

Human Capital Research Program: Contemporary Bulgarian Projections

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Summary

The research question discussed in the present article can be summarised as the recognition of theoretical and methodological solutions in the scientific service of the functioning of the modern Bulgarian labour market through the operating human capital research program. The analysis is close to its contemporary national projections, presented in terms of a positive result, negative scenarios and opportunities for socio-characteristic evaluation. This presupposes the need for a brief overview of the main aspects of capital formation, of basic concepts of human capital and of the foundation of related competence.

Sustaining the function of human capital as a moderator (the ongoing creation and application of knowledge and skills-based behavioral construct) in the Republic of Bulgaria is presented with a view of the Lakatoska idea about the organisation the cognitive process through the creation and functioning of scientific research programs. Thus, the constructive power of the analysed capital is expressed not only in the created and productively realised competence resource, but also in the future benefit hidden behind the problematic areas of this process. These research expectations based on the

Bulgarian environment define the guidelines for searching for the advancement of human capital studies as a modern paradigm of human resource management.

The study is organised on the basis of the theoretical understanding of the main highlights of the Bulgarian research panorama of human capital in order to outline the results achieved and summarise existing challenges that science and practice face. An attempt is made to summarise the defining moments for the assessment of the sociofunctional nature (progression or degeneration) of the interpreted research programme.

Keywords: capital, competence, human capital, research program, heuristic problem shift.

JEL: E22, J24, I20

Introductory and methodological notes

Capital, originally conceived as an economic phenomenon, is today a general concept (category) of the aggregate life activities. Although solutions were provided even in ancient Greek and Roman times, its true recognition occurred in the 11th century, when the Italian Papias defined it (quoted by Demostenov, 1991, p. 418[1946]) as “a sum of money which is given for interest and serves its holder as a means of obtaining income”.

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Before the 16th century there were various solutions for capital, but later there were historical prerequisites (intensely expanding production and developed commodity trade, including the activation of world trade and the world market) for writing the new history of capital. A thousand years later, it can be argued that disputes (even by their definition) do not subside, but the Gordian knot for the capital solution of various problems concerning nature, the cosmos and society is already cut – an impossible modern idea of overcoming any problem beyond the capital skills-generating requisites such as intellectualisation, cybernetisation, electronicisation, informatisation, socialisation, etc.

Currently, compliance with the ability determining factor, and therefore with its capital base (knowledge, skills and attitudes: visible, conscious and sought after), is representative of contemporary socio-economic theory and practice (Philipov, 2004, pp. 40-56, 127-149; Chobanova, 2011, pp. 28-54). We are now in the third phase of understanding this factor – its true theoretical and applied renaissance, marked by inevitable integrity (unity) between the various capital varieties: social, structural, intellectual, human, customer, information, etc.

Against this background, the aim of this article is to try, on the basis of the methodology of the general theory of capital functioning, to present a moderation interpretation of the Bulgarian scientific research program on human capital. This objective presupposes the following tasks: first, the methodological rationale of the study, second, the understanding of the contemporary Bulgarian contribution (achievements) of the scientific human capital research program, which performs the function of a protective

belt for our country, thirdly, aggregation of problematic subject research fields in their role as future scientific studies of human capital in the Republic of Bulgaria, fourthly, synthesising the stipulations for the final evaluation of the social characteristic of the analysed programme, but the specificity of the overall solution of this issue is subject to further research.

Against this background, two distinctions are of cognitive importance

- a) The bearer of the analysed capital is the human being with the labour proactivity materialized in him (human resource), the applied projection of which is the labour force. The interpretation of this process - substantive, meaningful, discursive, historical, predictive, etc. are beyond the limits of the present study.
- b) The substrate of the article is the Bulgarian national context of human capital as the subject of a scientific research program aimed at solving practical problems. On this basis, a number of solutions (individual and collective, theoretical and practical) for human capital are identified and summarized, located in formed research field and institutional sectors.

A few more clarifications are needed.

First, the test of the formation and application of human capital as a scientific research programme (Lakatos, 1983[1976]; 1994) is a challenge that can be dealt with by a scientific team. Therefore, this article attempts to summarise only some of the main incoming highlights of this process. They are presented in two areas as: a theoretical Bulgarian iceberg (protective belt) and realised practical heuristics (actions/inactions). The result, together with the reporting of other regulators, creates a progressive or degenerating problem shift of

the program, respectively – the dominance of positive or negative heuristics. To that effect, the analysis focuses on the main achievements in the Bulgarian research of human capital, respectively in the field of search for new solutions to emerging problems of human resources management.

The conceptual idea of the article would be clearer if a number of aspects of the anatomy and physiology of human capital and the accompanying scientific research program were taken into account. They are interpreted as a product and a scientific and organizational tool for its creation.

Human capital is the source demiurge (creator) of social and economic prosperity. Its formative elements are accumulated knowledge, its transformation into skills, acquired experience, available natural talents, personal beliefs, etc. It is obvious that the accumulation of competences presupposes the development of a number of sectors and institutions: science, healthcare, education, family, social communications, etc. The formation of human capital transformation, as well as its state, use and development are the foundation of the progress of any society. Competency models shall be used to assess the level of human capital in the respective production or institutional organisation. The result obtained from their application leads to increased value, income and wealth.

