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## INVESTING INTO HUMAN CAPITAL IN EUROSTRATEGY CONTEXT: METHODOLOGICAL APPROACH

**Summary.** *The necessity of contemporary methodological approaches in research of Euro-strategy reorientation problems from the rates of the economic growth for the human capital role reinforcement and its investing is grounded. The complex measures on activity advancement of the human potential, as each country searches for qualitatively different strategic position to determine new development aims is offered.*

**Key words:** *Human development, human development index, human potential investments into human capital, Euro-strategy, new social and technical combination, computer-human production integration, integral value of higher education.*

A conceptual understanding of contemporary development tendencies of the European community in the future millennium supposes a shift from the rates of the economic growth to stable man development and the definition of base will be the main new development aim. A similar reorientation has put new reference-points before the economic science. It introduces the category of «human development») into the scientific turn. This category means an increase of not only people's income but their education, health, environmental preservation, activity freedom guarantee, and different forming conditions of socioeconomic development. A special measuring instrument «human development index» (HDI) is offered, it includes lifetime judgements, an educational level of the adult population and its incomes, and also sophisticated calculation of the mechanism of the «human potential development index» (HPDI).

While calculating the HPDI detailed data on the majority of the world countries is applied. It is offered as a universal comparable indicator and is used while analyzing the socioeconomic status in separate countries and in the world in general.

The major factor of influence in the HPDI is labor potential, which increases due to the lowering of morbidity and traumatism rates. This brings an increase of labor force quantity and scales expansion of labor activity. The population's health improvement is considered as an important factor of the physical development, population capacity for work increase, and expansion of the possibilities for creation of commodities and accumulation of knowledge.

The investment activity intercommunication and creative labor potential of a worker is a highly unsynonymous process. If this correlation is considered from the point of view of the initial impulse, then primacy absolutely belongs to the lively scientific work. As a result interaction of investing and labor force appears. A level and potential of the latter is determined by such factors as: the scientific and technical world's scientific thought achievements; such qualities as thinking flexibility, creative freedom, research culture. Here science and education form the potential of the scientific-educational society which is an important element of the national wealth.

Human superiority on the variety of the possible decisions over «intellectual engineering») makes labor force which encompasses a few flexible workers which are more expedient than actions of the most complicated equipment.

In the modern conditions, therefore, a lively labor force becomes the most flexible form of corporations' capital and it is revealed in the development of employees capacities, especially the rapid adaptation in changeable, unpredicted world. Unique human flexibility and knowledge are taken into account in the so-called heuristic projects realization variants, addressed to creative worker's capacities. An increasing value of the expert man capacities and thought in the new machinery world stands in the way of a thoughtless computerization of many kinds of intellectual labor.

Realization of the computer production integration is also hampered without men and it turns into computer-human integration which combines new engineering and workers potential while the latter are given optimized functions.

The system's methodological approach explains scientifically that production modernization shortens the immediately productive labor force but expands the indirect attendant (which prepares and provides production processes) and the after-production attendant as well. People actually «revive» engineering! stir up its skilful and effective potential, which is not realized without their intellect and competence, a man transformation into the subject of mastering production the scientific-technical revolution achievements makes «investments into the automation unprofitable without peoples. Now «strong» and «weak» enterprises

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are distinguished, first of all by their labor force quality. A new social and technical combination, that is, of the foremost engineering and skillful labor force, converts techno-economic production process into the socioeconomic one. The largest companies from developed countries refused from «uninhabited» productions on the boundary of the 90s locked production modernization on the synthesis of optimum advantages of the new engineering with developing people's capacities and on the creation of conditions for minimizing their mistakes while controlling equipment. A number of specialists believe that in the future the success will more depend on people, who predetermine the efficiency rather than on computer-controlled means of production.

In the macroeconomic understanding human capital is the main factor of economic growth. Human capital in the most general sense signifies an intellect, knowledge, habits and professional worker's capacities. It characterizes labor force quality, and the worker's possibilities in the labor process.

Scientists of the «human capitals school of thought from the 1950s and 60's, T.Shults, Y.Becker, J.Minser and others, examined the influence of the length of the workers' training, their abilities and skills on their wages, effectiveness and the economic enterprises' growth. Their main task was to define the economic return from human resource investment. It turned out that the return on economic expenditures for employee training exceeds greatly the returns from new engineering and equipment. The given conclusions gave strong impulses for the intensive development of the vocational training sphere in West countries' enterprises. The trade education advancement gave, not only, profits to owners but it increased the workers' contentment and job satisfaction.

Modern theories of human and social capital foresee their joining under the common appellation — the personal capital theory.

