Abstract—The relevance of the study is due to the need to generalize research in the field of human capital development as a factor of economic growth and identify the causes of weak influence on economic growth. The analyzed theoretical and empirical work in this area allowed us to systematize the concept of human capital and its impact on economic growth. The reasons for the lack of an unambiguous relationship between the value of human capital and wages are revealed. In the context of human capital reproduction the role of financial security of human capital is considered on the basis of the analysis of researches on financial security. Threats of financial safety of the person in aspect of formation of the human capital are systematized. The empirical analysis of the level of threats to financial security is carried out. The problem of methodological and empirical problems of income differentiation and poverty is considered. The results of the study led to the conclusion about possible solutions to the identified problems that limit the development of human capital primarily at the state level.

Keywords—human capital, financial security, economic growth, poverty, education, knowledge economy.

I. INTRODUCTION

Development and popularization of the theory of human capital was carried out by G. Becker and T. Schultz in the 1960s of the XX century. Human capital was understood by them as the stock of health, knowledge, skills and motivations accumulated by an individual. To reveal the nature of human behavior in this area, G. Becker applied the methodology of neoclassical microeconomic analysis, which presupposes the maximization by any subject of economic relations of the function of utility or wealth. When deciding to invest in education, individuals behave like entrepreneurs: they weigh the expected marginal rate of return on such investments with the profitability of alternative investments. This model without exaggeration laid the foundations of today's understanding of the labor economy [1]. In the conditions of dynamic changes in socio-economic relations in the formation of the information society, the challenges of the labor market and the development of continuous education, modern researchers noted, the analytical capabilities of this approach are insufficient [2].

For several decades, one of the trends of world science is an extended interpretation of human capital. An example of this is the United Nations development Program (UNDP), which has been in operation since 1990. The first human development Report / Human Development Report of the program begins with the words defining human development as "the process of expanding people's choices. The most important of the many choices is to live a long and healthy life, be educated, and have access to the resources necessary for a decent life." [3] Human capital is becoming a key factor in the humanization of economic development. The individual is no longer seen as merely seeking rational choice in order to maximize income as an element of the economic system. Along with the process of human capacity-building (education and health), the focus is on the use of these opportunities for work, leisure, political or cultural activities and projects.

Despite the relatively high indices in the Russian economic science, there is a possibility of a weak influence of human capital on the economic growth rate [4, 5]. In addition, in contrast to developed countries in the Russian economy there is no unambiguous relationship between the value of human capital and wages [6].

In the context of the reproduction of human capital and the transition to an innovative way of economic development a new role begins to play financial security as an element of economic and national security. The stability of subjects of financial relations to the negative impact of threats to the external and internal environment contributes to the effective functioning of the economy and economic growth, which creates favorable conditions for the development and improvement of the quality of human capital.

Comprehensive analysis of economic security is dedicated to working Senchagov, Bogomolov, Nikolaev, Demidova, Balogh, financial security of the state, region, organization, and identity by Karenina, Magomedov, Ivanovskaya, etc. An ethical approach to financial security is presented in the work of Tovmasyan and Turnin. Financial security of the person is considered in the theoretical study of S. Ahmad and M. Sabri [7]. The problem of fairness of financial relations is a priority in the research of S. Glaziev. The role of human capital in the development of ethical Finance is confirmed by the research of S. Ageeva, A. Mishura and others [8].
The basis of financial security of the individual in the sphere of competence on the part of the state is to ensure the legislative framework and economic protection of the interests of citizens, the establishment of criteria for assessing and improving the quality of life, standards of social guarantees in wages, pensions, etc. From the standpoint of financial security, inequality in the standard of living, poverty undermines the reproductive basis of human capital.

The proposed work is a preliminary study to identify the causes of weak influence on the economic growth of human capital, understanding the essence of financial security of the individual as a subject of human capital by reviewing the available literature, static and empirical data.

II. RESEARCH METHODS

This study analyzes the impact of human capital on economic growth, the analysis of factors of financial security of the individual as a subject of human capital, with an assessment of poverty and differentiation of living standards. A comparative analysis of the factors affecting the formation of human capital was done. Methods of systematic, comparative and statistical analysis, method of expert assessments, structural and situational approaches were developed.