The research program explored in the article is a methodological system of the reproduction of human capital. It is presented as a resource and moderator disciplinary mechanism. The resource mechanism is in line with the set of basic conditions, which are necessary for the organisation of a straightforward research process: the scientific capital of the research participants (heuristic team), the material, technical

and technological provision of resources, sufficient financial resources, reliable organisation of researchers' work, etc. The moderator mechanism contains "instruments" that drive the regulatory process: solid core, heuristics and protective belt. The solid core contains perfectly obvious concepts about the organisation of the programme and the functioning of human capital (shared general statements, established imperative decisions, etc.). Heuristics exist as positive and negative. The first variety outlines the guidelines to be followed (objective and organizational) for the rapid resolution of the problems (conundrums, anomalies in reproduction) of human capital and the organisation of the program. Negative Heuristics – what should not be done as an organisation of the programme and as a functioning behaviour of created/being created human capital, which would result in difficulties in its existence.

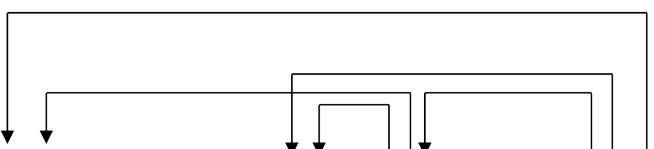





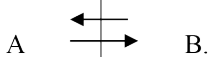
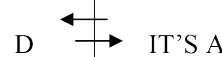


The protective belt provides the program with new theories, methods, methodologies, etc. and thus protects the solid core from destruction. The new aspects created in this element, which are fundamental in nature, expand the field of the solid core of the program.

In practice, two pairs of characteristic types of program developments are interpreted: progressive and regressive/degenerating; theoretical and empirical.

In this short preliminary statement, the formation and application of human capital through its adequate scientific research programme is shown in Table 1.

It should be borne in mind that the subject of the article is only the human resources research program. This explains the absence in the study of analyses of intermediate and final results, which makes it impossible to assess with certainty the sociocharacter of

Table 1. Formation and application of human capital through a scientific research programme

Reverse Research Links					
Phases of formation and application	Scientific Research Program		Human Capital	Increased human capital	Increased growth and prosperity
Content of phases	Resource Disciplinary Mechanism (A)	Functional moderatory mechanism (B)	Knowledge, skills, experience, beliefs, etc. (C)	New State of Human Capital (D)	New higher level of value, income and wealth (E)
					
	Research Application Creation Generation of intermediate to final result				
Areas	Scientific Research Program			Results of the implementation of the scientific research programme	
Direct research links			C		
					
					

Source: author's own construction.

the Bulgarian program as progressive and degenerative.

Second, in the theoretical and methodological plan, the following system-forming concepts are adopted:

a) For the basic and functional objectivity of capital: in its deep genesis, it derives

from, and subsequently determines, the consumer absorption of the surrounding environment by the human being – its humanisation (in modern terms adaptation through organisation, socialisation and economy); human moderatorship is built on ability potential (accumulated and

gained knowledge, experience and beliefs) and organised harmonious inter-subject relations that form its regulating constructive adaptation; the incorporation of human productive capacity into other factors of production increases its productive power; the definition of the rationale for this power as capital - inherently efficient forces of various human resources; the aggregation of capital as a productive resource producing a market-based attestation result in the form of value, income and wealth (Demostenov, 1991, p. 405[1946]); Kazakov, 2010a, p. 7).

On this basis, the accepted working definition characterises capital as a category belonging to both social and economic theory, embodying a renewable resource that is permanently growing, and with its productive and creative application it creates conditions for the increase of the initially advanced value, which, through the process of exchange and distribution, presupposes fair benefits for all.

b) It is of initial determining importance for human capital (with pioneers: T. Schulz (1961; 1971; 1973), G. Becker (1964; 1976; 1993), J. Minser (1958; 1962; 1974), E. Denison (1962; 1967; 1974)) as a capability multiplier of working life to find expression in the integrating productive force built into man, respectively constantly growing and recovering productive charge, which is continuously produced through the "knowledge-education-skills behavioral substance" relationship. In Bulgaria, among the research publications about the human capital, validations of a number of known systemforming aspects can be seen, which can be defined as shared common positions, a needed opportunity ("solid core"): it arises on the grounds of two independent theories – investment in

people and the production of human capital; it is the essence of the application of the economic approach to labour research at both macro and micro level; its growth is a universal historical law, one of the roots of social and economic growth; this capital in modern conditions expresses the labour function of man as a transferable ability, generating interdisciplinary and intradisciplinary productive potential with origin – hereditary components (which are used for the sake of present and future, rather than predatory, which is common practice), natural environment, social environment (science, healthcare, physical culture and sport, education, culture, institutions, etc.); it is an integral part of its bearer (inviolable nature of the right to ownership), while at the same time a person is an accomplice (a leading personal case) in its formation and use (leased for remuneration); education is a process and a result of human capital; the capital under consideration is a co-basic moderator (to know, to be able to predict the future course of development) of the factor-capable determination of the functioning of life in all its forms and varieties; it is part of the organizational capital of every action, every activity and every socio-economic entity; all productive personal quality is human (manifested by abilities) capital, which stimulates working ability and the growth of the productive power of labour; this type of capital functions as accumulated (current value of past investments) opportunities/abilities/capacity to carry out certain activities and therefore its potential is taken care of and exploited throughout the human life cycle; in functional and applied aspect, the interpreted capital is a set of knowledge, skills and experience, which are combined with motivation for