They found a special worker's place among various kinds of capital used in production.

Human capital is heterogeneous. It is subdivided into general (mobile) and special (immobile).

The general capital includes theoretical and other universal knowledge having a wide application area and general professional (specialized) knowledge. The increasingly important area of the general human capital is self-training.

The special capital includes knowledge of working place peculiarities, enterprises' and region specific character and etc., and also practical application for this knowledge.

One of the most effective accumulating and applicable models of human capital, especially immobile, capital, is the Japanese system of the life-time employment, which is used in a number of transnational and Western-European corporations in milder forms. The given system provides the maximum growth and fixing of knowledge, skills and habits of the workers at definite enterprises.

In modern production many companies make human capital growth a continuous process. The presence of the most highly competent personnel gives them a great advantage over companies with less developed HC programs, even while possessing the same foremost technology, because the lesser company does not possess the human resources to apply the technology efficiently.

The effective application of human capital is practically impossible without social capital. The notion «social capitals reflects relations between workers, and the method and culture of their interpersonal communication development. Social capital consists of interpersonal communications, solidarity, and ability to work in a group. Moral relations are in the social capital base.

Social capital allows coordination of people's activity rapidly and effectively, mobilization for achieving organizational aims, and transmission of an information.

Social capital development, especially in its modern forms of self-managed brigades, departments and whole enterprises multiplies sharply the return from the physical, financial and human capital, which allows the reduction of expenses to control, training, and occupation adaptation and informing of personnel.

The social human estimation in money terms gives an absolute value. Absolute value knowledge of human capital gives the possibility to build a whole number of indicators. One of these indicators is the production intellectual capacity indicator, which is analogous to the fund capacity indicator.

The human capital value is determined by the economic effect from its application, i.e. by the joint income. The discounted capital of all future incomes forms the used capital value. All expenditures types which bear the expedient character and determine the future «humans income are considered as «investments into the human capitals. The expenditures on healthcare, education, expenses connected with work search, and the occupational training at an enterprise. The investments into human capital are included into real investments and they hold a large significance in the developed countries' economy. These expenditures are directed to labor force upgrading, stimulation of a creative approach to labor, and the creation of such an atmosphere which helps to use worker's capacities as much as possible. According to foreign scientists in economics, the investments into the human capital give the biggest return. The investments into human capital produces rather long-term and integral effects on both economic and social spheres.

The economic effect from capital investment is considered to be income and profit which is derived from the application of the invested capital

Socioeconomic effect is not only the purely economic result in the aspect of production volume increase and the produced production value, and income received, but it is also the improvement of people's conditions, increase in their welfare, the prevention environmental pollution, scientific-technical and engineer-

technological progress, personal development, and the advance of the self-improvement and self-affirmation.

These and similar social effects of capital investments can be both favorable and unfavorable for man, family, region, country, and society. It is difficult to catch, foresee, or calculate them but it is inadmissible to ignore them while estimating investment effectiveness. Social effects should be taken into account as much as possible.

While estimating investment effectiveness one should distinguish the notions of «economic effects and «economic effectiveness»). «Effects is the result achieved for the investment and capital investments credit, whereas «effectiveness» is the correlation between the achieved effect and the investments value. Economic investment effectiveness is determined in the form of the income and the investments profit relationship to the invested capital value.

To estimate the investments effectiveness into human capital (education) the inner norm indicator of education return may be used. This return represents, nominally, the concrete income norm which can be expected while realizing a given investment project. While choosing the project, its inner return norm is compared with the dynamic interest norm. If the former value is less than the latter one, then the investment project into education is beneficial.

Different methods of quantitative estimation of human resource investments are applied in real life. The most widespread method is the principle of future incomes capitalization based upon the regulation on so-called «wealth preference in times. Its essence states that people are inclined to estimate the definite money sum or eblessings sets at present rather than the same sum or «blessings sets in future. The following observation is holds: worker incomes increase as his educational level and age increase, but to the definite limit, as a rule, 55-60 years. After this age, workers incomes of practically all educational levels, have a tendency to sharp decreasing. Within the human capital theory limits, wages are considered in the form of a flaky structure, where the definite education level corresponds to each layer. The concrete layer of earnings size corresponds to the given concrete educational level. So, the economic effect from higher education will equal the difference in the lifelong earnings of a person who has a university degree and a person who has only secondary education.

Higher educational training gives a bigger return. The situation that larger investments into higher education provide greater earnings value are confirmed in practice.

