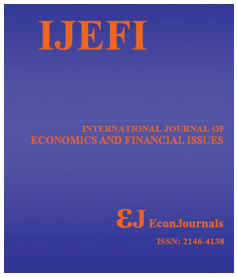

International Journal of Economics and Financial Issues

ISSN: 2146-4138

available at http: www.econjournals.com

International Journal of Economics and Financial Issues, 2016, 6(S1) 163-167.

Special Issue for "Theory and Practice of Organizational and Economic Problems of Territorial Development and the Effectiveness of Social and Economic Systems"

Structural Contradiction of Economic Growth as a Threat to the Human Capital Reproduction Process in Russia

Petr V. Solodukha[1], Ekaterina S. Vasiutina[2], Nataliya A. Korolkova[3], Sergey G. Erokhin[4], Vladimir K. Starostenko[5], Liliia V. Matraeva[6]*

[1]Russian State Social University, Moscow, Russia, [2]Russian State Social University, Moscow, Russia, [3]Russian State Social University, Moscow, Russia, [4]Russian State Social University, Moscow, Russia, [5]Russian State Social University, Moscow, Russia, [6]Russian State Social University, Moscow, Russia. *Email: matraeva@rambler.ru

ABSTRACT

The paper reviews the short- and long-term impact of economic growth on the human capital reproduction process. The economic growth is presented as a total of the three constituent parts: Structural (potential), cyclical and conjunctural components. Based on the 1999-2013 data, the individual effect of each component of economic growth on qualitative and quantitative indicators of human capital is analyzed. It is shown that to date no conditions for economic growth in Russia through expanded human capital reproduction have been created.

Keywords: Economic Growth, Human Capital Reproduction, Resource Curse, Balance of the National Economic System
JEL Classifications: O10, O40, E24

1. INTRODUCTION

One of the major problems in the national reproduction theory is the actual balance of an economic system, which, in turn, should be based on the establishment of proper reproduction proportions (Korolkova, 2012). For the purposes of the investigation of the sustainability of economic growth it is interesting to examine the interrelation of the components of economic growth and human capital reproduction: Each component of the former process has an individual effect on the quantitative and qualitative characteristics of the latter. Furthermore, based on the postulate that human capital is a major factor of the economic growth proper, inadequate conditions for expanded human capital reproduction would result in the deceleration of the economic development rates.

2. TECHNIQUE

Recent research studies on the subject identify three constituent parts of economic growth: Structural (potential), cyclical and conjunctural components (Idrisov and Sinelnikov-Murylev, 2014). The first component is an economic growth resulting from the involvement in production of additional labor and capital and their improved efficiency. According to Idrisov and Sinelnikov-Murylev, the cyclical component is based on the Russian business cycle, but there is a good reason to examine this component in a more comprehensive sense, from the perspective of the development cycle generally. Specifically, the effect of innovative drivers of economic dynamics on economic growth is of special interest. The conjunctural component is determined by price terms on the world commodity and services markets. For the Russian economy, the behavior of prices for oil and energy resources is most important. To specify this type of dynamics, the concept of raw material cycle has been introduced; however, essential characteristics prevent its association with the second component of economic growth, as the raw material cycle reflects price behavior, while the actual cycle reflects production dynamics.

The structural component is defined as the theoretical potential economic growth rate at the middle phase of the economic cycle with average oil prices for 15-20 years (Idrisov and Sinelnikov-

Murylev, 2014). This makes the potential component the major component of economic growth. In the macroeconomic theory, the increased potential of an economic system implies the shift of the long-term aggregate supply curve and results in changes in the economy that affect the natural overall production. It can be expected that constantly expanding production capabilities simultaneously engage additional labor resources. It is the change of structural component that brings about a certain multiplying effect of human capital investment when primary changes in the structural component are reproduced via direct and indirect dependences. It is possible under the conditions that economic growth raises the rate of return on education. The structural component growth is accompanied by the investment output growth including human capital investments. According to Acemoglu there appear crucial prerequisites of multiplying effect during human capital accumulation both per worker and in the country as a whole (Acemoglu, 1996). The transmission mechanism is the investors' expectations. If the human capital investment leads to an increase in number of qualified specialists then companies advance investments in physical capital expecting expansion of qualified labor supply on the market and corresponding increase of physical capital output. Thus, part of multiplying effect appears from alteration of future physical and human worth of companies. Such effects of increased output of both human and physical capital with the growth of human capital stock, emerge in firms, regions and countries. Increased output of human capital investment in major cities attracts qualified labor force. Migration upheavals originate as part of human capital investment process. These facts confirm multiplying effect under human capital accumulation and population density growth. So population growth with the accompanying quality and increase in education level is a significant factor of economic advance and efficiency development.

