ANALYSIS OF THE MODERNIZATION PROCESSES IN THE SIBERIAN FEDERAL DISTRICT IN THE PERIOD 2011-2014

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Abstract

Modernization is a very complex and diverse process, and its development has many aspects and directions among different societies. Since the Russian Federation is a very economically and socially diverse country, modernization processes in Russia are extremely diverse and multidirectional. The Siberian Federal District is the seconds' largest part of the country, which has critical influence to the national economy, demography and society. Modernization in the Siberian Federal District is very problematic and influenced by very specific factors, such as extremely low population density, relative retardation of major social and economical changes in the society, specific cultural and value structure. The aim of this article is analyzing of major advantages and problems of modernization in the Siberian Federal District and demonstration of the specific social, economic and cultural context of modernization in this region. Technological, economic, institutional and socio-cultural components of the modernization are analyzed. The paper uses a universal system of key quantitative parameters and indices of modernization, which makes the data and results comparable with other regions of the Russian Federation as well as other countries around the world.

Key words: modernization, socio-cultural development, socio-labor relations, regional development

JEL Code: J11, J17, J18

Introduction

 Now, the concept of modernization is too complex to understand it only in terms of transition from traditional to industrial and post-industrial model of society. Now we observe the second stage of the modernization process – transition towards the information society, which is a

society where creation, distribution and manipulation of information dramatically affects economic, social and cultural processes and determines national advance (Lapin, 2011).

During the period 2001-2010 China Center for Modernization Research has published 10 annual reports about modernization in China and in the World. The data includes broad amount of statistics about economy, culture, education, industry and health of 131 countries over the world. This data allowed to identify two stages of modernization and to classify all the societies according this principle.

He, in his work "Modernization Science: Principles of National Advance" defined modernization as following: it is an international marathon from the perspective of the national level and international competition figuratively. In which the countries running ahead become advanced or developed ones, while the rest become developing ones; and developing ones include three groups: moderately, preliminarily and under developed ones. There is some mobility among them (He, 2010).

The modernization process and its evaluation and measurement is very important for Russia. Firstly, modernization in Russia is a very complex and problematic process. It is affected by many social, economical and political factors, which are very specific and unique in the context of the modern world.

Second, regions of Russia are very diverse in terms of economy, human recourses, culture and history. Levels of regional GDP, average household income, life expectancy, productivity and quality of life standards may differ dramatically from region to region. But, the overall process of modernization of Russia cannot be succeeding without modernization of each region. Thus, it is very important to analyze tendencies of modernization processes on regional level in order to explain and predict regional differences and individual directions for future development of Russian regions and Russian Federation as well.

The aim of this paper is to analyze the actual level of modernization of the Siberian Federal District, a very specific and second largest macro-region of the Russian Federation. The article is attempt to analyze and recognize the most influential and actual issues and challenges, the Siberian federal District faces on the way to modernization.

1   Method

The methodological framework of this study is the He's theory of the Second modernization he proposed in his work "*Second Modernization: Inspiration From Human Civilization*

Process". He argues that history of human civilization can be divided into two major stages – the First, and the Second modernization (He, 1999).

The First modernization includes the major fields of industrial society – economics, social area and knowledge. First modernization can be measured by 10 basic indexes (GDP per capita, employment structure, marginal products in agriculture and services, life expectancy, levels of urbanization and level of education, etc.).

The Second modernization is more complex and describes processes, which are more common for developed societies. The original method employs 16 indexes to describe level of modernization for such areas as innovations, quality of life, knowledge translation and quality of economy. Each index is recalculating each year as an average for 20 most developed countries (Lapin, 2011).

As a result, for each country, region or macro-region the following indexes can be calculated to characterize the level of modernization: FMI – First modernization Index; SMI – Second Modernization Index; IMI – Integrated modernization index (includes results of both first and second modernization stages).

2   First Modernization in the Siberian Federal District

According to He's definition, the First modernization is the process and great changes of the transformation from agricultural society to industrial one, agricultural economy to industrial one, agricultural civilization to industrial one, agricultural age to industrial one (He, 1999).