III. THE RESULTS OF THE STUDY

The attention of the world scientific community to the concept of human capital is based on one or another idea of its impact on economic growth. The existing theoretical and empirical points of view on this issue can be divided into three groups. The first gives human capital the role of a leading factor in economic growth. It is proved that human capital has a stronger impact on the pace of economic development than institutions that were previously perceived as the main driver of economic development. The second – the main role in ensuring economic growth is given to the quality of institutions, especially the protection of property rights. Education appears here only as a mediator linking institutions with the pace of economic development [9]. According to the third - human capital and institutions are considered as complementary factors that "complement rather than replace each other in influencing the rate of economic growth" [5].

The human development reports of the UN development Program identify the Russian Federation as a group of countries with a very high level of human development. In the time interval from 1990 to 2017, the human development Index of Russia showed an average annual growth of 0.4%, which is slightly inferior to the average growth in the group, which amounted to 0.48% [10]. Nevertheless, these data show the high quality of the Russian human capital supply, which is at least one of the decisive factors of global competitiveness in the conditions of the fourth industrial revolution institutionalization. According to the human capital index of the World Bank (Human Capital Index) in 2018, Russia scored 0.73 took 34 places between Iceland and Latvia. The index measures the productivity of the next generation of workers in relation to the standard of complete education and full health and reflects the human capital that a child born today can achieve by the age of 18, taking into account the risks to poor health and incomplete education.

The reasons for the weak influence of human capital on the rate of economic growth and the lack of a clear link between the value of human capital and wages reflect the differentiation of territories in terms of socio-economic development, the deformed structure of the economy and the insufficient demand for human capital.

Differentiation of the socio-economic development of the country. Russian researchers are unanimous in the statement that the place of residence is the most important parameter in the distribution of human capital and in the level of return on investment in it. Empirical research of V. A. Anikin shows that wages of workers starting from the 5th category exceed similar incomes of their less qualified colleagues by 36.3% in the centers of the Russian Federation and by 23.7% in district centers. It is also noted that the decisive factor positively influencing the amount of wages in all professional groups is living in megacities, which stimulates internal migration without improving the quality of human capital [11].

Fig. 1. Ranking of countries by human capital Index, 2018. Source: https://openknowledge.worldbank.org
Deformed structure of the national economy. The export-oriented model of the Russian economy is determined by the predominance of low-tech sectors of the extractive industry, the amount of wages in which is 2 times higher than the wages of workers employed in manufacturing [12]. As a result of this income inequality, the carriers of the highest quality of human capital seeking to maximize the return on educational investment are settling in low-productivity industries. Instead of producing rent, the most talented professionals prefer to engage in its appropriation. In support of this hypothesis it is possible to bring the results of the study A. V. Karavai, according to which the proportion of workers who have recorded a high quality General human capital among people employed in the oil and gas sector and the energy sector amounted to 44.6% (at the level of 29.5% among workers in General) [13]. I. L. Lyubimov notes that human capital can also accumulate on those floors of the career ladder of corporations and government agencies that are deprived of real power. In the conditions generated by the rent-oriented behavior of their management, talented specialists will not be able to positively influence the economic dynamics [5].

Insufficient demand for human capital. As noted V. E. Gimpelson in his study, the demand for human capital in Russia is significantly lower in comparison with the supply. In addition, the demand for human capital is continuously decreasing, and its structure is simplified over time [4]. It is logical to assume that the excess of human capital will cause a low level of return from it. This explains the empirical results obtained by N. In. Latova, who showed no interest in improving the skills of working Russians [2]. The insufficient demand for human capital on the part of business can be explained by the protection of property rights. The high risk of loss of the company limits the desire to invest in production capital and complementary human capital. The index of Economic Freedom, compiled since 1995 by the wall Street Journal and the Heritage Foundation research center, contains the indicator "protection of property rights" / Property Rights. The data of the second half of 2017 - the first half of 2018 determine the indicator of interest for Europe at the level of 70%, while its value for Russia is significantly less and is 52.4% [14]. Another explanation for the low level of demand for quality human capital is the lack of investment resources from Russian companies. What is the point for entrepreneurs to hire you-class specialists, if they do not have the opportunity to purchase high-tech equipment? V. E. Gimpelson explains the fact that Russian business spends only 0.3% of total labor costs on professional retraining of its employees, while in the European Union the value of this indicator reaches 3% [4].