This viewpoint is corroborated by the Okun's law. Modified for short-term periods, it is justified to interpret not only the cyclic unemployment impact on output as an independent variable but also in reverse when aggregate income change influences level of factual unemployment in the country. In other words the increase of structural component of economic growth would lead to a drop in factual unemployment proportional to empirical sensitivity coefficient of factual unemployment level to gross domestic product (GDP) dynamics. Though in Russian economy Okun's law was considered negligible, its calculation was carried out in relation to the economic growth in general, without allocating structural components. This can account for a weak correlation between rates of economic growth and level of factual unemployment in Russia.

With the structural component being a priority one, processes of expanded reproduction of human capital are intensified in the economy. The impact will be made in two ways: First, the economic growth objectively stimulates the demand for labor as a factor of production. Second, technological changes also stimulate investment in human capital (education, healthcare, etc.). These changes are possible when a critical mass of knowledge is created that can be transformed into innovations. Nordhous and Shell have proposed theory-substantiated theories of economic growth where technological progress is viewed as a result of conscious choice made by economic agent. These models proposed that new technology development is determined by monopolistic quasi-rent acquisition that developers will get for a period of time until new technologies appear (Nordhous, 1969; Shell, 1973). General explanation of economic growth is that technological upheavals emerge due to knowledge accumulation, performed by fundamental sciences and funded by universities, public research institutes that exist outside of market system that the model describes. But there is evidence that structural component of economic growth depends on economic decisions as much as physical capital accumulation. Entrepreneurs look for new ways to earn a profit and only one method remains - New ideas creation. So technological changes will be accompanied by expanding flow of human capital investment, because striving for profit instigates new knowledge implementation and innovation realization. Thus new knowledge and innovation production processes have to be implemented in such a way so that they would not only create economic growth but also they need to be stimulated by economic growth themselves.

In 1908-s two major theoretical approaches to endogenous growth were formed. The first stems from availability and level of human capital development, that is included in innovation process (Romer, 1986). This approach is often called Neo-Schumpeterian. Schumperter introduced the term "creative destruction" to describe constant search by entrepreneurs of new ideas and technologies, realization of which renders competitors' ideas and technologies obsolete. This approach was developed by Aghion and Howitt (1998). In other words technological changes are both brought about by science and are science output stimuli, advancing economies' efficiency functioning, which shows that they are based on rational economic decisions.

The second approach, formulated by Lucas in his "Mechanisms of economic growth" stresses the importance of human capital accumulation as a factor that explains economic growth (Lucas, 1998). Romer in "Endogenous technological changes" (Romer, 1990) proposed that all of humanities knowledge potential is used both to increase productivity and to develop technological potential. He demonstrated that stable growth is directly connected to accumulated human capital stock (knowledge and skills). Lucas viewed human capital as another factor of production. He stresses the social effect of education assuming that average level of human capital development positively impacts the individual efficiency (Melmeester and Debo 2009).

Endogenous growth models put research and development (R&D) at the center of analysis. They predict income per capita growth is determined by amount of resources directed to R&D (Izushi 2004).

Examination of some national economies with a potential shift has shown a rigid correlation between the GDP growth and basic indicators of human capital reproduction (Vasiutina, 2011).

With the focus on the cyclical component of economic growth, the picture will not be so unambiguous, as the duration of cycles should be taken into account. In a standard business cycle, the

dynamics and nature of the human capital reproduction strongly depend on a particular phase. Bearing in mind the long-wave theory, the process under review may fail to show an expanded type if the economy has not capitalized on the positive momentum of the upward wave (Calderón and Fuentes, 2014).