The education contribution to earnings can be defined in the following way. Workers wages with a definite level of education consist of two parts. The first part is the wage level which he would get having a zero level of education. The second part is the wage increase which depends on education or it is a profit on the human capital formed as a result of investments.

The return norm indicators can be used for analysis of the long-term tendencies in the labor market. Under the free competition conditions the lack of professional and skilled labor will bring an increase in price of skilled labor in that specific labor market. This will lead to the investments return growth for their training. The increase of the investments return norm for education (professional-qualifying training) will bring about an increase in the number of employees who seek training (professional education) and re-entry into the labor market. Then labor supply increases gradually and the lack of professional labor is removed from the labor market. Under the supply and demand equilibrium for the labor market the correlation between the expenditures to labor force training for a given level and its wage level will be optimum and return norms will be equal.

It should be underlined not all enclosures into man can be recognized as investments into human capital, but only those which provide national wealth growth and are proved to be correct morally and are expedient from the point of view of legal interests.

The importance of human capital research in national wealth growth is confirmed by the data proposed by World Bank experts.

National wealth estimation in the world's regions (92 countries) in 1994 gave the following results for Western European countries: \$ 237,000 per capita, including \$ 177000 in the human capital. The given data shows that human capital prevails in the national wealth structure and it makes up about 2/3 of its total estimation. Moreover, in Western European countries it reaches 2/3 of the total value of national wealth. Thus, the thesis becomes that the accumulation of knowledge, experience, skills, health, physical development level, and other quality of life characteristics become the main factors of reproduction, not the accumulation of welfare and services, as we near the end of the 20<sup>th</sup> century, \$15-20 trillion is spent annually on the realization of this new thesis.

The national wealth conception broadens the notion of «accumulation» by including the essential part of consumer expenses, which forms human capital. In most countries the current consumption is 65-70 percent of total value of GDP.

In the structure of world annual GDP in 1990s, which totaled \$ 25-30 trillion, human resource investments constituted about \$ 20 trillion. Thus, the whole restoration cost of human capital in the world today can be about \$ 500 trillion for a quarter of the century.

The education level advance of man significantly effects the human capital quality, which is the main multiplication factor of society's wealth.

The human capital investment period is considerably longer than the physical one. In education alone it

can reach 12-18 years. Besides, on the data base about the number of training years and expenditures put into the training by a family, a state, or enterprises and organizations, one can expose accumulated knowledge potential on the definite data. A re-calculation of estimations in US dollars allows to make international comparisons and to determine the size of the given potential in countries and the world exposing the conformity with regularity and the dynamic processes which are occurring.

The optimum correlation between the needed level for normal functioning of available working places and the actual education level and professional training of labor is a special problem of the achieved education level. The aspiration for providing this optimum allows regulation of current ~~009ula.tv.Q0~~ ~~tsavoixvsj~~ awi does not permit the structure deformation of the citizens' potential. The education level characterizes accumulated educational, labor, scientific, intellectual and creative potential.

Human capital functioning, the degree of its return, are determined by the subject's individual interests and preferences. Individuals admit the definite decision on investments into their education, health, professional training on the comparative base connected with the given investments profits and costs. The profits are expected in future forms of higher incomes, receipt of prestige work, advancement of social status and others. Costs are determined by the money appraisal of the realized expenditures for education, training and by these alternative investments costs.

The investments into higher education realized by private persons, as a rule, are fully repaid and bring essential profits. The private education return norm for receiving a bachelor's degree is from 11,8 to 13,3 percent, for one year of post-graduate level -8, for a master's degree — 7,2, and for the Ph.D. — 6,6 percent. It is necessary to note that a calculation of education value only in money terms understates its actual value both for the worker and for society as a whole. Higher education has a number of additional non-monetary advantages", a great independence to decide, creation, less monotonous labor character, better working conditions, big communication possibilities, more meaningful social status and others. A calculation of these non-monetary gains combined with being highly educated characterizes its integral value. The program Tempus-Tacis, which was started in 1993 in three countries (Ukraine, Russia, Belarus ) represents this interest.

During 1993-1999 EC invested 20,476 million ECU into reforming of the higher educational system of Ukraine through the Tempus-Tacis program by financing 85 projects in 30 higher education establishments.

4 million Euro has been allotted for 1999-2000 school year within the Tempus-Tacis program framework. During the 6 years of the Tempus -Tacis program 300 claims on the projects were given and they included about 1000 higher education establishments of Ukraine and the European Union.

A new program which is called Tempus III is projected for the period of 2000-2006. Its main goals is to establish interconnections between universities and colleges of EC countries and their partners in Eastern Europe, to confer grants for exchange and technical aid within the educational programs framework and aid in the technical teaching.