creating innovations, respectively – making necessary changes; the socially necessary source (educational) and starting (applied) ability of a person is manifested as corporate/specifically improved capital; this capital, like any productive form, is not only morally depreciated, but requires the constant return of human physical forces. the costs of creating, maintaining and increasing human capital are of an investment nature and relate primarily to the future; the maintenance of its reproduction is distributed between the individual (the owner), the social guarantor – the state and the real user – the business; human capital has social and economic dimensions of creation (overlaying new capabilities over a long period of time), maintenance and use (which bears high risk); the human capital element in the labour service provokes competitive motives in recruitment, competition in the performance of a particular job, difference in the level of remuneration received, career development, etc.; the apogee of the public recognition of the individual is the degree of performance assessed by the employer (functional role), which is in the form of competence, i.e. the level of capital capacity of individual labour (nominal/educational, incoming/starting and applied/production), its current appraisal; in modern conditions, human capital is a catalyst for modern technological progress and innovation progress; its functioning has a social rate of return because it equally covers market and non-market activities alike, etc.

- c) For competence as an indicator of human capital metamorphosis in providing labour service the following opinions are of fundamental importance: competence (as an institutionally assessed

competence and an improved version of ability) characterises the level of skills (dexterity, ability, etc.) and their practical application; from a different point of view, it is a disciplinary ability matrix; it is an expression of knowledge, experience and beliefs for active work; it is the owner's 'identification' for the 'entry' into the labour market; it is tracked consistently during the recruitment process and evaluation performance; contains a wide range of factor determinants beyond the capability-related ones: individual quality, personal goals, motives, entrepreneurial attitudes, behavioral characteristics, mindset, etc., as well as the created resource and organizational and managerial labour conditions; in the operational activity it manifests itself as a competency approach (widely commented in education and human resources management) based on the interdisciplinary links in training the formation of key competences, etc.

Third, the author approached the execution of the development tasks with several presumptive ideological reflections.

- a) The Bulgarian scientific research program for human capital, taking into account the established in world science general provisions relating to it, actively generates and implements solutions to support the normal functioning of the processes of formation, maintenance, growth and effective use of this national resource.
- b) The programme researched is indicative of striving for the simultaneous balanced synergy functioning of both the organisation of the study (resource-disciplinary and moderator mechanism) and the application of the generated innovations in the reproduction of human capital in the context of its compliance with market

needs (theoretical and empirical) and constant consideration of the reproduced stimulating and neglecting effects.

- c) The theoretical solutions to the anomalies in the functioning of human capital in the country is an important factor in the continuation of the operation of the programme.

The outlined starting solutions presuppose the presentation of the contemporary picture of the Bulgarian scientific research program on human capital.

1. The key element in the contemporary Bulgarian contribution to human capital research: the Protective Belt

In the second half of the 20th century, the active development of human capital issues began in the Republic of Bulgaria. It should be pointed out that that approach was not accepted unconditionally. For example, Nikolov (2003, p. 193) argues that the concept of "...human capital is analogous to the concept of 'wooden iron'...". It is for this reason that the use of this concept is "...extremely dangerous, unscientific, disguising real economic processes". Nevertheless, he makes the stipulation that if the current knowledge accumulated by man is called capital, then human capital has nothing to do with the category of capital of the past. Since this author is an unwavering proponent of applying the economic approach to life activities, it is only more a recognition of the productive power of economic knowledge.

At the same time, there are dozens of economic researchers who perceive the legitimacy of the capital form of man's abilities, and thus of the wealth created by them. Shortly after the beginning of the democratic changes (1989), the first university

course in human capital was started (Kazakov from 1993/1994 at the University of National and World Economy) and the first textbook was published (again Kazakov, 2001). The theoretical foundations of this capital were actively considered. Kanev (1982), Zahariev (1997), Filipov (1998), Dimitrov (1998), Dimitrov and Igov (2003, p. 38); Savov (2004), Zareva (2004) and others see it as a value of the lucrative potential included in the labour behavior of individuals or as the production of a human factor.

At the end of the last and the beginning of the present century, the issues of human capital were invariably present in the reports presented at a number of conferences held primarily at the three higher schools of economics in the country (Sofia, Varna and Svishetov) – Zahariev (1998), Saev (2002), Kazakov (2005), Ivanova (2005), etc.

The geography of the modern Bulgarian conceptual human capital solutions impresses with both theoretical generalisations and methodological grounds for its inevitable presence in the human resources management textbooks in Bulgaria. Moreover, this topic is discussed either independently or in combination with the other types of capital – social (Nedelchev, 2004), organizational (Atanassova, 2012; Borisov, 2019;), motivational (Paunov, 2009), educational and scientific and research (Kirova, Zareva and Matev, 2012) and others.

The Bulgarian achievements in the interpretation of human capital can be summarised in several groups. The results of the research perform function mostly as a protective belt, through which the Bulgarian program serves to overcome the emerging "conundrums" (T. Kuhn) in the functioning of human capital in the country.

