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Research Article

Human Capital and Labor Strategies in a Border Region

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Abstract. On the basis of a sociological survey of the labor force of the Republic of Karelia, a typology of investment behavior of the population in the labor market was developed, which included four main strategies for the development of human capital – accumulation, profit maximization or capitalization, maintaining positions in the labor market, and leaving the labor market. This research examined whether the choice of a strategy for using accumulated individual human capital is associated with the stage of the person's life cycle, and the specific patterns of behavior in the labor market and in society. The life cycle stages were identified. Each stage corresponded to an institutionalized 'investment profile' with a dominant investment actor: family, employee, employer, state. The study developed and tested a methodology for the assessment of regional human capital. It was found that the investment behavior of an individual is associated with one's primary and secondary social environment, which acts as an investment actor. The investment actors in the study were: family, employer, employee, and state. Accordingly, these were operationalized through two groups of indicators: socio-demographic and the economic activity of the region's population.

Keywords: human capital, labor market, investment behavior, investment actor

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1. Introduction

For the past 25 years, the discourse associated with the priority of the policy of investing in physical capital, which is considered as a driver of economic development, has been dominant in Russia. However, the relevance of investments in human capital, which acquires a new methodological and practical meaning in the era of transitioning into a new technological paradigm, practically drops out of the attention of politicians who make management decisions.

It is generally accepted among economists that the accumulation of human capital is one of the main engines of economic growth, a key factor in the economic and social well-being of modern societies. Economists have called the twentieth century the century of human capital [1]. It is already clear that this characteristic will be relevant in the current 21st century with even greater reasoning.

The issues of the formation and development of human capital are becoming increasingly important in the context of the task of transitioning the national economy of Russia to an innovative development model. An increase in labor productivity, the development of high-tech production, the creation of innovative products is impossible without providing the sectors of the national economy with personnel who have the necessary professional and personal competencies. On the other hand, social and economic characteristics affect the formation processes and the quality of the human capital, while there is a heterogeneous spatial distribution of this capital in the regions.

The scientific problem of this research lies in the need to develop new theoretical (systemic) approaches to the study of human capital based on measuring and modeling the processes of its formation, development and reproduction in relation to Russian regions in the face of modern challenges.

The empirical problem of the study is related to the issues of measuring human capital both at the national and regional levels. In addition, the measurement of the spatial mobility of human capital and its dynamics over time is of scientific and practical importance.

In Russia, due to the vast regional diversity and pronounced differentiation of the economic space within the country, the question arises of developing approaches to assessing and measuring human capital at the meso-level.

Within the framework of this study, a methodology for assessing regional human capital was substantiated, based on the isolation of stages in an individual's life cycle, each of which is characterized by a special institutionally fixed "investment profile" with a dominant investment actor: the family, the employee, the employer, or the state.

2. Methods

The study is based on the evolutionary and structural-functional approaches to assessing regional human capital. The evolutionary component is associated with the stages of the life cycle of human capital, the structural-functional component – with investment strategies and individual behaviors in accordance with the stages of the life cycle of human capital. Since the bearer of human capital is an individual, the set of individuals considered in the study was limited to four age cohorts according to the dominant types of their economic activity: the stage of obtaining professional education to enter the labor force, the stage of active employment and the development of competencies and skills, the stage of professional maturity, and the stage of leaving the labor force.

In this study, the task of constructing a multidimensional model of regional human capital was formulated and implemented, the type-forming basis for which was the variety of human capital investment strategies. Operationalization was implemented using methods of multidimensional classification of the investment behavior of economically active population groups in the labor market at different stages of the life cycle. The investment behavior of an individual is determined by their primary and secondary social environments, which acts as an investment actor. The study considers the following as investment actors: the family, the employer, the employee, and the state. Accordingly, they were operationalized through two groups of indicators: socio-demographic and economic activity of the region's population.

The empirical background and information sources. The study is based on data obtained by the Federal State Statistics Service as a result of a sociological survey of a labor force sample. The sample size in the Republic of Karelia was 7486 respondents. According to the approved methodological regulations, the survey was carried out by questioning the population aged 15+. The representativeness of the sample is ensured by using the sampling method for selecting households. The tools of the SPSS package were used as methods of statistical analysis and processing of empirical data.

3. Results

At the first stage, based on the primary intelligence analysis of empirical data, as well as a review of existing research in the field of the characteristics of age-related psychophysiology, a working hypothesis was formed: "The choice of a strategy for using the accumulated individual human capital is associated with the stages of a person's life cycle, with patterns of behavior in the labor market and in the society are formed at each of them". Based on the available data, further analysis involves checking for the relationship between the main socio-demographic indicators of the population and the strategy of behavior in the labor market, and attribution to the status of participation in the labor force (employed, unemployed, not belonging to the labor force).

