The Social Infrastructure Services in the Context of Economic Growth Factors

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Abstract
In today's economy the social infrastructure sectors from "the social overhead capital" or under the process of social reproduction have turned into an independent economic activity that occupies much larger share of the gross national product and gross national income compared to the "tangible" production phase. The social overhead today dominates both in GDP and employment volume, profit growth rates, capital investments volume, the level of innovation activity. The article analyzes the modern structure of the social infrastructure, gives rationale for the estimation methods of the social infrastructure parameters, examines the current classification of the social infrastructure factors affecting the economic growth of the region, identifies the new trends and patterns, analyzes the reasons for the decline in the investments absolute volume in the sectors of social infrastructure and identifies the factors stimulating and retarding the development of social overhead. This article is intended for the researchers, lecturers and students studying service economy, the methods of research in the social infrastructure sectors within the disciplines "Service economy", "Social infrastructure services ", as well as for the heads of the social infrastructure bodies, specialists of the regional regulatory bodies dealing with development of social overhead.

Keywords: general conditions of social reproduction, factors of social overhead development, economic growth, the classification of the social infrastructure sectors, development criteria.

1. Introduction
1.1 The relevance of the problem
In modern conditions of national economy modernization the importance of various factors affecting the economic
parameters of its growth is significantly increasing, the social infrastructure is one of the most important. The sectors of social infrastructure today influence both the gross domestic product and the number of employed population, the rates of profit growth, the volume of capital investments, the level of innovation activity (Kokurin & Nazin, 2011). However, the influence of social infrastructure on the enterprises, industries and regional economy growth parameters as a whole is still understudied. There are no official methods of assessing the impact of the social overhead on the dynamics of economic growth (Buzmakova, 2010). All these demands designing and implementing the measures of an institutional nature related to creating the development concept of national, regional and municipal social infrastructure, developing the state institutions of control and monitoring of the social infrastructure, developing the tools of public-private partnerships, drafting special laws regulating the activities of social overhead as a form of economic activity, implementing the measures of state support for small business in the social overhead (Pchelintseva, 2004).

The development and implementation of the social infrastructure institutionalization will naturally entail economic reforms in this area, and, primarily, provide competition between the sectors of social infrastructure, draft the measures of increasing competitive advantages of the social infrastructure objects, create the investment attractive climate in the social overhead, develop and implement the tools for social overhead capitalization growth (Smolyakov, Medvedeva, 2008).

The problems of identifying the trends and the character of social infrastructure services influence real economy growth parameters and become the issues of particular importance both for the real sector enterprises and the social overhead enterprises (Durtseva, 1985).

2. Methodological Framework

2.1 The objectives of the research.

The objective of the study is a theoretical underpinning of the relationships between the social infrastructure and economic growth parameters, determination of the extent and indicators that reflect the influence of the social overhead on the growth parameters of the national economy, the analysis of the main components of the social infrastructure, their role and importance in the process of the national economy modernization, the development of the criteria for the social infrastructure establishment and development, its territorial arrangement, structural framework, the level of intraindustry priority at every particular stage of economic development.

2.2 The theoretical and methodological framework

The theoretical and methodological foundation of the study has become the studies of Russian and foreign scientists in the area of developing the social overhead, the assessment of its resource potential; the research on the management specificity of the social infrastructure sectors at the regional level; industry publications, scientific articles in the refereed journals.

The research methods include the dialectical and system analysis, the methods of abstraction and comparison, the method of statistical observations, grouping of the economic indicators and expert estimates.