First, the particular attention paid to the methodological questions of the analysis of the individual aspects of human capital, which is reflected in a number of solutions, is particularly noticeable.

a) Affirmative positions on the approach and functioning of human capital taking into account the peculiarities of the Bulgarian environment. (Devendjiev, 1998; Zareva, 2004; Filipov, 2006, pp. 63-120; Shishmanova, 2008; Kazakov, 2010b, pp. 46-47, 50, 60; Kirova, 2011; Dulevski 2012, pp. 13-14, 27-37; Atanasova, 2012, pp.146-147, 156-159; Koleva-Stefanov, 2019; Kirova, Zareva and Matev, 2012, pp. 28-30, etc.). The analyses are based on the general theory of capital and its human embodiment. Its immateriality and coexistence with other capital forms – intellectual, information, structural, organizational are subject to interpretation, etc.; the evolution in the theory of human capital; its intellectual component arising from accumulated and built-in knowledge and experience; as a rule, its identity with the workforce, human resources, human potential is overruled, as well as its existence only in post-industrial society; the issues related to its interdisciplinary nature are based on its diverse communication in a biological, natural, economic and social perspective – global approach, urbanisation, standard of living, reproductive capacity, economic situation, religion, tradition, culture, etc.; the attempts to achieve its total economisation are subject to objective criticism; inevitability of its contextuality in relation to population, territory and demographic and economic chain, even within the country; spatial solutions for its identification system with focus on the investment process in man, its

depreciation, knowledge about its life cycle, accessibility to the institutions of human capital formation (educational, health, cultural, etc.); the benefits of the investment process, the company investments in enhancing staff competence, etc.

- b) Proven opportunities of financial and economic analysis for the process rationalisation of investments in human capital in the context of the adaptation of the theory of production function, marginal approach, theory of consumer behavior, theory of income distribution, etc. (Dulevski, 2009; Kazakov, 2010b, pp. 102-131, 166-257; Dulevski, 2012, pp. 27-37, etc.).
- c) Priority is attached to the analysis of the methodological basis of human capital, the application of the technology of financial analysis, the mechanism of return on investment, etc. (Kazakov, 2010b, pp. 166-210; Dulevski, 2012, pp. 42-60, etc.).
- d) the indicator system of human capital has been enriched (Kazakov, 2010b, pp. 32-165; Kirova, Zareva and Matev, 2012 and others) through new indicators of the state and investments in human capital, the system of its measurements, the adaptation of the general risk theory to human capital, etc.
- e) The analysis of sectorial positioning of human capital (Kirova, Zareva and Matev, 2012, pp. 78-240) in its defining starting phases of reproduction – education and science has not been avoided.

Second, from the theoretical point of view, several achievements stand out.

- a) Attempts for a comprehensive set-up, research and finding an applied modern analogue of the classical heritage with respect to human capital (Peowski, 2006; Kazakov, 2010b, pp. 29-43; Kirova, 2011; Atanasova, 2012, pp. 14-158) in synergy, specified to: evolution of the theoretical

view “from labour force to labour and human resources to human capital”; determining long-term lag determination of the economic process from the trends in the demographic system, respectively – the related human capital; unity between man and environment, etc.

- b) Macroeconomic dependencies in the process of formation, functioning and use of human capital in Bulgaria (Simeonova-Ganeva and Panayotov, 2009); Kazakov, 2010b, pp. 181-210; Zareva, 2010; Dulevski 2012, pp. 37-56) have been recognised and assessed: the interaction between the state and trends in human capital and its determinants – healthcare, education, ecology, migration, etc.; limits of implementation of the economic organisation in the processes of the formation and use of human capital; the contradiction “socialisation of the economy – the economisation of human behavior” and others.
- c) The characteristics and aspects of human capital are summarised, which result from the comparative analysis between the different capital forms based on the example of the Republic of Bulgaria (Discriminations..., 2004; Kalchev et al., 2004; Kazakov, 2010b, pp. 140-156; Zareva 2010; Vladimirova, 2012, pp. 99-107; 111-112; 119-130; Tsanov et al., 2012; Kirova, Zareva and Matev, 2012, p. 37; Terziev, 2016): intensive outflow of human capital, delayed reforms in healthcare and education, discrimination of individuals and social groups, policy for people outside the workforce and the discouraged, for people with disabilities; a broad interpretation of human capital, etc.
- d) With reference to the assessment of the transformational manifestations of human capital in the Republic of Bulgaria, significant

interest in competence is demonstrated. Different conceptual solutions are recognised for both its essence and its content and functioning. Particularly strong competence manifestation is observed in sectoral context: social, economic, legal, political, pedagogical, communication, etc. Extremely theoretical and practical wealth of competence in recent years is presented in “Measures of competence” – a collection of reports presented at an international scientific conference held as part of Alma Mater’s Clement Days in Sofia between 3rd -5th December 2020. Competence is presented as: a main managerial tool of human resources: an innovative multi-layer construct (Chavdarova – Kostova, 2021, pp. 40-49); a bridge between labour market and personal growth (Velushev, 2021, pp. 173-184; Tsvetanska, 2021, pp. 291-300); a philosophical dimension and methodological specificity in education (Rasheva-Merdzhanova, 2021, pp. 102-116); transformed skills through education in the working environment with labour market mediation (Philipov, 2006, pp. 314-227; Masaldjiyska, 2021, pp. 222-231) and others.

Third, the application aspects of the designed solutions: recommendations to managers regarding human capital legislation; the acquisition of good European practices; recognition of the costs of companies for the formation, maintenance and use of investment funds with competence assignment; creation of the necessary theoretical basis for economic measurement and evaluation of human capital, including capital: “health”, “migration”, “talent”; effective and efficient use of EU pre-accession and structural funds, etc.

The creative “file” of the Bulgarian scientific research program also includes the effects of radical changes of the environment on human capital (Kirova, Zareva, Matev, 2012, Velushev, 2021). According to Atanasova (2022), flexibility in human resource management in the context of Covid 19 creates, in the long term, the inevitable transformations in work processes (concerning employees and their employers) which are serious challenges.