At the second stage of the study, an economic and mathematical analysis was carried out to test the hypothesis on the empirical data. In order to divide the population into the main groups and further build a typology of the investment behaviors of the population, a two-stage cluster analysis was applied, which allows working with different types of variables and using different clustering criteria [2]. In the analysis, 5 variables were selected: age, educational level, number of underage children, marital status, economic

activity (labor force participation). As a result of the economic and mathematical analysis, 4 clusters were identified.

The first cluster (25.5% of respondents) contains the best educated population (30% have higher education) aged 25 to 44, who have completed their education and entered the labor market. All respondents in this group live in a family with underage children, and an absolute majority (87%) are married. In this cluster, 88% of respondents have a paid job.

The second cluster includes 9.8% of the population of the Republic of Karelia. The small size of this group is due to the region's age composition, since 86.6% of this group consists of young people aged 15 to 24 years. The bulk of this group are not part of the economically active population; only 20% of them are employed or looking for a job. An overwhelming majority (97% of respondents) have never been married. A significant part of the respondents in this group live in parental families, where, in addition to them, there are underage children.

The third cluster (34.5% of respondents) is 90% elderly population aged 55 and over, who have completed their labor activity. They neither work nor are looking for a job (98%), thus representing a group of economically inactive population. This cluster is the most numerous, which is due to the characteristics of the age structure of the region's population. Representatives of this cluster are married or widowed, their children have created their own families and live separately. More than a half (57.7%) of the members of this group have secondary vocational or initial vocational education, but their human capital is not involved in the regional economy.

The fourth cluster (30.2% of respondents) contains employed individuals. In terms of age structure, this group is the least homogeneous, but with a significant proportion of people of pre-retirement and retirement age. In terms of marital status, most of the representatives of this cluster are in a registered marriage. There are no underage children in the households of the respondents in this cluster, but more than 40% live in a family with more than two members. Most often, these are adult children who are economically dependent on their parental family.

The third stage of this study was interpretation of the resulting clustering and construction of a typology of the investment behaviors of the region's population. Each cluster corresponds to a certain strategy of investment behavior of the individual and the household.

The factors determining the choice of a strategy were a combination of socio-demographic factors. Each stage of a person's life cycle corresponds to a certain strategy of the individual's behavior in the formation and implementation of their human

TABLE 1: The typology of investment behaviors of the regional human capital.

Indicator	Strategies of accumulation (Cluster 2)	Strategies to maximize benefits (Cluster 1)	Strategies for maintaining positions in the labor market (Cluster 4)	Strategies to exit the labor market (Cluster 3)
Share of population aged 15+	9.8%	25.5%	30.2%	34.5%
Dominant investment actor	Family + individual	Employer + employee	Employee	State
Marital status	Unmarried	Married, registered or not	Married	Married or widowed
Main activity	Getting an education	Work	Work	Family, hobbies

capital in the labor market. In addition, the implementation of each of the selected strategies is driven by the dominant investment actor.

The features and dominant characteristics of the investment behavior of members of each of the identified clusters, ordered according to the stages of the individual's life cycle, are presented in Table 1.

The strategy for accumulating human capital corresponds to the second cluster described above. This is the youngest and least represented group of the population. According to the age periodization proposed by D. Bromley [3, p. 45-52], this population group covers the periods of late adolescence (15-21 years) and early adulthood (21-25 years). According to a research by anthropologists and physiologists [4, p. 78], in the period of early adulthood, the development of attention, thinking and memory is maximized, which contributes to the effective accumulation of such components of human capital as knowledge, skills, and abilities. At the same time, in the social aspect, a person acquires full legal and economic responsibility, rights and obligations. However, most people who follow this strategy have not yet achieved financial independence.

The main actor determining the direction of human capital development is the parental family, which takes on a significant part of the costs associated with the adoption of this strategy. In addition, a competitive advantage in the employment of persons with higher education is the key criterion in making an investment decision on the side of the family in favor of the professional education of children.

The strategy of maximizing the benefits or capitalizing human capital (corresponds to the first cluster) is adhered to by 25.5% of the region's population, of which 81.2% are people aged 25 to 44. In accordance with the age periodization of Bromley, this period

refs to middle adulthood. The age of 25-44 is characterized by a change in the social roles in the family and society – generally, at this time, individuals leave the parental family, create a new unit of society, and they have their own children.

