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Management of the sustainable development of human capital in the terms of macroeconomic instability

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Abstract

The article is devoted to the search of indicators of valuation of the sustainable development of human capital. The relation of sustainable development of human capital with the cyclical economic development was studied. The influence of human capital on the achieving long-term sustainable economic growth is analyzed. Also, the influence of information economy on the quality of the reproduction of human capital is explored.

Keywords: human capital, sustainable development, economic cycles, the information economy.

I. Introduction

In the conditions of the crisis, the process of strengthening of the stability of the reproduction of human capital plays crucial role. During this period, many kinds of industrial and economic resources, such as bank loans and investments, accumulated in the stock market, are too expensive or not available for economic agents and the processes of commercial calculations and reproduction of capital become more complicated. Human capital becomes one of the most important factors in the progressive development and sometimes it is just basic survival element of enterprises and organizations. Human capital is able to transform into innovation, into advanced ways of production organizing, which is particularly valuable in the terms of very limited material and financial resources. In addition, to enter the upward phase of the economic cycle on time you should rely on the high quality of human capital.

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II. Materials and methods

The issues of the determination of the economic essence of the "human capital" are in the focus of economists in recent decades [1,2,3,4]. One of the most topical problems is the problem of the assessment of human capital at the micro and macro levels.

Different proxy variables that reflect the level of education or level of training of individuals are used as the simplest measures of human capital. These include the following indicators [4]:

- Indicators of literacy rates or the level of education of the population;
- School enrollment rates;
- The average number of years of education of employees in the economy.

These indicators are only approximate measures of the human capital quality, which limits their use in statistical calculations.

Also, there are the valuation methods of human capital: the method of capitalized income and expenses method [1]. Despite some shortcomings, both methods of valuation of human capital are widely used in economic research. Review of the results of empirical assessments of human capital value can be found in many studies [4].

The index method is used to bring the various elements of human capital to a single coordinate system.

The most famous index that is used in the practice of evaluation of human capital is the Human Development Index (HDI).

III. Human development index

In our opinion, the drawback of HDI, as well as of other composite indices, is that the algorithm for their calculation does not include the degree of consistency with each other private indicator included in the calculation of the index. Meanwhile, if the values of the partial indicators of the index are relatively close to each other, then this index is more stable than in the case of private index figures are significantly different from each other.

To eliminate this drawback of HDI, we propose to use the human capital sustainable development index (HCSDI).

$$HCSDI = \frac{HDI}{\sigma} \Big/ \max\left\{\frac{HDI}{\sigma}\right\} \qquad (1)$$

where HCSDI – human capital sustainable development index;

HDI – human development index;

σ - standard deviation of private indicators included in the calculation of the HDI, from their average value;

$\max\{HDI / \sigma\}$ – the maximum value of the test indicator in the population.

The interest question is the mutual influence of the HDI and HCSDI on each other. In order to identify the nature of the influence we have constructed the regression model (Fig. 1). The study went to the analysis of modern trends in the formation of human capital, carried out with using a statistical framework and methodological tools of UNDP [8], the Federal State Statistics Service of the Russian Federation and some selected surveys.