The priority of human capital development is fixed in the Russian Federation at the legislative level in the strategies of national, economic security, innovative development and scientific and technological development, national priority projects. The national goals are to improve the quality of life of the population, human potential through the introduction of modern scientific and technological achievements in the system of General and vocational education, improvement of the system of continuous education, the growth of material well-being of citizens and poverty reduction, etc.

Despite the fact that the state has significantly increased funding for basic science and applied research in recent years, there is a problem of inefficient use of local budgets and aging of scientific personnel, which once again emphasizes the importance of the problem of human capital development in the country.

The relationship between human capital and the quality of life of the population is assessed by the human development Index (HDI). It is based on three indicators: the health index, the education index and the income index. Studies conducted in this area show that during periods of severe economic shocks, there is a decrease in the quality of life, which is manifested in demographic indicators such as the level of health of the population, the reduction in life expectancy, the growth of social differentiation, and others. As a rule, shocks caused by economic crises or economic transformation lead to disproportions in the development of the country's regions, deformation of the structure of the economy, and inadequate demand for human capital. They are accompanied by an increase in unemployment and a reduction in the income of the population, a decrease in the availability of servants in the field of health and education, and an increase in mortality among the working population. So, according to Rosstat for almost the entire 20th century in Russia there was an increase in population (even in the period from 1939 to 1956, despite the Second World war, there was an increase in the population of 8.8 million people.), but in the period from 1991 to 2011 the country lost 5.3 million people.

Financial security of the person, as well as financial security of the state, is exposed to threats. O. Stepicheva, V. Chernova, M. A. Kotelnikova [15] identify the following threats to the financial security of the individual: the threat of GDP reduction; the threat of increasing differentiation of society by income; the threat of poverty; the threat of credit dependence. Sh. Magomedov, L. Ivantitskaya, M. Karataev, M. Chistyakova [16] consider the main threats to the financial security of the individual: the growth of social and property inequality of the population; differentiation of regional economic development (as territories of residence); impoverishment of the population; underemployment; cyclical unemployment; criminalization of economic relations.

Financial security of the person is considered in the theoretical study of S. Ahmad and M. Sabri [7], which under financial security (vulnerability) understand the behavior of consumers associated with costs and savings that affect the satisfaction and well-being of the individual. A. Leveret [17] introduces the concept of "financial well-being" to understand the direction of financial security and opportunities. The concept of "financial well-being" more accurately and effectively assesses the financial condition of the household using four criteria: the ability to control their daily finances; ability to perceive financial shock; movement towards financial goals; feeling of financial freedom in choice.

The study of Kapelyushnikov [18] proved that a positive effect on the dynamics of human capital have factors such as: the increase in life expectancy, the dynamics of the structure of education, the growth of revenues to educational organizations, the growth of employment, and the main driver is the growth of real wages. It should be noted that the aging process has a negative impact on the growth of the cost
of human capital. Almost neutral were the effects of changes in the total population, gender composition, as well as in the relative structure of earnings.

Income inequality, the concentration of wealth in the smallest part of the population, the progression of poverty characterized the development of Russian society in the post-Soviet period (fig.2, 3).

The distribution of total monetary income by 20 per cent of the population since 1995 has been characterized by a relatively stable gap between the income levels of the 20 per cent rich and the 20 per cent poor. In modern Russia, market reforms have led to a stable position of the poorest group of the population, the share of their cash income has been strictly reduced from 9.8% in 1990 to 5.3 in 2018. From 2012 to 2016, the number of citizens below the poverty line increased by 4.4 million people.

The ratio of funds of the Russian population is twice the threshold level; in 2018 the gap was 15.5 times at the threshold of 8 times. The world indicators of the Fund coefficient are as follows: Finland, Sweden, Denmark – 3-4 times; Austria, France, Germany - 5-7 times, USA – 1-5 times. The high degree of inequality in the Russian society is confirmed by the value of the Gini coefficient, at a threshold of 40 %, its value since 2003 systematically exceeds this limit. The UN sustainable development Agenda reflects the importance of appropriate policies, especially fiscal, wage and social protection policies, to gradually achieve greater equality.