To present, Russian Federation has finished the process of First Modernization (the national FMI index has been 100 since 2011), but some macro-regions are still finishing this process. To 2012 only three federal districts of Russia finished the First modernization stage – Central, Northwestern and Volga Federal Districts with score of 100.
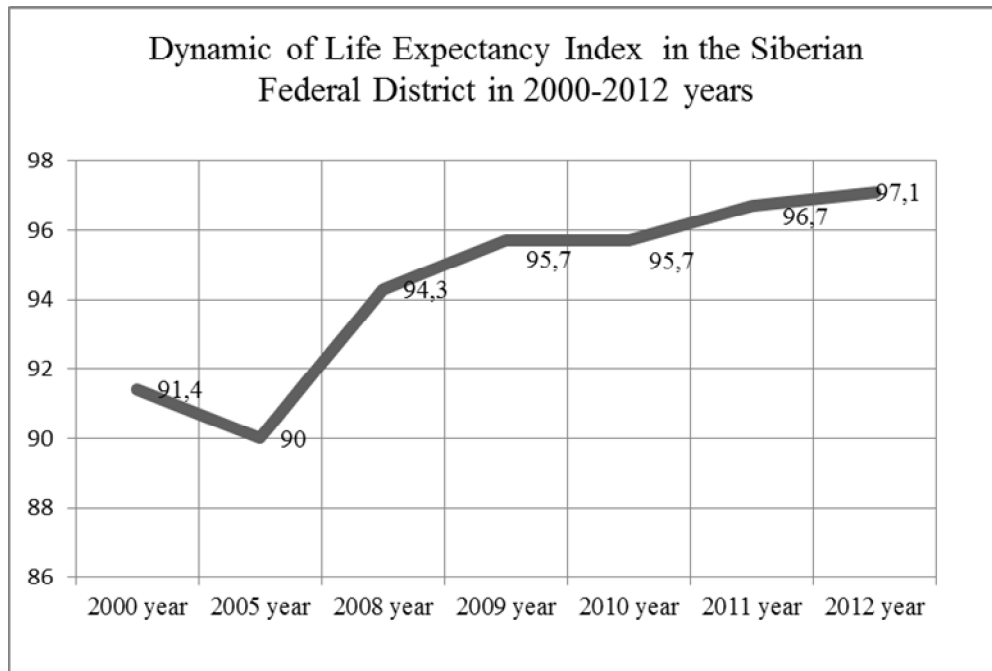
The Siberian Federal District takes the forth position with estimated level of the First modernization 99.7, which is a little higher than levels of the rest Russian macro-regions.

In the context of this study it is very important to understand the reasons of this gap and recognize the areas, which interfere modernization process in the Siberian Federal District.

Analyzing the sub-indexes that describe different facets of the First modernization, only one component, reducing the overall estimation was found. It is the index of the life expectancy. The standard (expected) level was 70 years, but the actual for this area was only

67.99. Since 2005 the life expectancy in the Siberian Federal District has been gradually increasing and reached in 2012 the highest point (fig. 1).

Fig. 1: Dynamic of the First Modernization in the Siberian Federal District in the period 2000 – 2012 years

Source: authors, on the basis of the data from the information systém „Modernization"

It is necessary to note, that the problem of life expectancy rate is very common for the Russia in general and the case of Siberian Federal District is not very specific at this context.

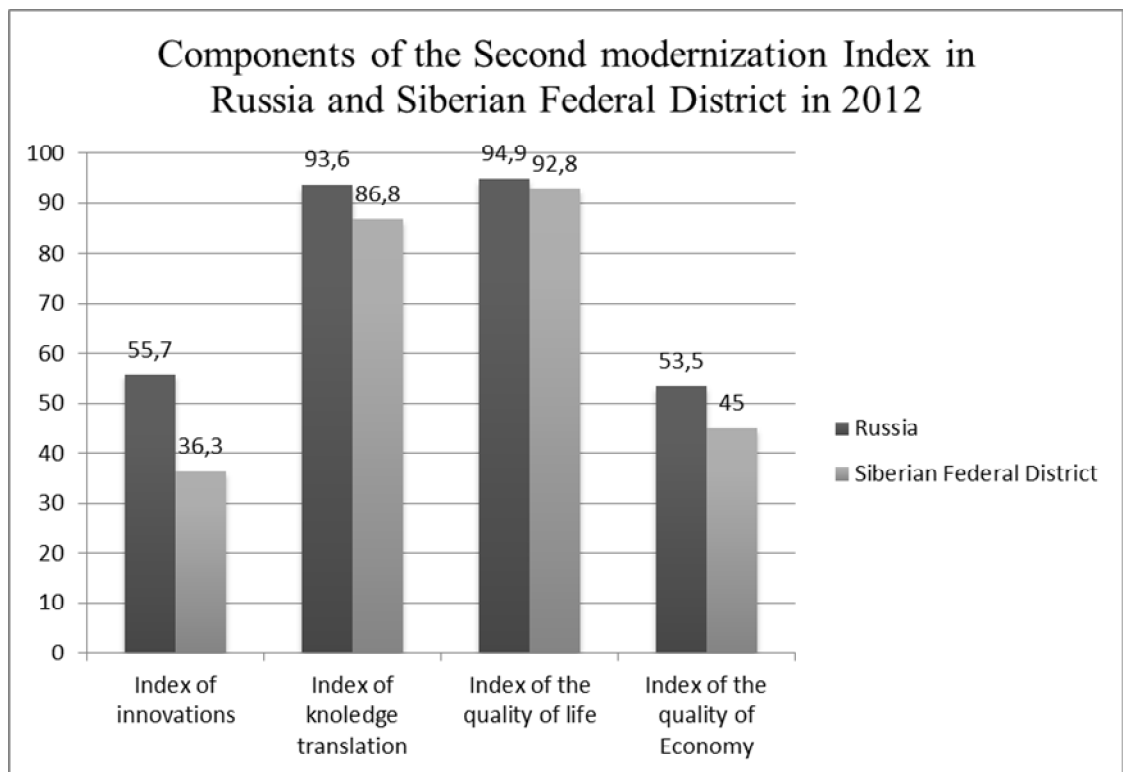## 3   Second Modernization in the Siberian Federal District

The process of the Second modernization in Russia is much more problematic and contradictory than the First modernization. In 2012, the Second modernization index of Siberian Federal District was 65.2 (Russian Federation – 74.4). While ratio of the summarized SMI to the national level is more than 87%, the differences in more specific indexes, which form the final estimation, may be much more significant and diverse (fig. 2).