It is foreseen to allot 35-40 million Euro into the Tempus III program. A number of Central and Eastern European countries will take part in other EC programs, such as Leonardo (professional training ) and Socrates (education). The South Korean experience of high investments effectiveness into education deserves attention. The country, being in an extremely challenging time during 1960s and 80s turned into one of the most powerful Asia states, which is competitive with many developed countries.

The economic aspects of education have an important role in the human capital theory. Education is considered as main factor of economic growth.

One of the main means of personnel control is personnel training. At present American employers spend \$ 30 billion a year on employee training and retraining. The upgrading departments of American companies spend about 30 per cent of their budget to implement computer-based educational programs. On average, companies spend 1,4 percent of the wages for training purposes. At the same time «IBM» company spends \$ 250 million or 5 percent of the wages for these purposes. «Xerox» spends 4 per cent accordingly.

European and Asia countries expend relatively more funds than the USA. In France, for example, the legislation demands from employers to expend not less than 1 percent of wages funds for these aims. In such countries as Germany, Sweden and others teaching is stimulated by tax deductions and bounties.

As to managers training it should be noted the presence of two extreme approaches: American and European. According to the USA model administrative personnel get the main managerial training before the beginning of their career at universities and business schools which give out yearly about 6000 Masters diplomas of business administration.

The European model of the managerial personnel training has many common features with the Japanese model. The main attention here is paid to acquisition of administrative knowledge and habits on the base of practical work experience with the subsequent systematization during retraining and upgrading. The state tax policy has to stimulate professional training. Such methods, long ago, were applied and proved their value in developed countries. As far back as the 70s in the USA, a special law «About investments into the labor resources\* was adopted, according to it, enterprises and companies realizing professional collaborators and citizens training get essential privileges on income taxes. In Germany enterprises, occupied with professional training and retraining of young employees, have payments which cut down on social security, which varies from 50 percent of the total amount of compulsory payments to the absolute liberation. This

situation is also employed in France.

The most important problem is to stimulate national and foreign investments, resources, and first of all, people influx into high technologies, science, education spheres. Hence, it is necessary to create the objective investors' personal interest in the science, engineering development and man as a subject of creative activity.

In this context special arrangements for stimulation of investment activity should be offered. On our opinion they must include:

- the creation of special development institutes providing the investment projects financing on the preferential conditions;
- active application of budget funds and credits to attract private investments;
- income tax reduction for companies directing their investments into the human capital.

The above mentioned measures will provide the investment activity advance into human capital.

The world community experience shows that an economy oriented on investment activity stimulation allows direction of the economic development to the application of innovation, creative worker potential, and each country's search for their own qualitatively different investment strategy providing general solutions to the investment crisis. As it is known, the investment process ineffectiveness in a number of countries, in many respects, is explained by the functioning of organization and financial mechanisms defects in the given sphere, whereas, the economic growth of any state is determined largely by the activity level of investment processes.

New investment Ukraine strategy on perspective will allow largely to concentrate various sources, to increase volumes of investment resources and provide the investment activity advance.

Proceeding from this, Ukraine scientists in economy tasks are to give conceptual suggestions and constructive recommendations on investing stimulation into human capital. To our regret, at present a considerable «Leakages of the national capital is observed . This capital could be invested into the domestic economy. According to existing estimations about \$ 250-350 million leaves the country each month, it is approximately 5 times as much as what invested in Ukraine. The question is actually about the economy disinvestment.

Proceeding from the G. M. Keynes theory and world experience for stable economic development, investments should amount to not less than 19-20 percent from the country GDP (Gross Domestic Product).

In the capacity of one of the financing sources capital streams which developing countries export to the developed countries economy, can be used.

Investments reorientation could become very progressive. Today transnational corporations and other institutes realize investments in order to preserve scientific-technological monopoly. The reorientation should be made on the contrary side: to create open programs for the European community. These open programs allow the use of modern scientific-engineering progress achievements.

The European Union strategy on Ukraine human capital investment should provide the acceleration of its integration.

#### Literature

1. William F. Sharpe, Gordon J. Alexander, Jeffery V. Bailey. Investments Пер.с англ..-М.:ИНФРА-М., 1997.
2. Рональд Дж. Эренберг, Роберт С. Смит. Современная экономика труда. Теория и государственная политика. Пер.с англ.-М.Изд.МГУ,1996.
3. Евробюллетень 1999,№1.
4. В.В.Гончаров .специфика управления важнейшими ресурсами. М.:МНИИПУ 1998.
5. Human Development Report 1997,UNDP,р.146-148.