From the point of view of physiology and cognitive abilities, this is the age of peak creativity and stabilization of intellectual development. Changes in the social roles in the family and the family composition motivate to finding the most attractive working conditions and the most effective capitalization of abilities. It is during this period that professional experience and skills are formed, which will become the main criterion of income in the future.

The results of the study show that about 50% of employed respondents implementing the strategy of maximizing the benefits choose a job that is not related to the educational background. This fact casts doubt on the efficacy of investments in human capital in the previous period, as well as the mechanisms of distribution and redistribution in the labor market.

The dominant investment actor is the employer, who is interested in building a specific human capital for the company and in securing the employee in the workplace. The employees themselves play an important role in the investment process. Having the necessary motivation, they make the most of their potential for the development of the necessary abilities, advanced training, thereby creating a "safety net" to increase the level of competitiveness. Future incomes in the period of "late adulthood" largely depend on the experience gained during the period of "middle adulthood".

Strategy for maintaining positions in the labor market (corresponds to the fourth cluster). According to Bromley's periodization, this period corresponds to "late adulthood". This group of the population generally has limited mobility both in the territorial-labor and in the social-labor aspect [3]. This strategy is adopted due to physiological and social factors. At this stage of life, there is a decline in physical capabilities, learning abilities and adaptation to new technologies. By this time, the individual is already fixed in the workplace and reaches the "ceiling" of their career growth. The level of the results achieved in the previous period determines the level of income in the current one. It is noteworthy that 54% of the employees who adhere to this strategy have jobs not related to their education background. When looking for a new job, applicants in pre-retirement age are increasingly faced with age discrimination, which motivates people of this age group to "hold on" to their jobs.

The dominant investment actor in this case is the employee. The employer's interest in an employee is determined by the work experience, commitment to the company, and low social and labor mobility. This group of the population, finding themselves out

of work, is the most vulnerable due to discrimination in the labor market and lack of financial resources in the form of pension payments.

Labor market exit strategy (corresponds to the third cluster). The fourth group is 90% elderly population aged 60 and over, who have completed their labor activity and are economically inactive (98%). Bromley called the 55-65 years period the pre-retirement period, in accordance with the retirement age adopted in Western countries at the time the periodization was designed. In fact, many Russian pensioners also stop working at an age of 60-65. The population group adhering to the strategy of leaving the labor market is the most numerous (34.6% of the region's population), which is associated with the demographic structure of the region's population.

The *strategy to exit the labor market* is formed in connection with the redistribution of the family's aggregate work. The most relevant task for the followers of this strategy is to extend the possibility of actualizing the individual's human capital by prolonging their active life. In this case, the state becomes the dominant investment actor, providing a set of medical services that support the health of third-age citizens. In addition, their accumulated human capital in the form of knowledge and competencies can be transformed into human capital investments for future generations.

4. Discussion

Human capital plays its most important role in the global positioning of the region, its inclusion in the world division of labor. Nevertheless, it should be stated that the generally accepted scientific approaches and methods for assessing human capital have not yet been formed either in the Russian or in the world scientific community. The theoretical and methodological concepts that have been developed are limited in nature and mainly include quantitative estimates of human capital at the macro level, without taking into account the entire system of factors that determine its quantitative and qualitative parameters at the meso- and micro- levels. Even the OECD human capital assessment method has significant gaps, which the developers recognize and continue to improve.

Among the studies linking the use of human capital with the stages of a person's life, it is worth noting the work of R.I. Kapelyushnikov [5], who considers the population of all ages. Dividing the life of an individual into stages of human capital accumulation, its use and its cancellation due to leaving the labor market, the author conducts a coherent integral cost estimate of the human capital at the country level (Russia). The difference

in our research is that we use the concept of the life cycle of an individual, but in relation to the assessment of the human capital of the region.

5. Conclusions

The results of the study show that the labor activity of more than a half of the employed population, who implement the strategies of maximizing benefits and maintaining positions in the labor market, is not associated with the first education major acquired. This problem is typical for many regions of Russia – less than half of college and university graduates pursue a career in their field of education [6]. In our opinion, the problem of discrepancy between the choice of the sphere of labor activity and the education received is the result of the simultaneous influence of a combination of the institutional, structural and personal groups of factors.

The proposed multidimensional structural model of the human capital of the region can become an information source to substantiate the need to diversify the regional socio-economic policy for the development of human capital, which is the most important factor in the competitiveness of the region. This policy is aimed at creating a favorable institutional environment for the development of key investors in human capital and its carriers. Moreover, regional policy should prioritize support to the process of formation, accumulation and use of human capital in the region.

6. Funding

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