completion of primary schools	Ratio of male and female students in universities	Ratio of students and teachers (primary school)	Level of completion of primary schools	Ratio of male and female students in universities
Azerbaijan	13.50	103.28	1.14	15.49	113.30	1.15	15.46	107.17	1.13	15.43	100.22	1.13
Armenia	–	94.59	1.16	–	90.75	1.21	–	91.99	1.21	15.42	89.88	1.25
Belarus	17.57	96.76	1.25	18.34	96.87	1.23	18.80	101.68	1.20	19.23	104.62	1.17
Kazakhstan	16.20	114.27	1.22	18.55	110.30	1.19	20.76	109.66	1.21	19.64	110.38	1.20
Kyrgyz Republic	26.19	108.20	1.23	25.03	101.79	1.22	24.91	101.56	1.19	24.99	104.52	1.23
Moldova	17.46	90.91	1.25	17.42	89.78	1.25	17.68	89.91	1.23	17.92	89.38	1.25
Russian Federation	20.14	100.30	1.17	20.62	–	1.16	21.26	–	1.16	–	–	1.15
Uzbekistan	19.03	98.24	0.63	20.42	96.82	0.65	21.15	98.4	0.61	21.51	103.02	0.70

students and teachers (primary school), the level of completion of primary schools, the ratio of male and female students in universities in countries with transition economy shows that essential tasks in modern conditions are the modernization of education and healthcare systems, reducing health risk factors for adult population.

Improving the quality of education, which is a significant part of investing in human capital, is also an important task for human capital development. It will help accelerate economic growth, in particular by increasing productivity. The responsibility for the accumulation of human capital in education lies with public authorities, as education is a long-term investment, and its benefits will be seen over time. In modern conditions of development of the education system, important tasks are the following: ensuring compliance of the level of education with the needs of the labor market and updating the content and application of new teaching forms and methods. At the same time, it is worth noting that the unreasonable ratio of quality and cost of education becomes an important prerequisite for educational migration. The level of educational demand depends on the migration goals and experience of emigrants. The level of educational supply depends on the immigrant community and the amount of social capital (Craig & Faria, 2021). Thus, the primary task of state policy for human capital development in a competitive struggle for intellectual resources is its preservation.

At this stage, one of the most critical factors influencing human capital development was the spread of the COVID-19 pandemic. It led to rising unemployment; falling effective demand of the population; bankruptcy of medium and small businesses; accelerating inflation processes; increasing the insolvency of the real sector of the economy; reduction of lending activity of commercial banks in the real sector; and increasing the level of the state budget deficit. In response to the pandemic, there have been significant changes in the socio-economic development of both transition and developed economies. The following were implemented: state of emergency in some administrative-territorial units and countries; sanitary and epidemiological measures; restrictions on movement within the country, exit from it and entry

into it; restrictions on employment; new distance forms of studying and work. In the context of the COVID-19 pandemic, the production volume decreased sharply due to a significant decrease in the level of domestic demand and business activity in the service sector. The most significant economic losses are observed in countries that are heavily dependent on tourism. However, in countries where public authorities are in no hurry to apply restrictive measures to spread the viral infection, the infection rate of citizens is much higher, with a more acute decline in business activity. Accordingly, in modern conditions, the labor market requires a higher level of human capital development. Higher education students must be prepared to solve problems related to their future work. Citizens need to be both healthy and active to acquire relevant skills and lifelong learning.

According to forecasts, the further development of the pandemic will lead to increased geopolitical tensions. Consequently, important tasks are the control of crisis processes in healthcare and education and the application of state measures to stabilize the decline in labor productivity growth. The ability to prevent and apply appropriate tools of state regulation in healthcare and education plays an important role based on the vulnerability of the aging population in both transition and developed economies. At the same time, the level of increased investments in human capital will play a vital role in improving the living standards of citizens and stimulating economic growth.

