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THE RESOURCE FACTOR AND SOCIO-ECONOMIC DEVELOPMENT OF THE POST-SOVIET REPUBLICS†

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Abstract

The article presents the results of a study, the purpose of which was to test the hypotheses that represent the relationship of the resource sector to the socio-economic dynamics. Theoretical and methodological basis of the study were the concepts that reflect different views on the relationship of the resource sector and the national economy. Feature of this study is to select the object of study-the fifteen former Soviet republics having the early stage of public institutions, and are characterized by the search for models of effective involvement of the resource factor in the development of the national economy. Identify the relationships between the common trends of development of countries in the context of the selected groups and the extent of their commodity sector based on an analysis of the five macroeconomic indicators: GDP, public debt, foreign direct investment, unemployment, gross value added. Analysis revealed the relationship of the resource sector with the economic development of the post-Soviet countries in terms of the level, speed and quality of change.

Keywords: Resource Factor, Post-Soviet Republics, the National Economy, Development Institutions

1. Introduction

The importance and relevance of comparative studies does not decrease over time, since it is the comparative method that is recognized as one of the most effective research techniques allowing not only to analyze a wide and diverse range of data, but also to study phenomena of systemic nature, for example, for evaluation of commodities sector integration into national economies.

Apart from providing additional advantages, the comparative analysis also imposes significant restrictions on the findings, since the correctness of the results obtained from

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comparison of different objects is determined not so much by their dimensional similarity, but above all, by their institutional development imperatives that are not always taken into account.

Thus, the USSR collapse in the last month of 1991 and the emerging of 15 independent states led in most cases to the fact that these countries were automatically added to the common list of existing states and they are now considered as equivalent to other states for the purposes of today's cross-country comparisons.

We assume that it is methodologically correct to compare the Post-Soviet countries in terms of their development by applying a method of grouping regions according to certain criteria, including the availability of natural resources. Only the results obtained in such a manner should be correlated with the ideas of natural factor's influence; such ideas, in their turn, have undergone significant changes over the recent decades and this circumstance also needs to be considered at comparative studies performance.

2. Evolution of Ideas of Natural Resources Influence

The evolution of ideas about the role of natural resources in international development can be conditionally divided into three stages: before 1970s the ideas of natural resources as a source of national economic growth were dominant (Mikesell, 1997; Holden, 2014); 1970–2000, the idea of resources as a “national curse" prevailed (Pestel, 1988; Corden and Neary, 1982; Innis, 1999); the concept of resource curse was introduced by Richard Auty in 1993 to describe stratification in living standards among populations in rich oil-exporting countries (Auty, 1993); first half of the 2000s up to the present day, period of "ambiguous assessments" of the role played by natural resources in economies of various countries and regions (Cavalcanti *et al.* 2011; Gylfason, 2001; Nunn, 2008; Damania and Bulte, 2003). Others studied the data relating to longer periods of time and either did not show observe such a relationship (Stijns, 2005).

The influence of mineral resources sector on national economy is complex and multidimensional, therefore it can be described by formal relationships or subject to unambiguous estimates in terms of resourse curse, Dutch disease etc. only conventionally. That is why, despite the large number of publications on various features of commodities economy models, such as income fluctuations due to changes in world raw materials markets, poor industrial diversification, stratification of society in terms of living standards, excessive borrowing, corruption etc. a unanimous view on the nature of commodities sector impact on a state's economic development has not yet been articulated. At the same time a conventional belief that extraction of commodities mineral materials is meant for developing countries only is still being reproduced. However, the following six countries: Australia, China, USA, Russia, Canada and South African Republic account for over half (by cost) of the mineral resources extracted in the world. Most of these countries achieved a high level of development by intensifying extraction and refining of their own natural resources (Petrov, 2010).

3. Methodical Suppositions for Assessing Integration of Commodities Sector into National Economy

The aim of this study is to assess the integration of commodities sector into national economy and its contribution to social development. The authors suggest the following three criteria should be used to carry out such an assessment: commodities sector influence on macroeconomic indicators; social implication of the commodities sector development (contribution to the population's quality of life); influence on the index of public institutions development.

The commodities sector is influence is assessed in terms of absolute, relative and dynamic indicators, as well as by means of ratings comparison. To ensure comparability and objectivity of the results, most of the analyzed indicators are obtained from a single source, World Data Atlas[1], which contains data from the World Bank reports, as well as those of various international organizations and rating agencies.

[1]See http://knoema.ru/atlas.

The study is based on three hypotheses that resemble the relationships between the commodities sector and the socio-economic dynamics of the country: the positive socio-economic dynamics characterized by macroeconomic indicators of the countries is due to the commodities sector significant contribution; commodities sector of the former Soviet Union countries creates the conditions for maintaining the quality of life of the population; the dominant resource sector hinders the development of public institutions.

The method of regions grouping is applied for analysis purposes and includes the following basic points.

According to a World Bank's study, the former Soviet Republics are divided into three groups based on natural resources availability and membership in the EU (Gill *et al.* 2014): Eurasian countries rich in natural resources (Azerbaijan, Kazakhstan, the Russian Federation, Turkmenistan, Ukraine, Uzbekistan); Eurasian countries that do not have rich natural resources (Armenia, Belorussia, Georgia, the Kyrgyz Republic, Moldova, Tajikistan); new EU member states, including Lithuania, Latvia, Estonia.