3. Results

3.1 The theoretical approaches to the identification of the relations between the social infrastructure and economic growth parameters

Analyzing the theoretic approaches to the evaluation of the relationships between the social infrastructure and economic growth parameters it seems appropriate to apply to the rich theoretical heritage left by Karl Marx in the studies concerning the place and role of social infrastructure in public reproduction. In the theory of general conditions of social reproduction he peculiarly pointed out the production as a process of direct combination of personal and real factors, which has resulted in the cost containing a surplus value and the process of providing the conditions for this combination where the surplus value is only consumed. These general conditions ensure the continuity of transition from “one phase of the process to another” whereas it does not determine the inner content of the production process, at the same time they affect its performance through accelerating the capital goods turnover, through the workforce quality and they also are the result of human labor as something special, different from the production of capital goods (Marx & Engels, t.46).

In other words, K. Marx considers these general conditions of production as the material conditions of
infrastructure activities that are included into infrastructure as into a sector of social reproduction. Therefore, there is the activity aimed at "renewing" the universal instruments of labor by means of water and heat supply, sewerage, electricity, lighting, maintenance, etc. The infrastructure does not create universal instruments of labor, but ensures their regular functioning as the general conditions of social reproduction. Any field of activity having appeared in the course of social division of labor, creating a beneficial effect for other areas does it for itself.

However, Marx wrote: "The capital itself - assuming it is available in the needed amount - will build the roads only if the construction of roads will become a necessity for manufacturers, especially for the productive capital itself; will become for the capital a condition of profit "(Marx, Engels, t.20). In other words, the process of creating general conditions for the social production process acts as a process of creating general conditions for profit as a parameter of economic growth. This statement can be fully attributed to the social infrastructure that promotes economic growth and its development depends on the economic growth as the main condition of personal development.

Thus, becoming a common condition for economic growth the social infrastructure under complete market-related production is assigned to the status of state property. This regularity has been identified by Engels, who, considering the process of capitalist socialization wrote that "every common interest has immediately struggled away from society, has been opposed to it as a supreme, universal interest, has left the sphere of amateur activity of the society members and has become the object of government activity - starting from a bridge, school building and public property of any rural community and ending with the railways, national property and state universities of France "(Marx & Engels, t.24).

However, at the same time identifying the infrastructure as the general condition of the social reproduction process, Marx could not then assess its role in profits, so he focused only on the desirability of determining the infrastructure sectors in the system of social reproduction. However, he did not include the results of the social infrastructure activity that do not constitute, in his view, the real benefits into the category of "total product and its cost ". That is why, by reference to the theory of Karl Marx, it was impossible to make a conclusion about the dependence of the material production from the results of social overhead functioning and to measure them.

Moreover, as noted by some researchers in order to determine which particular activity is a part of the social infrastructure it is necessary to consider it as a dialectical unity of the processes that provide general conditions of consumption of a personal production factor (functional aspect related to "production in general") and development of the industrial relations in the process of functioning and development of this economic system (Durtseva, 1985).

Thus, the Marx's theory of surplus value does not exclude the availability of services providing the conditions of the social reproduction process, which are the integral part of the necessary product, included in the value of the gross national product, but they do not appear in the tangible composition of the latter, but are manifested in the form of social infrastructure services.

However, the modern economy is significantly different from the economy of the Karl Marx's study period and, above all, it is different with the structural relations of social reproduction phases, when unlike the "MarxS" economy where the tangible production phase dominated, in today's economy it falls to the smallest share. The sectors of social infrastructure form the "social overhead capital " or the conditions of social reproduction process have turned into an independent economic activity, which occupies a much larger share of gross national product and gross national income compared to the "tangible" phase of production. The social overhead today dominates both in GDP and in the number of employees, the employment volume, the rates of profit growth, the volume of capital investments, the level of innovation activity.

The studies performed by national economists indicate that long-term growth of national economy naturally requires large investments into social infrastructure. This is evidenced with the experience of such rapidly developing countries as China, which now invests in the social overhead up to 8% of GDP, India - 4%, while the domestic investment in this area does not exceed 1.5%, and continues to decline (Kokurin & Nazin, 2011).