These conceptual solutions are either a projection of familiar theories about human capital in the Bulgarian environment or a response to identified problematic fields in the labour market. In both cases, generalisations are produced that support the theory and practice of forming, maintaining and using the product-giving of labour force. All this is also a guarantee of the usefulness and vitality of the research program.

2. Contemporary Problem Research Areas

The difficult situation that human capital in Bulgaria is experiencing is filled with a number of challenges which absorb both the negatives from the functioning of the determining factors and those related to the concept for the overall social and economic development, sustained traditions, formulated and implemented strategies and sectoral policies. The scientific research program on human capital is a reflection of all these processes and at the same time their possible positive activator and future protective belt (ancillary hypotheses). In the spirit of a synergy paradigm, the controlled chaotic processes in human capital are a specific a priori notice, which, under reliable management, ensures the progress of the programme under consideration (a heuristic and progressive problem shift). The perception of this aspect

can be presented as a general imperative framework and sectoral institutional problem areas. The latter, giving rise to future research expectations, are affirmative for the extension of the duration of the programme.

2.1. Common basis of the problem framework

There are a number of supporting ideas in the proposed notion of human capital, which, while conflicting (therefore anomalies with destructive power), are also structural and constructive in nature for the **human capital scientific research program in the Republic of Bulgaria**. In this regard, a number of obvious reasons can be put forward.

First, the human capital theory is positioned at the intersection between man, family, state and employer. Through a reliable (mostly) health safety and educational system, a highly skilled workforce is created and effectively used. Monitoring the similarity in the behaviour of the 4 systems is an imperative requirement which, by revealing and solving the emerging difficulties, ensures the reliability of the program.

Second, it is of great importance to understand and solve a group of problems of the educational behavior of man, in connection with and related to: a) the statutory requirement to obtain a certain level of education; b) the natural talents and personal beliefs of the individual; c) the attitude of the family towards the education and training of the children, and therefore a significant part of the human capital theory relates to households and the possibility, with the income they earn, to provide the necessary educational preparation for the future generation; d) educational and professional non-profit organisations operating in the country; e) the attitude of employers providing resources for further

(mostly pragmatic) education and training of their workers; f) other circumstances – human factor determination of socio-economic growth, trends on the labour market and in the field of education, the prestige of current education, interstate mobility of learners, etc.

Third, strategically important resource anomalies are related to: the level and links in the development of science and education, which is a function of the implemented national policy; the mode of differentiation of the pay of complex work (intensely saturated with cognitive and functional-practical elements); the attitude of the young generation to receive further individual education; effective functioning of lifelong learning, etc.

Fourth, undeniable functional practical problem aspects of the theory of human capital such as: motivating the demand for better education paid for with the family income; wage level (current and future); costs (and prices) for education and training, contextually relative to foregone (lower pay) and future (with an expected higher level of remuneration) income; the cost of education and training is borne by foundations and other sponsors and donors; conducting a policy aimed at motivating the high quality of education through decent teacher remuneration, scholarships for learners, free textbooks and educational materials, etc.

Fifth, an essential question related to human capital is finding the right for the moment (and taking into account future trends) ratio between general and specialised preparation; training in specialties by carefully taking into account the future needs of the society; the ratio between the people with secondary and tertiary education, as well as students in undergraduate and master's programmes; addressing continuing education not only towards offsetting school deficits, but

also laying the foundations of future vocational training in advance, etc.

Sixth, we hardly realise that there is some uncertainty making education decisions, for whose inaccuracy society later pays a high price. An example of this is: admission (receiving higher education at all costs and by every person willing to pay for low quality criteria of training is, to put it mildly, a wrong policy); disregarding the opinion of the young person in his professional orientation (family planning, in particular the praise of parents' education, traditions in the family, etc.) always brings unavoidable negatives; higher education graduates starting a job for which secondary education is required is waste of resource; further education and training is in many cases an expensive "post prevention" practice of the education system; the allocation of resources between different schools and specialties does not always lead to a balance in the educational market (the latter is a more complex process, which is not subject to total determination), etc.

Against this background, it is also of fundamental importance to take account of the following circumstances:

- a) the professional orientation of learners is a consensual choice between future practical needs, attitudes of the learner, family behavior, social background, following suit, etc.;
- b) the demand for an education service is a function of the unemployment rate, in an other aspect – mostly of that of the younger generation;
- c) the link between the labour market and the educational market is 'built up' of a number of challenges, the overcoming of which is the key to creating reliable human capital;
- d) the underlying point of positioning stable education is the constant monitoring of the

level and trends in the “education-growth-well-being” relationship;

- e) labour training is a no less important component of high qualification than general education even with a transversal focus (forming the level of initial remuneration), therefore experience should be a post-educational criterion for the level of remuneration (in particular, this is an expression of the rate of profitability of general education and of the various forms of labour training);
- f) the segmentation of the labour market (current and above all expected) is a real basis for the formation of educational fields and individual specialties;
- g) there are many questions to be raised in the mode of creation and use of human capital through education and training, several of which are inevitable: the diploma is not always a true representation of the labor-related skills characteristic of its holder (knowledge, skills, attitudes, relationships); a highly qualified specialist with higher education cannot be created on the basis of the accepted poor educational product/resource (certified by the diploma) of secondary education;; from the hypothesis to guarantee full lecture rooms in higher education and to educate underqualified specialists or – to have half-full lecture rooms, but guaranteeing a high qualification at the end of the education, the second option should be chosen – it is more acceptable for the society, it will incur less costs for correcting possible deficits in training, etc.