Fig. 2. Distribution of total cash income in 1980-2018 (1970-1990 - total income taking into account the value of net production of personal subsidiary farms of the population). Source: compiled by the author on the basis of http://www.gks.ru

Fig. 3. Dynamics of the Gini coefficient and the coefficient of funds in Russia in 1995-2018 years

Fig. 4 Dynamics of the Coefficient of funds (decile) in Russia in 1995-2018

Four key methodologies can be identified in the evolution of poverty concepts: the concept of the subsistence minimum of con. 19th century – early 20th century (C. Booth, S. Rowntree); the concept of relative poverty 60-80-ies of the 20th century (P. Tausend); the concept of stored relative poverty since 1979 in the 20th century (E. Hansen); the concept of poverty as self-assessment (subjective approach). Foreign scientists also distinguish primary (with rational use of funds) and secondary (with unreasonable use of funds) poverty.

In Russian statistical practice, the "poverty line" is estimated through the subsistence minimum, that is, it is based on an absolute approach. The relative approach does not focus on income, but on well-being, meeting both physiological and social needs. The approach of accumulated deprivation (relative poverty) takes into account the problems of the individual in different areas from income to social relations. The subjective approach allows taking into account not only the lack of means of subsistence, but also problems with health, quality of food, housing, restrictions on education, etc. The level of poverty estimated by different approaches will vary, but will yield a higher proportion of the poor than the absolute approach.

A number of studies have singled out "rural poverty" as a special category. The rural population accounts for 26 percent of the Russian population or 37.6 million people of the total population, rural poverty accounts for 53.1 % of the poor. The main factor of this phenomenon is the living space of the rural environment with specific living conditions, social interaction, restrictions on the availability of material goods and services [20].

Data on the dynamics of poverty in Russia are presented in fig. 4, since 2012, the number and proportion of the poor has been increasing, a slight decrease of 0.3% occurred in
2018, which can be explained by the increase in the minimum wage above the subsistence level.

The social state should look for effective ways to solve these problems that limit the formation of human capital as the basis of the "knowledge economy". The share of the Russian "knowledge economy" as a percentage of GDP according to the forecast of the Ministry of economic development in 2017-2019 is 12%, the same indicator for developed countries – 30-40%, for developing countries – 15-20%, in China – 20%. According to A. Aganbegyan, it is necessary "to restore and increase the demand of the population, no economic growth is possible without the demand of the population" [19].

Financial literacy programs will improve the financial security of citizens through a clear understanding of rights and obligations, especially in cases of interaction with credit and insurance organizations, and especially in cases of financial problems and fraud.

Lifelong learning (lifelong learning) covers formal, non-formal, informal educational activities. Digitalization processes significantly expand the possibilities of continuous expansion and deepening of knowledge, improvement of skills and abilities. Petko O. V. notes that the quality of education directly affects the economic situation of the country, economic security, and therefore financial security. However, Russian indicators are still lagging behind the leading European countries (fig. 5).

Financial security is also affected by the employment of the individual in accordance with the qualifications, inclusion in continuous education and self-education, so it increases the chances of income (wages), as well as through the development of cooperation and mutual understanding in society, financial literacy in financial decision-making.

The condition for the formation of national human capital is sufficient state funding of spending on education, science, health. Correlation analysis showed a strong link between investments in education, fixed capital and the environment and GDP. Academician Aganbegyan estimates the necessary volume of investments in 2-2.5 trillion in fixed assets and 1-1.5 trillion human capitals. With an annual increase of this
amount, it is possible to increase the rate of accumulation from 21% to 30% by 2025, and the volume of the "knowledge economy" to 30% by 2025. In the scientific sphere, the lack of human capital is exacerbated by the lack of adequate innovation infrastructure, low level of financial security. As noted by E. Shpilevskaya funding of science in the USSR in some periods of time and reached 7%. In recent years, expenditures in this area are within 1.2 % of GDP; the commercial sector has little interest in investing in science, due to the high level of risk and delayed returns. Part of the problem of preserving human capital in the field of science can be solved by achieving the targets of national projects science, education and national technology initiative.

IV. CONCLUSION

The possible weak impact of human capital accumulation on economic growth, as well as on the level of income of part of the working population, can be explained by a complex of institutional, structural and financial reasons. This problem is particularly relevant in the context of the digital transformation of the economy and the networked social and labor relations and the limitations of the Russian economic system: the simplification of the economy through a significant preponderance towards the commodity sector of the economy (the share of exports of fuel and energy products is about 64%), a relatively low proportion of high-tech sectors of the economy and organizations engaged in technological innovation (7.5%), insufficient investment in the knowledge sector and human capital development (Russia ranks 98th out of 153 countries in terms of expenditure on education, world Bank ranking). According to the Bloomberg Innovation Index rating in 2018, Russia lost 2 positions and fell to 5th place in education efficiency, 2 positions in productivity (44th place) and 1 position in research concentration (28th place).