As shown in Table 1, the data can clearly trace the downward trend in the absolute volume of investment into the basic social infrastructure sectors. So, for the period from 1990 to 2011 the dynamics of changes in launching the objects of social infrastructure in Russia has decreased significantly. In 1990 the number of newly-started schools was 514.6 thous. places, in 2011 - only 66.4 thous. of places that is almost 8 times less. In 1990 the number of preschool institutions accounted for 225.1 thous.. people, in 2011 - only for 23.9 thous. places that is also almost 10 times less. Even more depressing dynamics is traced with entering professional training institutions, the annual input of which during the same period fell by almost 13 times.

A similar pattern can be traced in the annual commissioning of engineering of social infrastructure, including water supply, sewerage and heating networks.
Table 1. The Dynamics of implementation of the social infrastructure objects in Russia in the period 1990 -2011

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<tbody>
<tr>
<td>The water system, thous. km</td>
<td>7.5</td>
<td>2.6</td>
<td>1.4</td>
<td>1.5</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
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<tr>
<td>The sewerage, thous.km</td>
<td>0.9</td>
<td>0.5</td>
<td>0.2</td>
<td>0.1</td>
<td>0.3</td>
<td>0.1</td>
<td>0.2</td>
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<tr>
<td>Heating network thous.km</td>
<td>1.5</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>School building, thous.places</td>
<td>514.6</td>
<td>218.1</td>
<td>117.3</td>
<td>73.8</td>
<td>68.2</td>
<td>65.1</td>
<td>66.4</td>
</tr>
<tr>
<td>Preschool institution, thous.pl</td>
<td>225.1</td>
<td>28.9</td>
<td>7.4</td>
<td>5.2</td>
<td>28.4</td>
<td>25.4</td>
<td>23.9</td>
</tr>
<tr>
<td>Vocational education, thous.pl</td>
<td>14.4</td>
<td>3.5</td>
<td>0.6</td>
<td>0.3</td>
<td>1.3</td>
<td>1.4</td>
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The Sources: compiled by the author according to the official statistics.

Certainly, the global financial crisis has attracted the attention of economists all over the world to the social infrastructure role in a sustainable and long-term economic growth which undoubtedly proves the high efficiency of investment in social infrastructure as a dominant factor of economic growth. This can be proved with redistribution of the employment parameters of the economically active population from “bankrupt” sectors to the sector of social infrastructure, such as communications, education, health care and related allied industries to ensure their development such as production of medical equipment and its software, actively growing sector of private companies providing a wide range of housing and communal services.

3.2 The classification of the social infrastructure sectors and estimation methods of its development.

It is obvious that close classification of the social and industrial infrastructure is unnecessary. In today’s economy it is difficult to clearly separate these sectors. For example, it is impossible today to separate health care from medical industry, information technology, software and medical equipment market.

Therefore, it seems appropriate and reasonable to support the most reasoned view expressed by D.I.Kokurin and K.N.Nazin published in the study “The development and implementation of the infrastructure potential of the Russian economy” (Kokurin, Nazin, 2011). On the basis of the arguments therein it seems suitable to include into the scope of social infrastructure the following sectors: production and distribution of electricity, gas and water; transportation (passenger) and communication; education; health care; social services.

This categorization is reasonable from a statistical point of view either, since it allows to use adequate and statistically measurable economic parameters of economic activities which are at the same time the sectors of social infrastructure.

The today’s statistical methods allow to distinguish the two main methods of assessment (measurement) of the social infrastructure parameters, which officially are physical and cost methods. For obvious reasons, the analysis of the social infrastructure parameters is performed with the help of cost method as the only method to compare the processes and objects measured with a single tool and compared parameters. The range of physical indicators application is rather narrow and does not allow for analytical comparison of different sectors of social infrastructure and other sectors of the economy (Smolyakov, Medvedeva, 2008).