These outlining aspects in general are not only typical of Bulgaria, but the disappointing thing in this case is that some of them are inherited even from the socialist period and, as experience shows, are far from providing a

positive solution. In the end, things are most evident in the realisation of graduates. It has become a tradition for strategic documents to constantly identify weaknesses related to this problem, which shows willingness to work for their gradual elimination, but this has remained only a wish for decades now. Obviously, things have not changed positively, as in the Strategy for the Development of Higher Education in the Republic of Bulgaria for the period 2021-2030, in the main challenges sector related to the accelerating dynamics of the labour market is recorded in the first place (p. 15): “1) The gap between labour market needs and the nature of the training received in higher education institutions in terms of both knowledge (need for interdisciplinary knowledge and interdisciplinary training) and skills and competences (need to focus the educational process on the acquisition of analytical, digital and social competences).”

The same meaning is embedded in the first weakness of our higher education, referred to on p. 34, “A gap between the requirements for active social realisation and the needs of the labour market, on the one hand, and the quality of the training received in higher schools, on the other”.

Similar concerns are also presented in the Strategic Framework for Education, Training and Learning in the Republic of Bulgaria (2021-2030). One of the weaknesses pointed out in this document (p. 15) states: “Difficult realisation on the labour market of graduates due to insufficient compliance of the acquired skills with the requirements of the real economy”.

Possible criticisms of the triviality of the considerations expressed in the general framework will have their reasons in a formal form. In fact, despite the theoretical provision of the functioning of the labour market in

the country through the scientific research programme for human capital, some of the radical steps are still the subject of passionate pre-election promises, and later become the subject of prolonged institutional discussions, pointedly adopted strategies, their “humble” implementation in developed programs and policies, actively amended laws, regulations, etc. It is obvious that the adopted inertia of the practical actions makes the programme even more significant and necessary on the one hand, and on the other – it adds to the cost of the scientific service of the functioning of human capital.

This point can also be seen in the presented two sector segments of the ongoing human capital program.

2.2. Main players on the research healthcare and educational field

The formation of the socialised person (personality) is the result of a number of influences. Two of them are of particular importance: abscissa – healthcare and ordinate – educational reflections.

In Bulgaria, the organisation of healthcare is subject to continuous discussions, analyses and proposals for changes. (Delcheva and Atanasov, 2007; Delcheva, 2019, pp. 35-45,84-110) The pro-market reform (whose goal is to achieve high efficiency and quality through competition on the basis of a mixed system of regulations arising not only from the special health laws in force, but also from the commercial law – Valkov, 2010) was initiated in the last decade of the last century, and in 2000 the entire healthcare system was privatised, a mixed public-private market for medical services with compulsory health insurance was introduced. Even then, the exceptional dominance of market regulators of healthcare was clearly

outlined. Unfortunately, this start was not followed by needed subsequent changes. 15 years later, the then Health Minister Dr. P. Moskov (Delcheva, 2019, pp. 36-37) created and publicly defended a set of appropriate changes, a large part of which still remain to be unrealistic expectations whereas another part are partially implemented: eHealthcare (eHealthcare card, electronic medical file, e-prescription); a higher level of health funding; giving priority to medicine over commercial interests (state hospitals should not be commercial companies); implementation of reliable emergency assistance; ensuring competition with regard to sources of funding healthcare; building a model of complementary health insurance – one state fund and upgrading commercial companies; priority of generics in the production and use of medicines; possibility to organise specialisations in small hospitals, etc. It is obvious that these problems are the core of the long-term drawbacks in the Bulgarian healthcare system. A number of pressing tasks arise from them, which are related to: insufficient funding in the face of clearly increasing needs, despite the decline in the population of the Republic of Bulgaria (Delcheva and Atanasov, 2007; Dimitrov and Baimakova, 2014); poor access to healthcare (it does not include some 10 % of the country's population); imbalanced structure of government spending – targeting the largest share of hospital care and neglect of pre-hospital treatment and prevention (Gercheva 2004); insufficient information, rationality and sovereignty of the consumer; lack of a sufficient epistemological mechanism for the dissemination of more information, knowledge, comparative patient data (Zafirova, Seraphimova and Mitev 2010). In this context, the concept of ‘health poverty’, which largely

reflects the negative consequences of the functioning system, has also been introduced in the Bulgarian scientific literature (Veleva, 2022(a)). After all, the Bulgarian healthcare system, oriented towards management built on competitive incentives, which are based on value, with a focus on the patient, health outcomes, complex treatment and improvement of the quality of the healthcare product (Valkov, 2007, p. 258-288; Delcheva, 2019, p. 45) is still far from the needed results that are sought for. This conclusion is also determined (Delcheva, 2019, pp. 84,86,93,102, etc.) by: a) the apparent ageing of the medical profession, the migration of young healthcare professionals, an apparent shortage of nurses; b) the value orientation predetermined the focus of the healthcare service (private cardiological intervention laboratories and hospitals) on the costly and cost-efficient paths of the National Health Insurance Fund; c) a number of medical standards developed are subject to reassessment by the court; d) because of the generation of high income there are preferences for active treatment rather than for keeping beds for long-term treatment; e) regional imbalances in the organisation of health care; f) public hospitals have insufficient resources, they are underfunded and highly indebted, whereas private hospitals charge high monopolistic prices; g) the introduction of diagnostic target groups, as a method of payment, has a long-term expectation period, etc.