During the decline stage along with government spending decrease (education healthcare) negative institutional shifts are possible. Their conductor is the government social policy that, under the conditions of negative market conditions, is based on the principle "social stability on the foundation of tacit agreement between government and population results in survival economy. Specialties of social policy of 'maintained survival' are reduced to basic needs of society being free, naturalization of consumption and exchange of goods and services, bringing about 'collective survival' social model" (Shkaratan, 2005). However such policy creates pre-requisites to formation of inefficient social institutions. As a result their functioning creates an institutional trap that hinders human development and can even lead to degradation.

Such a scenario become possible because during the decline phase the social policy oriented at survival as an attempt to maintain status quo which prompt the population to accumulate social and not human capital. People attribute life's success with inclusion in social networks, controlling processes of administrative and natural rent distribution, that is gained by formal and informal means. That's why the majority of people attribute their profitable job placement and success in life not to quality of education but to good relations that allow to get a position in financial, managerial or trading fields. This type of structure in its essence promotes development of specific social capital that frequently suppresses human capital. Human capital development stimuli include competition, motivating an individual to improve, accumulate knowledge, skills, advancing one's cultural level in order to win competitions against other individuals in professional fields. Social capital on the other hand as an expression of embeddedness in social networks embodies domination of one's social networks over other's. Here monopolism becomes more prominent, desire to use the totality of relations, powers of authority to gain control over a particular resource. As a result value is attributed not knowledge itself but the document that signifies it, allowing to receive a higher position in the network. Formal indicators of human capital development become self-sufficient.

During the upheaval phase the material basis for human capital investments improves, however, with increased income there are institutional prerequisites devoted to extensive use of resources which induces putting off human capital investments. During the upheaval phase cost-cutting on human capital investments may lead to ruinous type of economic growth that creates foundation for economic crisis.

Taking into consideration Kondratev's long wave theory one can speculate that any upward wave accelerates human capital components: General level of education and professional education, science, entrepreneur's potential, competition, ideology of life and labor - All allow to implement key innovations that lay the basis for new technological mode. At the same time innovations in professional education, economy, government management, social life instigate a dramatic increase of labor productivity. The new technological mode is characterized by parameters that indicate accelerated development of human capital over technologies due to increased investments.

Innovation waves and cycles are complex. In fact they waves of knowledge accumulation and their temporal classification is relative. Human society development was made possible through advance of the main subjects of development process - educated people, professionals, the elite. Along with formation, improvement, growth and advance of intellectual development medium such as books, patents, licenses, methods, technologies including IT and also scientific schools, laboratories, universities and other embodiments and carriers of knowledge.

Major factor of formation and development of knowledge economy is creative, innovating human capital. Economic development process includes improvements of human capital quality, standard of living and of production of knowledge, new technologies and high-quality services.

However human capital reproduction process may not lead to extended scale reproduction if the economy does not take advantage of upward wave inertia (Akayev et al., 2012).

In order to "ride" the long wave the majority of investments have to go into human capital. This brings about a deciding advantage in scientific, innovative, and intellectual development.

Leading countries have created almost optimal conditions for prompt and efficient incarnation of scientists' ideas in specific goods and commodities. It is the fundamental research, increased investments in human capital and resulting new breakthrough technologies that provide these countries their dominating position.

As history indicates previous upward wave did not allow Russian economy to qualitatively improve human capital characteristics. By the mid-eighties the USSR and Russia have exhausted creative capabilities of accumulated national human capital even under the conditions of industrial economy and administrative economy, lack of competition and economic freedom. Russia could not reach the bar of the fifth technological mode (microelectronics, biotechnology, software, information communication systems, Internet etc.) majorly due to lacking quality of human capital and inefficient government.

According to long wave theory the world is at the early stage of sixth technological mode formation. It includes nanotechnology, cellular technology, genetic engineering, artificial intellect systems, global information networks etc. Russia has almost no headway in any of these areas. Consequently we can hope for trans-border positive effects of extended scale of human capital development from other technologically advanced countries that will bring us ready knowledge and technologies albeit with a time-lag. This will form pre-conditions for Russia's economic development underrun.

