

Education reform in context of innovative development of the Russian economy

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Abstract. The article is devoted to new tendencies in higher education within educational reforms in context of innovative development. It shows institutional changes on the basis of market principles, deal of valuable orientations, accompanied by essentially new priorities in character, forms, tasks in system of higher education; and also negative consequences of these changes connected with the competition of higher education institutions for financial sources and destroying the main values of education. The special importance of the human capital and growth models in which education allows using positive exogenous factors more profitably is noted.

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Introduction

About importance of an education reform today speak practically in all countries. In modern world higher education is put on the main place in national programs of ensuring competitiveness, and higher education institutions are considered as "economic engines" in production of knowledge by researches and innovations, move forward to the center of "modernization agenda". Continuous growth and modification of expectations and inquiries of society to education are explained by that higher educational institutions test gravitation of many global phenomena (growing value of economy of knowledge, growth of competitive environments, massification of higher education, diversification of high school sector) [1].

The reasons connected with competitiveness, coordinate with Bologna Process which increasingly stimulates and accompanies changes at national level. However from economic point of view the situation looks much more difficult. While higher education of countries differs owing to their geopolitical situation, the current economic situation and their historical trajectory, even in one national system higher education institutions differ among themselves on mission and profile, strategic choice which they can make and do, on local and regional contexts, on ability to precisely understand signs of time and to adapt for them. The majority of national governments and heads of higher education institutions continue to consider national or regional context as some kind of filter through which there has to pass implementation of Bologna Process. From here it is unreasonable to do generalizations and to try to apply them equally to all countries.

Steady immunity to innovations

Reality such is that the economy of Russia shows steady immunity to innovations making a basis and a content of modernization which is today's challenge. Researches show that modern corporate economy follows an innovative way of development with observance of institutional (separation of property from management and maximizing long-term growth following from this) – and macroeconomic (observance of cost and technological conditions of growth) prerequisites. The empirical facts say that these circumstances are absent in modern Russia.

Table 1. The main indicators of innovative activity of extracting and manufacturing industry, production and distribution of the electric power, gas and water (in %) (Calculated on: [2])

Indicator	1999	2001	2003	2005	2007
Costs of technological innovations (in real terms, % in relation to 1995)	98,2	153,6	200,6	167,0	209,8
Share of enterprises carrying out innovations	6,2	9,6	10,3	9,3	9,4
Share of innovative goods and services in shipped production	3,7	4,2	4,7	5,0	5,5

The low susceptibility of the Russian economy to technical progress is visible, first of all, from a deplorable condition of fund of fixed capital of the country. According to calculations, now the

average term of life of machines and the equipment in industry, including investment mechanical engineering, makes more than 21 year that is twice more than a similar indicator of 1990 (10,8 years). Low interest of the Russian companies in technical progress is confirmed by data on innovative activity of enterprises (see Table 1).

These tables, at first sight, testify to increase in expenses of the Russian enterprises at innovations more than twice. In fact, for all this period the share of enterprises which are carrying out innovative activity, didn't exceed one tenth, and the share of innovative goods and services in shipped products of production sector remained less insignificant 6 percent.

About education as growth source

At the same time Russia belongs to a small number of countries possessing advanced scientific and innovative potential. Despite a number of negative tendencies of the period of active reforms of the 1990th (decrease in science funding, reduction of number of personnel occupied with scientific researches and development, decline in demand for scientific production) Russia to the beginning of the XXI century disposed of 12% of scientists of the whole world, and a third from them was aged less than 40. However the saved-up scientific and innovative capital of the country represents, first of all potential competitive advantage of Russia. Some indicators of productivity of domestic science in particular testify to it. For example, by the beginning of the XXI century the share of Russia in the world market of knowledge-intensive production made 0,3% at potential opportunity to control 10-15%.

In traditional neoclassical theory of growth it was claimed that economic growth is the result of accumulation of the physical capital, increase in labor and technological progress which increases capital and work productivity. However the neoclassical model considers technological progress as an exogenous factor; it doesn't explain it. In the new theories of growth (Lucas, 1988; Romer, 1987; Romer, 1990) is claimed that productivity increases thanks to internal factors which are connected with behavior of people, with the human capital [3, 2, 4]. These factors also are driving force of increase in capital. Growth models in which the decisive place is allocated for human capital, show how education allows using "positive exogenous factors" more favorably within production process. Educated people use the capital more effectively therefore distinctions in education level in a certain measure explain existing inequality in income levels between rich and poor countries or between country regions. That's the reason for continuous growth and

modification of expectations and inquiries to education.