3.3 The influence of social infrastructure on the long-term economic growth.

Analyzing the studies in the field of social infrastructure enables us to formulate the main factors of social infrastructure affecting the long-term economic growth:

- the direct stimulating effect on the manufacturing sector of the economy;
- the direct retarding effect on the manufacturing sector of the economy;
- stimulating synergy of various sectors of the manufacturing sector of the economy;
- encouraging the multiplier effect of investment demand;
- an instrument of economic policy to stimulate and constrain the development of both the social infrastructure sectors and related industries as a whole (Balatsky, 2005).

Thus, the adequate development of energy networks, public transportation and communications, health and education, research and development can have a direct stimulating effect on the manufacturing sector of the economy.

In turn, the lack of development of system utilities, housing and public services, passenger transportation system,
vocational training institutions can have a significant retarding effect on the productive sector of the economy (Smith, 2007).

In this case, the adequate development of the above-mentioned sectors of social infrastructure services, their timely modernization can have a significant impact on reducing production costs in industry, while their underdevelopment or absence could jeopardize the commercially viable functioning of the enterprises in general. These factors, for example, have encouraged the establishment of health and education departments within the manufacturing sectors as a reaction to the lack of appropriate public services in these sectors of social infrastructure.

The development of modern system of periodic health examination in health care is primarily aimed at identifying oncology diseases at an early stage, according to experts, it has directly increased the labor efficiency in such industries as coalmining, construction materials producing industry, the mining industry at average of 10% (Kiselev, red, Nugumanova, 2013).

Nowadays, it is obvious that the possibilities of modern medicine, education can significantly raise the level of human capital accumulation, which in turn stimulates synergies of various sectors of the manufacturing sector of the economy. The construction of high-tech medical centers is marked by significant investments in construction itself, construction materials producing industry, capital improvement, thereby causing the effect of "multiplier" in such industries as petrochemicals, nanotechnology, electronics, pharmaceuticals, information technology, telecommunications, and many others (Kiselev & Daminov 2010).

And of course, the most important factor affecting the long-term economic growth is social infrastructure as an instrument of economic policy to stimulate and limit the development of both the sectors of the social infrastructure and the related sectors of the economy as a whole. Thus, developing a system of national research universities the state thereby creates a favorable environment for the development of small innovative university entrepreneurship as one of the priorities of economic policy in general. A process of gradual reduction of federal government’s participation in some sectors of regional social infrastructure, such as road passenger transport significantly stimulates the entrepreneurs to enter this business solving thereby two problems: reducing the federal budget expenditures and encouraging private business activity in the regions and cities of the country.

The relationships between the economic growth and development parameters of the social infrastructure have mutual, not unilateral but cross character. It is clear that the acceleration of economic growth will give rise to activation processes of certain sectors of social infrastructure, stimulate the emergence of new types of services that measure up today’s phase and nature of economic growth. For example, activation of the innovation processes in various sectors of the economy, the construction of industrial parks and business incubators, initiated by the Russian Government necessitated the development of special education programs on innovation management and their implementation into the training courses of major national research universities.

3.4 The approaches to determine permissible limits of the government and business participation in social infrastructure development

The national policy in the sphere of social overhead according to some experts (Buzmakova, 2010) should take into account the following factors:
- the permissible and appropriate boundaries and limits of public and private sectors in social overhead;
- the choice of the most effective forms of financing the development projects of social overhead;
- the rational territorial allocation of social infrastructure objects;
- the determination of the efficiency level and the need for new construction or reconstruction of social overhead.

Thus, the permissible limits of state and private business participation in functioning of the social infrastructure are widely studied by national economists. Most of them have achieved the agreement of opinion concerning the sectors of "natural monopoly" that should belong to or be controlled by the state. These industries traditionally include public utilities, electricity, sewerage and water supply, where the participation of private enterprise objectively is inappropriate for the reasons of high social importance of social infrastructure sectors as well as their unprofitability (Pakulina, 2011).