There are also gaping deficits in Bulgarian education and training systems. (Filipov, 2006, pp. 255-271, 314-327; Penkova, 2007, pp. 88-122; Penkova, 2019, pp. 61-74,149-185) The guidelines outlined in this sector are: effective use of market information and management in educational structures (Kazakov, 2010, pp. 140-141,149-154, 201-203,

289-299; Parvanova, 2015, Ribov, 2016); fair and even distribution of public educational resources throughout the country (Borisov, 2011, Tsokov, 2011); inevitability of achieving a high level of quality of education and training, the present one does not satisfy even when education is more expensive (Penkova and Valkov, 2015b); increasing the external competition of the Bulgarian educational system (Matev and Zareva, 2010; Matev et al., 2013); implementation of changes in education against the background of the decreasing number of students and teachers (if in 1990 4 people applied for one position in higher education in the Republic of Bulgaria, 30 years later the number of candidates is only 0.6; seeking a way out to limit the share of early drop-outs from the education system, increasing the share of students who enroll in lower secondary education; optimisation of the network of educational institutions at all levels in order to achieve equal access and equality in different territories (Valkov, 2007, pp. 258-288; .School...2013; Boeva, 2013) and others.

These negative characteristics can be expanded and deepened considering the challenges education, training and learning are facing in the 21st century (Strategic Framework..., pp. 11-13): training in conjoining skills – critical thinking, stating informed opinion, initiative in problem solving and teamwork skills; new values and value-oriented behaviour; replacing teaching, memorising and reproducing using interactive methods, personalising learning content and result-orientation; targeting emerging professions; rapid development of science and innovation; taking into account naturally inherited changes – climate, polluted environment, inequality, poverty, intensive migration processes, demographic barriers, etc. In

this context, education is perceived as a key factor (prerequisite) to address a number of societal problems (Veleva, 2022(c)).

Considering the above mentioned and having assumed that each policy “sets” in a subsequent legal framework presuppose the possibility of justifying what has been made to activate the real changes in Bulgarian healthcare and education through established and constantly modified laws.

The report on the number of annual amendments to major health laws is indicative of too much dynamism: The Healthcare Act which was in force for 18 years has undergone 83 amendments (4,611 on average per year); The Health Insurance Act – 4 years, 107 amendments (4,458 per year); The Medical Establishments Act – 23 years and 63 amendments (2,739); Medicinal Products in the Human Medicine Act— 15 years, 26 amendments (1,733).

Similar data on changes in basic education laws are: The Law on Higher Education – 26 years, 54 amendments (2,076 amendments per year on average); The Law on Pre-School and School Education – 7 years (successor to the Law on National Education), 13 amendments (1,857 per year on average); The Vocational Education and Training Act – 22 years, 35 amendments (1,590); The Law on the Development of Academic Staff in the Republic of Bulgaria – 11 years, 7 amendments (0,636).

These results should not be perceived unequivocally. They may be caused by the poor quality of legislation (respectively the low qualification of Bulgarian lawmakers from the respective committees and the parliament as a whole), numerous changes in the Bulgarian reality, changes imposed by the European institutions, coordination with amended texts in other interdependent laws, omissions, etc.

It is obvious that: the implemented healthcare or educational policy inevitably affects the content of the established capital existences in the labour force, an element which must be a priori scientifically rationalised and a posteriori experimentally observed.

Despite these refuting/problem opportunities (untapped!) the human capital research program functions seamlessly, the labour market is maintained in the necessary condition and most importantly – it is scientifically guaranteed. In the Republic of Bulgaria, although slowly, success is constantly sought and realised in the creation and use of competitive human capital. This, as a command of a knowledge-based economy, is a modern global trend. Moreover, M. Blaug (2004, pp. 317-335[1992]) proves that the scientific research programme of human capital is progressive in nature and reliably performs its functions.

Conclusion

The capital characteristic of life activities is a sign of an active product and productive integrity. Experts are increasingly “getting enlightened” in terms of “downloading” the vagueness in objects, processes and phenomena, and the search for unity between them by adhering to interdependent factors and results. Cybernetics, informatics and synergetics provide the bridging connectivity in modern life as content and mechanism of operation. The leading role of capital as a demiurge of the constructive, the personified current in prosperity for all, and strategically as progress is also outlined within this network. Among the many capital forms of existence, human capital has an outstanding priority, and its functional manifestation is the ability and its building competence. The latter ranks as a corporate “law of prosperity”, a spark of

quality and efficiency. Moreover, this capital is also the bonding fabric of the community in which we live: family, colleagues, state, employer, etc. Human capital is a powerful tool for overcoming poverty and inequality in society. (Veleva, 2022 (b))

The article outlines a general set of current Bulgarian research fields that would enrich the scientific theory and social practice: a) in terms of capital - capital and product resource potential; capital existence and capital manifestation; community potential in relation to the three aspects of life activities – nature, man and environment; primary and subsequent transparency of capital; capital in the mechanisms of life reproduction; human resources such as built-in capability and capacity; capital and creative values; capital – advanced and self-increased value; recovery and innovation mechanism of capital; capital reflection on the “wealth and poverty” relationship; fair capital benefit; capital and unemployment; capital and scientific and technical competition, etc.; b) in relation to human capital - social forces and their activity; spiritual forces and spiritual production; the social mission of education; the new civilisation; human capital and material capital; human capital as the main moderator of the driving mechanism of life activities; human potential – human capital – competences; modern responsibilities for the state and trends in the development of human capital; human capital transferrability; regulatory context of human capital – competition and career; the nominal and the real in human capital; the human and personal side of competencies; ability as capital creation; ability – a starting face on the labour market, and competence – a mirror of the created capital result; transversal competences – the main core of the creation