The data shows, that all the four basic components have lower values compared with the national level. While two of them are very close to the Russian levels (index of

knowledge translation and quality of life index), differences in innovations index and quality of economy are more significant.

Concerning the differences in quality of economy, the GDP per capita is the most influential source of that inequality: by the end of 2012 year national GDP was $12740 and only $8594 in the Siberian Federal District. This difference is determined by many economical and social factors such as different structure of industry, educational level, level of urbanization.

Fig. 2: Dynamic of the First Modernization in the Siberian Federal District in the period 2000 – 2012 years
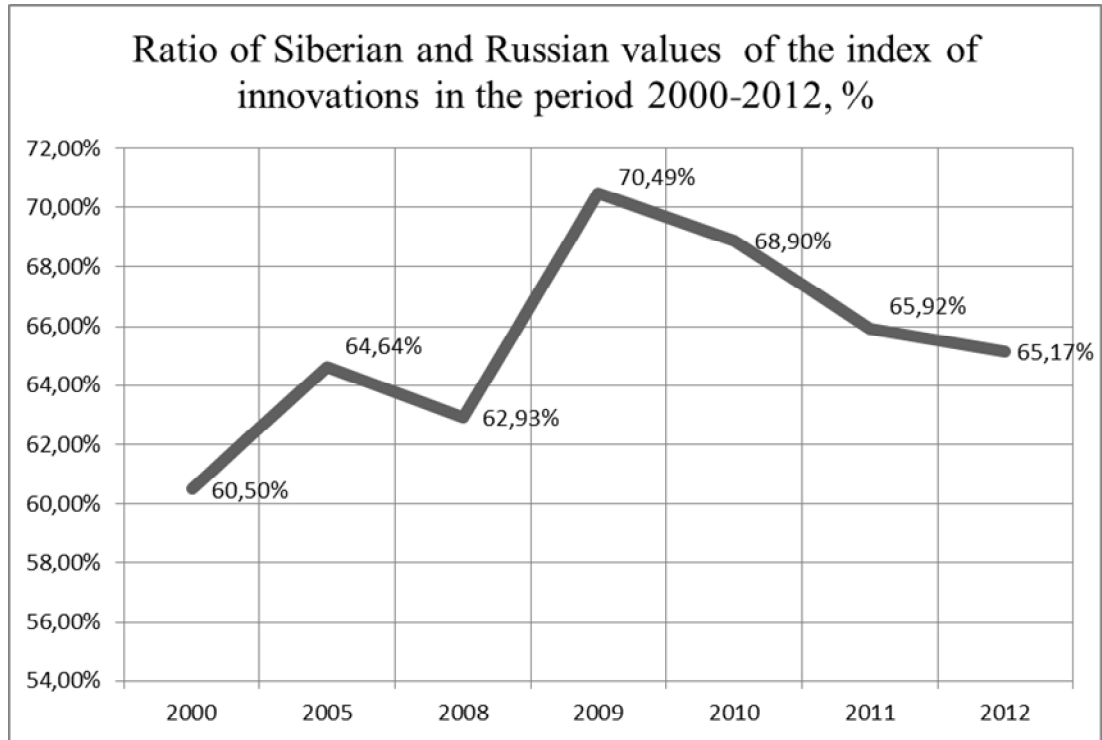

Source: authors, on the basis of the data from the information systém „Modernization"

Index of innovations is a very important component of the Second modernization. The Russian index in 2012 was 55.7, but in the Siberian Federal District it was only 36.3 (65.17% of the national level). While the dynamic of the absolute value of this characteristic is moderately positive (from 33.7 in 2000 to 36.3 in 2012), the ratio between national and macro-regional levels hasn't demonstrated a strong positive tendency. The highest ratio was

reached in 2009 (70.49% of the national level), but after this year the ratio is gradually decreasing (fig. 3).

Fig. 3: Dynamic of the First Modernization in the Siberian Federal District in the period 2000 – 2012 years

Source: authors, on the basis of the data from the information systém „Modernization"

Relative slow innovation process in the Siberian Federal District can be explained by different ways. At first, it is limited investments to the real sector of the regional economy, lack of the infrastructure, extremely low density of the population and relative low level of urbanization. Also, migration processes, directed to the Central (Moscow) and Northwestern (Saint-Petersburg) districts additionally decreases the number of researchers and engineers employed in the Siberian Federal District (one of the sub-indexes of the innovations index).

Conclusion

The article was aimed to describe and analyze modernization processes in the Siberian Federal District of Russia. The most important challenges and issues of this process were

identified for the first stage of modernization (life expectancy) and for the second stage (innovations and quality of economics). Results of the research may be used for the future comparative interregional and international studies in the area of modernization and economic and social development.

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