On the other hand, the recent years experience convincingly shows that private enterprise is not always effective and socially necessary in health and education. The statistics of recent years shows the plateau of private medical and educational institutions. The Russian specificity inherited from the Soviet time is more loyal, as practice shows, to public health and education system. The national health care experience in this respect is the most illustrative: the health facilities are owned by the federal, regional (i.e. state) and municipal authorities, the medical assistance is paid for by non-government (i.e. private) health insurance companies, but the fund raising from working and non-working population
is performed by non-budgetary funds the legal status of which is still not clearly defined. As a result, we have low motivation among medical institutions and physicians to reduce the population morbidity because the more people will get sick - that means seeking medical advice - the more the latter will raise funds for each patient. That is why the centralization of property and budget sources of health care in state hands will reduce health care costs, the share of which in Russia has reached almost 40% of all social overhead expenditures (Kiselev, Daminov, 2010).

However, the share of health care costs in Russia is far behind those of developed countries despite the huge national debt of the US and Europe’s economy crisis. For example, in 2011 the share of total national health care costs was 4.2% of GDP which is 3.3 times less than in the US (14% of GDP), 2.1 times less than in the European Union countries (about 9%) and 1.4 times less than in the countries of Eastern Europe and the Baltics. According to independent experts of the World Health Organization by reference to the purchasing-power parity of the US dollar, if in 1991 the total health expenditure per capita in Russia was $ 350, in 2000 it made $ 240, in 2011 - $ 190 (Saltman, Figueras, 2000).

At the same time, upon the national average now the 40% of the medical institutions are located in the specialized premises, 12% of the buildings are dilapidated, and the average area per bed is 3.7-4.3 sq. meters while the standard is 7 sq. m.

All this indicates an acute investment demand in the fields of the social overhead. Thus, according to experts, China since the 2000s has been investing in social infrastructure 7.8% of GDP annually, India - 3-4%, the investment in the Russian social infrastructure projects do not exceed 1.5% being on a level with Latin America. But it should be noted that the investments in development projects and modernization of the social infrastructure in practice have proved to be highly effective and directly impact on the process of accelerating the economic growth. It is estimated that every billion dollars invested in social infrastructure creates 15 thousand jobs and about 30 thousand additional jobs in industries related to social overhead, and the annual volume of investment in the sector of social infrastructure of Russia should be at least 15 -18,000,000,000. dollars (Shuster, 2008).

3.5 The criteria of social infrastructure formation and development, its territorial organization, structural framework, the level of intraindustry priority at any stage of economic development.

While undertaking the study in assessing the impact of the social overhead services on the economic growth parameters in the region or country as a whole, it must be remembered that the social infrastructure, in turn, is a component of all national or regional economic complex, part of its functional and territorial structures. So, while the functional structure reflects the scope and the ratio of a set of objects that perform specific works and services, the territorial structure is represented by the various forms of spatial concentration of social and engineering sectors of social infrastructure. That is why the research in the field of regional economy is essential for complex and adequate assessment of the social infrastructure efficiency.

Therefore, the experts in the field of regional economy consider the social infrastructure as a social overhead which is interpreted in terms of a macroeconomic model of the entire economic complex. The study of the objects complex and social overhead is interconnected as at this level the relations of the sectors are reflected in the social infrastructure relations in a particular territorial system. The sectors solve the fundamental problems of social infrastructure development including, particularly, the intensification of the socio-economic efficiency of service delivery without which it is impossible to offer an optimal strategy for the development of localized objects in a certain area (Kistanov, 2002).

Moreover, there is a territorial community in the social overhead distribution and population housing. The settlement system directly determines the territorial arrangement of social infrastructure, which is localized in the settlements or becomes a means of covering distances. Therefore, as the territorial subsystem of the economic complex closely related to the settlement system the social infrastructure is a hierarchical form including:

- the intrastate or magistral (a unitary economic complex) level;
- the regional (regional economic complexes - of economic region, economic zone, area, of the administrative district, territorial production complex, industrial hub and so on.) level;
- the local (individual settlements of rural and urban-type) level (Voronin, 2003).