of adequate capital traits of the workforce; the modern capital paradigm of human resources; the pre-emptive applied competencies in the context of dynamic changes; a competence approach to human resource management; knowledge interference in the conditions of a competence approach in Bulgarian education; the “education-growth” relationship – the centreline of capital application in the management of human resources; constant reference of the benefits to the costs of the formation and functioning of human capital (lucrative potential); evaluation of losses related to the outflow of human capital, diseases, injuries, accidents, etc. (the health status is a necessary element of the model for understanding capital); solving methodological issues of assessing the rate of return on human capital at national, regional and company level; the focus on creative thinking rather than memory in education; introducing planetary standards in the formation and use of human capital; comprehensive analysis of human capital investments, etc.

The ideas of the present study were justified because: a) there is evidence of an authentic Bulgarian contribution to the scientific service of the normal functioning of the processes of formation, maintenance, growth and effective use of human capital (a number of theoretical, methodological and practice-related solutions have been generated in organised important research projects); b) the programme illustrates willingness for a balanced creation and use of resource-disciplinary (resource availability and their economical spending), operating as moderators (recognised content of the research elements of the current programme) and competence impacting mechanisms (created and applied new competence resource) with constant consideration of synergy and generated

stimulating or neglecting connections; c) Bulgarian scientific theory strives for the active use of the generated anomalies for the development of new research, the pragmatic solutions of which overcome the deficits of human capital and provide opportunities for further continuation of the program.

In methodological terms, the analysis requires two more generalisations.

The first, the evaluation of the final social character of the scientific research programme (progressive and degenerating) presupposes a number of reflections.

- a) The type of such assessment does not follow strictly (it is not in direct proportion) the capacity of the determining factors of human capital, as well as the level of their quality, but is more than that. The programme strengthens its effect and, along with that, its temporal vitality, only in a synergy mode of operation: science, education, healthcare, economics, institutions, etc. are not autarkic closed systems, but are both intensive consumers and creators of human capital.
- b) The program expands its scope at a high level of deviation between the current parameters of the positive and negative heuristics (the type of problem shift measurable by the achieved one: for the progressive – the “ceiling” and the degenerating “under”). Then the field of scientific service (theoretical, methodological and pragmatic) of the functioning of human capital is greatest, and the established chaos (a conundrum) is of great cognitive intensity. The extensification of the program will be a fact.
- c) The diversification in the ways of the formation of human capital and its interaction with the other capital forms is

a simultaneous result of the establishment and functioning of an expanding program and the related market needs of competent individuals.

- d) The unsustainable nature of the environment in which human capital is reproduced requires the expansion and intensification of its inherent scientific research programme in order to overcome the anomalies that have arisen and to achieve acceptable sustainability and growth.
- e) Chaos and order have different functional influence on the interpreted scientific and research programme: chaos requires quick decisions to limit or eventually eliminate it, whereas order – lasting measures for its relatively long-term maintenance. The transition from one state to the other uses the functioning of the programme in question in its progressive development as a bridge.
- f) It is also necessary to think about the research capital (competences, respectively proven creative competences of analysts), which ensures the viability of the program, the saturation of its reproduction with the necessary qualified staff.
- g) No doubt the program will be progressive, significant and of unlimited duration (this is the command of the knowledge-based economy) if it is fully socially cared for.

The second, the Bulgarian scientific research programme on human capital will be competitive (dominated by a heuristic progressively problematic shift) and continuous if:

- a) its functioning is a proven guarantee of a better understanding of labour market situations, including following the line for the rapid resolution of emerging difficulties related to human capital and the

organisation of the programme (creation of new conceptual predictions);

- b) continuity is ensured with respect to the solid core (the constitution of human capital) and the protective belt, which is successfully built on by local theoretical solutions and empirical experience in human resource management;
- c) there is a desire to follow a line for a possible rapid resolution (strategies, policies, legislation and ongoing actions) of national difficulties ("the factory" of chaos) in the scientific service of the reproduction of human capital in the country;
- d) there is an ambition for theoretical evidence not only to help overcome the current empirical anomalies, but also to boost the program forward with new predictions (residual theory, adaptive expectations);
- e) the maximum use of existing reserves in the preparation and use of human capital, including global achievements in this regard, is strictly monitored;
- f) not only the parameters (state, trends, factor dependencies, etc.) of the area of the scientific research programme are taken into account, but also that of the results (intermediate and final) of its implementation;
- g) the assessment sought can only be a reality if there is a sound information guarantee of the formation and application of human capital through a scientific and research programme.

The present analysis will produce in the reader an idea of the general picture (theoretical, methodological and applied aspects) of the Bulgarian research field on human capital: its leading place, integrativeness, but also its consideration with other intangible assets; the possibilities of financial economic analysis to rationalize

the investment in human capital (procedures, evaluative action, risk, etc.); the measurement of this capital from the positions of the individual, the business and the nation; sectoral situating of human capital, etc. The paper is a defense of the capable moderation of the scientific research agenda on human capital as an inevitable tool of the functioning of the modern economy based on intellect.

The need to develop a well-founded mechanism for the comprehensive evaluation of the human capital research programme and its effective implementation is of paramount importance.

Human-capital reproduction is the driving force of life that must be kept going forever.

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