By analogy to the physical capital assessments of contribution of education in increase of the national income is possible to receive, multiplying a gain of educational fund by norm of return of "human investments". In this case education acts as an independent factor, as a special type of the capital as a result introduction of which traditional neoclassical model of growth (it can be considered as elementary option function of Kobb-Douglas) takes the form of:

$$Y = BKaLbHc \quad (1),$$

where: Y - production volume; B - the parameter of function; L, K, H - volumes of work, the physical and human capitals; a, b, c - coefficients of elasticity of release on these production factors. However to define a contribution of education to economic growth, it isn't obligatory to count the size of the saved-up human capital. Education can be considered not as the isolated source of growth, but as the qualitative characteristic of factor of work:

$$Y = AKa(LE)b = AKaLbEb \quad (2),$$

where: Y - production volume, A - the parameter of function, L and K - work and capital volumes, E - an index of quality of the labor, received by weighing of number of educational categories on their relative salary (during the basic period), and b - coefficients of elasticity of release on the capital and work.

T. Schultz in due time addressed to the first of these two methods (Shultz, 1971), and the second way took E. Denison (Dinison, 1974). Results of researches were very close. T. Schultz's estimates concerning what part of a gain of the national income of the USA falls to the share of education, ranged from 16,6 to 33,3% [5]. E. Denison's assessment was in the same limits – 24% [6]. At the same time high level of the saved-up human capital doesn't automatically guarantee high rates of economic growth. Many countries of the world other things being equal lag behind the countries and regions with similar or even lower indicators of a condition of an education system. The similar situation is explained by a variety of reasons. First, it is connected with inefficient use of available human capital. Example of the last is employment of people with the higher education or high qualification on jobs where this knowledge and qualification aren't required. Secondly, irrational implementation of investments into the human capital leads to it. So, it is possible to increase number of places at universities, to continue and expand training of specialists according to old programs and textbooks without changing requirements of labor market. Thirdly, incorrectly chosen strategy of development of country including in the sphere of higher education, also can lead to decrease in rates of economic growth at rather highly educated population. The empirical researches accomplished in the last decades, name education as the

most significant factor of economic growth [7, 8, 9]. This factor pushed aside such important variables, as savings (investment) and population growth. The close interrelation between the macroeconomic growth and a development of education formed a basis of formation of economic policy of active stimulation of investments into the human capital.

About the reasons of no innovative behavior

It is impossible to disagree with opinion that the competition of higher education institutions for financial sources eventually destroys the main values of education. Certainly, it is necessary to look for the possible effective mechanism of communication between large business and higher education. However, considering that from all enterprises in the country only 9% are the enterprises of innovative character (see Table 1), orientation in training only on their model of experts, may promote preservation of backwardness and remaining on a trajectory of catching-up development. Not less than important factor here is that the Russian large business is based today upon informal control over the assets, providing dominating group domination over enterprises [10].

Mainly informal character of infrastructure of control, opportunity to challenge informal "rights" generates continuous process of redistribution of property in Russia by "quasi nationalization". As a result of a similar constant threat to "expropriation by colleagues on a class "becomes the fugacity of temporary orientation of domestic business". Then Russian owner appropriates not enterprise profit, but a short-term insider rent, i.e. the income taken at the expense of control over financial streams of enterprise which appeared defining factor of formation of structure of the prices and intersectoral financial streams in our economy. I.e. extraction of insider rent defines distribution of the national income in our society. Inevitable consequence of it is narrowing of capacity of domestic market (since in modern society demand of hired workers composes its basis), decrease in sales volume of domestic companies, falling of their profit, respectively restriction of accumulation of funds and undermining incentives for long-term investments and innovations.

The disparity of the prices in Russian economy developed in favor of capital group from export-oriented energy and materials sector and to the detriment of manufacturing industry. The branches put in adverse situation by disparity of the prices, appear in the grip of "vicious circle": low or negative profitability – lack of investments (internal and external) – impossibility of modernization. Fig. 1 shows that in the 2000th year's profitability of assets of fuel and energy complex was significantly higher

than average profitability on economy, and agriculture and mechanical engineering – is significantly lower.

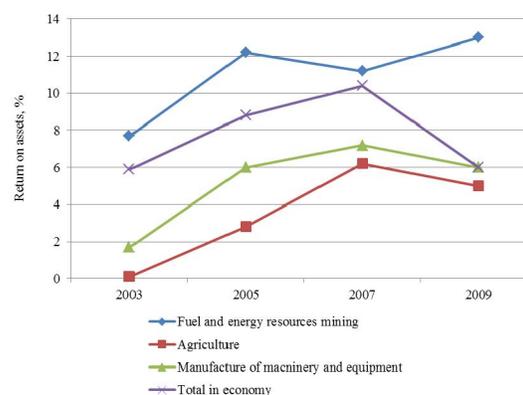


Fig. 1. Profitability of assets by some types of economic activity in 2003-2009 (Source: [11])

The systematic withdrawal of insider rent from enterprises with its subsequent accumulation abroad conducts to the same consequences for macroeconomic policy, as "balance recession" in Japan [12], but in more destructive kind. In fact, efficiency of tax incentives and monetary policy is lost as, for example, funds saved thanks to decrease in taxes, will be appropriated by dominating groups in the form of rent, and won't lead to increase in production. Defective investment strategy of domestic companies is a result of orientation of Russian large business to extraction of a short-term rent with all its micro and macroeconomic consequences. Namely by that no innovative behavior of domestic large business explains.