The intensification of the COVID-19 pandemic has significantly intensified the issue of increasing financial support for human capital development, given the limited public financial resources and the need to optimize them in conditions of reduced economic activity and growth. In the vast majority of countries, there has been an increase in the diversification of funding sources for human capital development programs, particularly in education and health. Considerable attention in countries with transformational economies is paid to creating conditions for the development of the accumulative level of pensions. Financing of human capital development programs is mainly carried out at the expense of the state budget and state trust funds of social insurance while changing the structure of their expenditure part.



**Table 4.** Government expenditure on education, domestic general government health expenditure (% of GDP)

Source: Based on the data from World Bank (n.d.).

Country	2015		2016		2017		2018		2019
	Education expenditure	Health expenditure	Education expenditure	Health expenditure	Education expenditure	Health expenditure	Education expenditure	Health expenditure	Education expenditure
Armenia	2.81	1.61	2.76	1.64	2.71	1.37	2.26	1.24	2.56
Azerbaijan	2.95	1.30	2.90	1.16	2.47	1.00	2.46	0.93	2.68
Belarus	4.79	3.69	4.95	4.19	4.79	3.98	5.38	3.97	4.98
Kazakhstan	2.79	1.92	2.98	2.04	2.75	1.94	2.62	1.78	2.86
Kyrgyz Republic	5.99	2.71	6.59	2.50	6.03	2.35	5.55	2.80	5.37
Moldova	5.81	3.90	5.61	3.68	5.62	3.55	5.44	3.73	6.10
Russian Federation	3.83	3.11	3.76	3.00	4.69	3.05	4.68	3.16	–
Ukraine	5.74	3.69	5.01	3.64	5.41	3.52	5.32	3.70	5.44
Uzbekistan	5.79	2.48	5.67	2.16	5.28	2.11	5.90	2.02	7.00

Despite the importance of strengthening state funding for human capital development among the surveyed countries in the vast majority in recent years, there has been a trend to reduce state expenditures on education and healthcare. In particular, in Armenia, the share of state expenditures on education in GDP in 2015–2017 was 2.76%, and in 2018–2019 it was 2.41%. The share of state expenditures on healthcare in GDP in 2015–2016 was 1.63%, and in 2017–2018 it was 1.31%. In Kyrgyzstan, the share of state expenditures on education in GDP in 2015–2017 was 6.20%, in 2018–2019 it was 5.50%; the share of state expenditures on healthcare in GDP in 2015–2016 was 2.61%, in 2017–2018 it was 2.58%. In Ukraine, the share of state expenditures on education in GDP in 2015–2017 was 5.37%, in 2018–2019 it was 5.35%; the share of state expenditures on healthcare in GDP in 2015–2016 was 3.67%, in 2017–2018 it was 3.61% (Table 4).

With the growth of the share of public expenditures on education in gross domestic product by one percentage point for the period 2015–2019, real gross domestic product increases in Ukraine by 16.60 percentage points ( $y = 16.60x - 89.29$ ), Belarus by 7.19 percentage points ( $y = 7.19x - 35.71$ ), Kyrgyzstan by 0.10 percentage points ( $y = 3.60 + 0.10x$ ), Russia by 2.92 percentage points ( $y = 2.92x - 11.94$ ), and Uzbekistan by 0.19 percentage points ( $y = 4.63 + 0.19x$ ). However, it was decreasing in Armenia by 6.27 percentage points ( $y = 21.29 - 6.27x$ ), Azerbaijan by 3.19 percentage

points ( $y = 9.05 - 3.19x$ ), Kazakhstan by 5.11 percentage points ( $y = 17.42 - 5.11x$ ), and Moldova by 3.04 percentage points ( $y = 20.60 - 3.04x$ ).