The principles of social infrastructure allocation are based on the core principles of territorial production complexes which provide such an important factor of production process as the relevant human resources and regulation of the migration processes.

The social overhead specificity provides also its complex and affordable availability not only within the territorial production complexes but also the cities and towns.
All this together creates the concept of the social infrastructure efficiency which is determined by the parameters of society development as a whole, workforce and individuals that indirectly contribute to the economic growth. Therefore, an efficient social infrastructure focused on the economic growth in theory and in practice should definitely respond to the improvement and growth of human capital, only when these two unidirectional vectors of development united we may discuss the influence of social infrastructure on the growth parameters of one or another territorial subdivision.

In this regard it should be noted that the economic growth and development of social infrastructure is not always unidirectional phenomenon of national and world economy. We happened to witness the implementation of the economic growth projects to the disadvantage of individual sectors such as education, health care, utilities. At the same time, social development, the construction of social infrastructure, budget expenditures on social services hamper the economy development and its innovative activity, reduce investment in promising economic projects. This facet, or rather its perception and understanding, its evaluation is the efficiency zenith of the state social and economic policy, because the wrong priorities may be detrimental to both areas of socio-economic growth.

Therefore, the establishment and development of the social infrastructure, its territorial organization, structural framework, the level of intraindustry priority at each stage of economic development should meet the following criteria:

- the balance of the social infrastructure sectors with other, primarily, the prioritized (budget-revenue generating) sectors of regional economic complex;
- maintaining the territorial and industry-specific proportions between the sectors of social infrastructure;
- ensuring the balanced parameters of the social overhead development with the number and demographic structure of the resident population in the region (Sogacheva, 2009).

Providing these parameters of formation and development of the social overhead should be arranged with a strategy for its development and modernization, which should be one of the principal legislative and regulatory documents that provide the priority level and structure in the development of various sectors of the social infrastructure. Therefore, when designing a development strategy for each region, one of the most important issues will become setting the priorities, finding the funding sources and choosing an optimal model for the region. The quality and complexity of the industry development strategy of social infrastructure will largely determine the parameters of economic growth in the region and the life quality.

4. Discussion


The study of the factors affecting the rapid development of industrial infrastructure sectors in modernization of the national economy is carried out by Buzmakova M. (2010), Smolyakova Yu, Medvedeva I. (2008) and others.

The problems of the relationships between the social overhead and the region's economy are discussed in the works of A.Voronin (2003), Ivanova, A. (2007), Kistanova V. (2002), Pikulina I. (2011) and others.

However, a number of issues relating to the criteria of formation and development of the social infrastructure, its territorial organization, structural framework, the level of intraindustry priority at each stage of economic development remain understudied.

5. Conclusion

Consequently, the analysis of the social overhead establishment and development in the context of economic growth factors allows to make some conclusions. The problems of modernization of the national economy, the search for efficient factors of its growth naturally stimulate the research in the field of social infrastructure as an essential economic growth condition.

The results of the performed research have allowed to theoretically justify the relationships between economic growth and development parameters of the social infrastructure from the point of economic development, to give reasons for the classification of the social infrastructure sectors and the estimation methods of its development parameters, to identify the factors of the social overhead influence on the long-term economic growth, to identify the approaches to determining the permissible limits of state and business participation in the development of the social infrastructure as well as the criteria for the formation and development of the social infrastructure, its territorial arrangement, structural framework, the level of intraindustry priority at every stage of economic development.
6. Recommendations

The obtained results allow to justify, classify and structure the main areas of applying the social overhead potential as a factor of regions’ economic growth as well as an assessment of its impact on the sectoral structure of national economy as a whole and its individual regions. In addition, the received results may be useful to the general government for improving national social adjustment policy in formation and development of the social infrastructure in Russia and its regions.

References