The conjunctural component without additional regulators provokes reduced reproduction of human capital in primary exporting countries and intensifies the reverse process in importing countries. Stable high prices for oil and energy products form additional investment resources for exporting countries that could be used to develop national economies; however, the major objective of investments is an excessive growth of extractive industries (raw material efficiency; structure intensity factor) (Sukharev, 2013); proportionality factor (Akayev et al., 2009) that are the source of super profits, rather than the balanced growth of economic sectors. As a result, resources are spent extremely ineffectively, resulting in reduced expenditures for education, share of R&D specialists in the total employed population and federal budget funding of science (as a share of the total federal expenditures and a share of GDP), increased social and economic inequality (Sukharev, 2013), and eventually in stagnation or even economic recession. The situation can be improved by creating an efficient system of intersectoral distribution and institutionalization of revenues in order to create conditions for expanded reproduction of human capital.

3. RESULTS

Analysis of the components of economic growth in the Russian Federation (actual growth rates in 2012-2013 about +1.5 pp) shows the following correlations: The structural component accounted for +2.5 pp, the cyclical component was negative at the level of -2.0 pp, the conjunctural component partially compensated the negative impact of cyclical factors, being about +1 pp. Therefore, the difference between the actual and structural levels has a negative value (1.5 pp - 2.5 pp = -1 pp) (Idrisov and Sinelnikov-Murylev, 2014).

As for the longer-term trends (1999-2013), the situation is as follows: The positive actual economic growth rate is ensured only due to neutralizing the negative trend of the cyclical component owing to the conjunctural component against the background of an ever-reducing structural component: +5 pp (1999-2008); +3-4 pp (2009-2012); +2.5 pp (2012-2013). In this context, currently a compensation effect between the structural and cyclical components of growth is observed. Therefore, a positive value is reached due to positive world market trends and consistently rising prices for oil and fossil fuels. By extrapolating the dynamics described above, we can expect the reduction to zero and further decline of the growth rate.

Such correlation increases systemic risks of human capital reproduction in the Russian Federation. The channels of its expanded reproduction for the cyclical component are totally plugged. The decline phase in the private sector encourages looking for ways to minimize expenditures: In the first place, general reduction of companies' expenses for social packages and curtailment of professional development programs in all economic sectors. Seeking to prevent a cyclical budget deficit, the state sector may choose one of the two options. The first option implies a proportional reduction of expense items in the state budget; in this case education, healthcare and science will be underfunded to the same extent as other sectors of the national economy. Under the second option, a selective approach is used, but the practice shows that the social sphere bears the main burden of cuts in public expenditure.

In the long term, additional risks may arise, as it is here and now that the basis for the upward wave of the innovative cycle requiring steady and large investments in human capital is formed. To date, the rate of the generation of an own technologies base has been tragically lagging behind the rate of the generation of the basic innovations cluster of the sixth technological mode.

In general human capital in Russia as in any other country can be divided into three groups. First, it is the high-class human capital that has been accumulated by individuals aimed at creative activity in various fields; second, human capital of popular intellectual labor professions, focused on routine tasks; third, human capital of physical labor of various qualifications. In order to perform modernization it is important not only to have a significant first group but also to promote its support from the other two groups, creating conditions for their harmonious development, not to mention avoiding opposition in economic, social and political sense. Crucial problem is creating conditions for second and third groups in motivating them to improve their human capital, cooperating with the first group. It is appropriate to mention North: "Special knowledge obtain higher value only if they can be integrated with auxiliary knowledge without significant costs" (North, 2010).

This is the most important social problem as human capital carriers of second and third groups are the most widespread social classes, whose social well-being impacts dramatically political stability of the country. That is why it is important to implement social policy in a way that their aspirations would not be aimed at maintaining status quo but at supporting modernization impulses. Unfortunately we encounter problems that are rooted in history of Soviet economic development.

The continued decline of the positive impact of the structural component on economic growth has the strongest destabilizing effect on the expanded human capital reproduction process. This element is a driver for investment in human capital, which, in turn, ensures economic potential growth, as described above. Therefore, a chain reaction between the economic potential development and human capital (direct and adverse effect) can take place only within the structural component. Hence, a trend of reduced reproduction of human capital has already been formed.