With the growth of the share of public health expenditures in the gross domestic product by one percentage point for the period 2015–2018, real gross domestic product increases in Ukraine by 30.27 percentage points ( $y = 30.27x - 109.36$ ), Belarus by 4.90 percentage points ( $y = 19.68 + 4.90x$ ), Russia by 11.75 percentage points ( $y = 35.78 + 11.75x$ ), and Uzbekistan by 4.99 percentage points ( $y = 4.99x - 5.12$ ). However, it decreased in Armenia by 10.59 percentage points ( $y = 19.38 - 10.59x$ ), Azerbaijan by 4.11 percentage points ( $y = 4.43 - 4.11x$ ), Kazakhstan by 15.00 percentage points ( $y = 31.13 - 15.00x$ ), Kyrgyzstan by 2.02 percentage points ( $y = 9.38 - 2.02x$ ), and Moldova by 12.58 ( $y = 49.79 - 12.58x$ ). Thus, the low level of public financial support for human capital development, in combination with macroeconomic instability, hinders the creation of conditions for economic growth, improving the welfare of the population. At the same time, the relationship between public spending on human capital development and the level of economic growth is heterogeneous.

The COVID-19 pandemic has significantly affected the sustainability of the state financial system. Consequently, opportunities to increase or at least support the current level of state funding for human capital development have deteriorated. The

problem of state financing of the human capital development is not only in the ability of public authorities to mobilize resources but also in improving the quality of relevant financial and budgetary tools. Increasing financial support for human capital development remains an important task.

## 4. DISCUSSION

The study concludes that the concept of “human capital” is inextricably linked to education and health. Transforming human resources into quality human capital involves increasing public funding for health and education. This leads to a variety of approaches to strengthening the financial support of human capital, and assessing its impact on economic growth. Evaluation of these approaches in different countries shows the ambiguity of the causal links between the level of public financial support for human capital development and the level of economic growth. The issues of the effectiveness of the implemented state financial measures aimed at supporting the development of relevant areas and the use of financial instruments that provide real returns remain debatable. Many studies confirm that highly skilled human capital positively affects the average wage of low-skilled workers. At the same time, some studies have shown a negative impact in the manufacturing sector, positive only in the service sector (Liu & Yang, 2021).

In addition, the question of which of the indices most comprehensively reveals the qualitative level of the human capital development remains controversial: the Human Capital Index or the Human Development Index of the UNDP. The Human Development Index of the UNDP is a summary measure of the average critical indicators of human development – the level of longevity and a healthy lifestyle, and a decent standard of living. The Human Capital Index is a predictive measure of the impact on how current education and healthcare outcomes will affect the productivity of future generations.

This requires a review of research in this area. In the process of conducting this study, in contrast to the existing ones, an institutional approach to the issue of financial support for human capital development was used. Accordingly, the directions of strengthening the financial support of human capital development are substantiated based on the need to adapt the institutional framework, and its functioning to the dynamically changing conditions of the financial and economic environment and economic cyclicity. Furthermore, given the complexity of the internal and external environment of developing countries, which is intensifying in a pandemic, an important task is to develop new scientifically sound approaches to improving the quality of public financial regulation of human capital development.

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## CONCLUSION

According to the study results, the level of financial support for human capital development is an important tool for influencing economic growth in both developed and transforming economies. However, inadequate policies of public financial regulation and inefficient use of public financial resources aimed at human capital development have a negative impact on the dynamics of economic development and the welfare of citizens. The Human Development Index does not fully reflect and hide inequalities in the distribution of human development at the national level among the population. Diversification of funding sources for human capital development programs is growing in the vast majority of countries studied. At the same time, in countries with transformational economies, there has been a tendency to reduce an ambiguous impact of financial support for human capital development on economic growth in recent years. The negative impact of financial support for human capital development in terms of public spending on education and healthcare among the studied countries is currently observed in Armenia, Azerbaijan, Kazakhstan, and Moldova. The positive impact was observed in Ukraine, Belarus, Russia, and Uzbekistan. In order to ensure the positive impact of financial support for human capital development on economic growth, it is advisable to review spending on education and healthcare and focus them on achieving strategic goals of economic development. The financial orientation of rational

management decisions on public spending on health and education should be provided not only based on measures taken based on the analysis of trends and dynamics of their use but also on the degree of their validity.

However, any civilized state is obliged to protect its citizens from socio-economic troubles and shocks. At present, the results and conclusions that directly affect Ukraine need to be reconsidered against the background of Russia's full-scale aggression. In such conditions, for objective reasons, the opportunities and the need for public financial support for human capital development are changing dramatically.

## AUTHOR CONTRIBUTIONS

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