Having systematized the reasons for the weak influence of human capital on the rate of economic growth and the lack of a clear link between the value of human capital and wages, we consider the following: the differentiation of territories in terms of socio-economic development, the deformed structure of the economy and the insufficient demand for human capital.

The demographic factor, which had a positive impact on the rate of economic growth in the 2000s, is currently holding it back. This is mainly due to a decrease in the proportion of the economically active population aged 20 to 40 years, even taking into account the positive dynamics in the birth rate.

Despite the fact that in Russian conditions there is still a relatively weak link between human capital and economic growth, most foreign and domestic researchers say that human capital is a determining factor in the development of modern civilization and is able to influence absolutely all spheres of society. At the same time, the mobilization of human capital does not require such large investments in fixed capital [19]. In the medium term, the return on investment in human capital is growing, since the law of diminishing returns does not apply if the right choice is made to accumulate and use human capital.

According to the study, the national human capital has an impact on: the ability of the state to counter political and economic sanctions; the pace and quality of economic growth of the country; the quality and efficiency of public administration, which in turn affects the level of social tension, as well as the size of the shadow economy and corruption; the competitiveness of industry, the level of its investment and innovation activity and attractiveness; the pace of development of scientific and technological progress, not only in the field of manufacturing and defense complex, but also in the field of information technology; the quality of the financial system of the country and others.

At the same time, not only human capital affects the rate of economic growth of the economy, the level of its national and economic security, but also Vice versa. The state of the country’s economy, its level of protection from the negative impact of external factors and threats has a significant impact on the level of human capital development. In this context, it is necessary to consider human capital through the prism of the formation of a certain level of quality of life, which is the fundamental factor that determines all the elements of human capital.

The condition for the formation of national human capital is sufficient state funding of spending on education, science, health, the creation of mechanisms for the distribution of GDP, contributing to the reduction of income differentiation among population groups, the official giving of education and health status of high-performance industries for the innovative development of the country.

One of the main challenges in the field of innovative development is the problem of the outflow of highly qualified personnel due to the low efficiency of the innovation system of the country. This problem is particularly acute against the background of the fact that other competitor countries in the international labor market (China, USA, Brazil, India and other countries) consider investments in technological development and, consequently, in human capital as the main anti-crisis measure. The main reason is the low innovation and investment activity of the private sector, due to the unfavorable investment climate, limited access to long-term investment resources.

Financial security is decomposed into subsystems: financial security of the state, region, sphere, industry, economic entity, personality. The objects of financial security of the individual are citizens, households and society as a whole as carriers of human capital. The main threats to the financial security of the individual in terms of the formation of human capital are: increasing income inequality; differentiation of regional socio-economic development; increasing poverty; increasing unemployment; debt (credit dependence); criminalization of economic relations.

The dynamics of human capital have a positive effect on the increase in life expectancy, the dynamics of the structure of the population's education; the growth of revenues to educational organizations, the growth of employment, the main driver is the growth of real wages.

The high degree of income differentiation of the population, poverty, poor financial protection of the interests
of the individual, create conditions for the development of fraudulent practices, debt, leads to increased social tension, undermining financial security and reducing the level of economic and national security of the country.

One of the problems limiting the development of Russian reality is a high level of poverty and social inequality with inherent contradictions. Russian statistics estimate the “poverty line” through the subsistence minimum, which gives lower poverty rates than other possible approaches. Another problem is low indicators of formal and non-formal education in relation to European States and investments in education, health, science.

The state should continue the policy in the field of health care and demography to reduce mortality and increase the birth rate, in the field of education for the development of online and remote forms of education, the widespread use of platform educational solutions and networking of educational services, which will increase the formal and informal opportunities for education of citizens in the field of science through the development of foreign exchanges of scientific personnel on a long-term basis, grant support, the creation of innovative research centers. We support academicians Aganbegyan on the introduction of an investment loan for the financing of fixed capital, as well as for obtaining professional or master's education of citizens for a period of at least 15-20 years. Improving financial literacy will facilitate sound economic decisions and reduce financial risks in the context of ensuring financial security of the individual and the safety of resources. Lack of awareness of the appropriate use of income leads to financial vulnerability among consumers.

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