4. DISCUSSION

In the absence of efficient regulators of the conjunctural component in the Russian economy, this component of economic growth destroys rather than creates preconditions for developing human capital (Vasiutina, 2011). If the situation remains unchanged, the deformation of the human capital reproduction process may reach a critical level, after which it is reasonably safe to suggest that it will be lost as a factor of production for the Russian economy. Thus, there is a paradox: It is generally accepted that human capital should be developed to become a core of the economic

development of Russia, but in actual practice what is at issue now is its maintenance in the context of reduced reproduction and, subsequently, the development of the lost base.

The situation being what it is, Russia will eventually fall into the "resource curse" trap, where economic growth, if any, will only be due to increased extraction of natural resources and their export in the context of positive world market trends without the possibility of balanced national development (Humphreys et al., 2011). In other words, economic growth will only be due to the conjunctural component, while the other components will stagnate, i.e., neutralize the positive effect.

5. CONCLUSION

A changed correlation between the components of economic growth in favor of the development of the structural component may be a way out of the current situation. In the first place, to support and further develop the human capital reproduction base, the following actions are required: Redistribution of revenues accumulated in conditions of positive world market trends to ensure balanced development, creation of efficient institutions, structural intersectoral changes aimed at forming optimal reproduction proportions, etc.

Therefore, the negative trend associated with the human capital reproduction may be neutralized by changing the correlation between the structural, cyclical and conjunctural components of economic growth.

REFERENCES

Acemoglu, D.A. (1996), Microfoundation for social increasing returns in human capital accumulation. The Quarterly Journal of Economics, VCXI(3), 779-804.

Aghion, P., Howitt, P. (1998), Endogenous Growth Theory. Cambridge, MA: MIT Press.

Akayev, A., Mikhailushkin, A., Sarygulov, A., Sokolov V., (2009), An analysis of the dynamics of the industry and technological structure of the economies of the OECD. Economic Policy, 2, 116-127.

Akayev, A.A., Korotaev, A.V., Malinetskii, G.G., Malkov, S.Y. (2012), Modelling and forecasting of the global, regional and national development. Moscow: Librokom. p488.

Calderón, C.J., Fuentes, R. (2014), Have business cycles changed over the last two decades? An empirical investigation. Journal of Development Economics, 109, 98-123.

Humphreys, M., Sachs, J., Stiglitz, J. (2011), How to avoid the resource curse. Moscow: Publisher Gaidar Institute. p464.

Idrisov, G., Sinelnikov-Murylev, S.G. (2014), Formation of the prerequisites for long-term growth: How to understand them? Problems of Economics, 3, 4-20.

Izushi, R.H. (2004), Empirical analysis of human capital development and economic growth in European regions. In: Descy, P., Tessaring, M., editors. Impact of Education and Training Research in Europe: Background Report. Luxembourg: Office for Official Publications of European Communities. p83.

Korolkova, N.A. (2012), Establishing optimal reproduction proportions and form an effective system of income distribution in the Russian economy. Social Policy and Sociology, 6(84), 340-347.

Lucas, R.E. Jr. (1988), On the mechanics of economic development. Journal of Monetary Economics, 22(1), 3-42.

Melmeester, J.L., Debo, C. (2009), Economics of education: Unfulfilled promises. Economics of Education, 6(55), 127.

Nordhous, W.D. (1969), Invention, Growth and Welfare. Cambridge, MA: MIT Press.

North, D. (2010), Understanding the Process of Economic Change. Princeton, NJ: Princeton University Press.

Romer, P. (1986), Increasing returns and long run growth. Journal of Political Economy, 94(5), 1002-1037.

Romer, P. (1990), Endogenous technical change. Journal of Political Economy, 98(5), S71-S102.

Shell, K. (1973), Inventive activity, industrial organization, and economic activity. In: Mirrlees, J., Stern, N., editors. Models of Economic Growth. London: Macmillan.

Shkaratan, O.I. (2005), State social policy and strategy for the survival of the household. Moscow: HSE.

Sukharev, O.S. (2013), By developing an integrated method of analysis of structural changes in the national economy. National Interests: Priorities and Security, 13(202), 56-64.

Vasiutina, E.S. (2011), Exposure to the positive dynamics of raw materials for the reproduction of the human capital of the Russian federation. Kazan Science, 1, 103-104.

Vasiutina, E.S. (2011), Reproduction of human capital in the context of modern commodity cycles. Social Policy and Sociology, 6, 136-141.