Conclusions

Implantation of institutes of the countries – pioneers of post-industrialization doesn't promote solution of problems of catching-up development of Russia. Educational activity, being involved in environment of market economy (even if perceives its institutes), creates a number of complex problems which aren't finding unambiguous solution today, but assuming special aspects in institutional maintenance. The most serious problem of higher education is connected with that mass character aggravates a problem of quality of higher education and forms pseudo-education sector. Steady immunity to innovations of the domestic companies are result of orientation of Russian large business to extraction of short-term rent with all its micro and macroeconomic consequences. In this regard relevance of change of university economic education should be noted. The logic of solving the problems considered by us can't

be opened on the basis of neoclassical theory as positivistic methodology which was its cornerstone doesn't allow analyzing social economic nature of institutes of capitalist society. The main goal of economic education has to become not an indoctrination of the student on the basis of the modern mainstream which has appeared in crisis together with world capitalist economy, and inoculation of skill of independent thinking. Only attentive studying of alternatives offered by different schools of neoclassical and classical traditions, their careful analysis on the basis of real experience of innovative development available in the country can serve it.

Important factor in analysis of institutional bases of formation of market of education is that undoubted comparative advantage of Russia, especially in comparison to level of economic development of the country, is high educational level of its population. This factor needs to be considered from the point of view of: - implantations of market institutes of the countries which are at a post-industrial stage of development; - readiness shown by the population to invest in education significant means (sociological inspections testify that Russians are ready to invest in education not only much more, than citizens with similar level of the average per capita income, but also more than citizens of the countries with much higher level of income); traditionally dominating role of the state in financing and service in sphere of higher education.

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References

1. Miller, W.L. and L. Morris, 1999. Fourth Generation R&D: Managing Knowledge, Technology, and Innovation. John Wiley and Sons, Ltd, pp: 40.
2. Glebova, I.S., R. Sadyrtidinov and D. Rodnyansky, 2013. Impact Analysis of Investment Attractiveness of the Republic of Tatarstan on Fixed Investments of its Leading Companies. World Applied Sciences Journal, 26(7): 911-916.
3. Hadiullina, G.N., L.F. Nugumanova, N.G. Bagautdinova and B.A. Averiyarov, 2013. Transformation of the households functions in the modern Russian economy. World Applied Sciences Journal, 27(13): 111-115.
4. Dumont, G. and M. Huzmezan, 2002. Concepts, methods and techniques in adaptive control. American Control Conference (ACC) (issue 2), Anchorage, AK, USA, pp: 1137-1150.
5. Pushnoi, G.S. and G.L. Bonser, 2008. Method of Systems Potential as "Top-Bottom" Technique of the Complex Adaptive Systems Modelling. In Ang Yang & Yin Shan (eds.) Intelligent Complex Adaptive Systems. Hershey-London: IGI-Publishing, pp: 26-73.
6. Safiullin, M.R., I.G. Samigullin and L.N. Safiulli, 2013. Model of Management of Competitiveness of a Machine-building Complex. World Applied Sciences Journal, 27(13): 212-216.
7. Allen, J., 1997. Economies of power and space. Geographies of economie. London: Arnold, pp: 59-70.
8. Gainova, R.A., R.N. Shaidullin, L.N. Safiullin and E.M. Maratkanova, 2013. Infrastructural Component in Maintenance of Competitiveness of Region. World Applied Sciences Journal, 27(13): 97-101.
9. Carlsson, B. and R. Stankiewicz, 1991. On the Nature, Function and Composition of Technological Systems. Journal of Evolutionary Economics, 1: 93-118.
10. Bagautdinova, N.G., S.K. Eshugova, U. Saipullaev and E.A. Karasik, 2013. Methods of technology commercialization in projects of the agrofood system (AFS) development. World Applied Sciences Journal, 27(13): 48-52.
11. Isaeva, T.N., L.N. Safiullin, N.G. Bagautdinova and R.N. Shaidullin, 2013. Aspects of a multi-level study of competitive performance of objects and subjects of economic management. World Applied Sciences Journal, 27(13): 116-119.
12. Taylor, P.J., 2004. The New Geography of Global Civil Society: NGOs in the World City Network. GaWC Research Bulletin 144. Globalizations, 1(2): 265-277.

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