The data referring to natural resources availability in these countries and the commodities sector role in respective national economies are presented in Table 1.

According to the Table 1, Latvia, Lithuania and Estonia are countries that do not have rich natural resources. At the same time, we believe that Russia can be singled out from the common list of countries with abundant natural resources for the purpose of subsequent comparison of its development trends with other groups of countries.

Thus, further analysis was carried out based on four groups of post-soviet countries: natural resources-rich countries (hereinafter referred to as the "commodities-producing countries"); countries that do not have rich natural resources ("non commodities-producing countries"); the new EU member countries and Russia.

Table 1. Indicators of Natural Resources Availability in the Former Republics of USSR and Commodities Sector Share in National Economies[*]

	Commodities exports, share in total exports of goods, %	Gross added value by industries		Natural resources per capita, US dollars (in 2005 fixed prices)
		Agriculture, hunting and forestry, %	Minerals mining and quarrying,%	
Eurasian countries with rich natural resources				
Russia	75.2	4.0	9.9	31,317
Kazakhstan	83.1	62.2	18.1	23,916
Turkmenistan	81.6	-	-	37,866
Azerbaijan	96.6	5.9	48.9	11,684
Uzbekistan	33.4	-	-	7,652
Ukraine	21.5	8.3	6.6	6,899
Eurasian countries without rich natural resources				
Armenia	33.0	18.8	2.8	3,139
Belorussia	22.8	10.2	0.4	5,972
Georgia	57.4	8.3	1.0	3,334
The Kyrgyz Republic	10.2	18.8	0.7	2,992
Moldavia	3.8	14.1	0.4	4,148
Tajikistan	59.2	21.8	0.0	1,762
New EU members				
Latvia	20.8	4.1	0.5	7,346
Lithuania	32.1	4.2	0.4	6,014
Estonia	12.9	3.3	1.4	16,221

Notes: [*] 2010-2011 data as published in World Bank's 2014 report.

4. Analysis of Macroeconomic Indicators of Development

The relationships between general trends development of the four selected groups of post-soviet countries and their commodities sector dimensions have been identified based on analyzing five macroeconomic indicators: GDP, national debt, direct foreign investments, unemployment level, gross added value.

Data on national debt share in GDP obtained from the World Bank cover 2000–2013. In 2013 the average value of national debt in commodities-producing countries amounted to 19.5% of GDP, which is 1.8 times lower than in non commodities-producing countries and 1.4 times lower than in the new EU member countries. Russia's 13.4% was the lowest of all

In general, 2000–2013 were marked by a significant reduction in national debt share in GDP of averagely 37% in commodities-producing countries up to 78% in Russia. The only exception was the new EU member countries where this indicator doubled.

The global financial crisis of 2008 led to 1.4-1.8 increase in this indicator in 2009 compared to 2008 in all groups of countries. The new EU member countries showed maximum growth.

The global financial crisis largely affected the flow of foreign investments to the new EU member countries and non commodities-producing countries causing a 1.8–1.9 times drop. At the same time the indicator for commodities-producing countries did not decrease that much, it either remained at the same level or increased significantly (e.g. in Turkmenistan).

However, the 2.5–3 times fluctuations of the index for all groups of countries during the studied period should be noted, which indicates there is no direct relationship with the commodities sector dimensions. In our opinion, the volatility of this indicator is largely affected by political factors.

Data on unemployment levels obtained from the World Bank cover 2000–2013. In 2013 the highest unemployment rates 10.8% and 9.4% were observed in the new EU member countries and non commodities-producing groups of countries respectively, while in Russia and the non commodities-producing countries it remained at approximately the same level 5.5–6.2% All in all, a general downward trend in the average unemployment rate was observed for all groups in 2000–2013 which amounted to 10% in non commodities-producing countries and up to 50% in Russia and commodities-producing countries.

It should be noted that during the studied period the new EU member countries and non commodities-producing countries were characterized by almost twice higher unemployment level than that of non commodities-producing countries.

The study also analyzes the relationship between the commodities sector dimensions, on the one hand, and the sectoral structure of national economies and their dynamics, on the other hand. The structure and gross added value growth rates in manufacturing industry were chosen as indicators for the purposes of analysis.

In 2012 the average share of manufacturing in the structure of commodities-producing countries' economies amounted to 18.4%. The new EU member countries and non commodities-producing countries had almost identical indicators 16.4–16.9%. In the studied period the share of manufacturing in the new EU member countries and commodities-producing countries remained unchanged, while non commodities-producing countries and Russia showed a significant reduction by 25% and 32% respectively.

The financial crisis of 2008 had the greatest impact on this indicator in Russia, reducing it by 3%, while in the other groups of countries the average drop amounted to 0.5–0.8%. It should be noted that by 2012 the non commodities-producing countries and the new EU member countries reached and exceeded the pre-crisis level in their indicators, whereas anything similar has not yet been observed in Russia and in the group of commodities-producing countries.

The analysis shows there is a decrease in the average annual growth rates of manufacturing industry in all groups of countries, but this process in Russia and the commodities-producing countries is much slower.

As innovative quality of national industry development can be characterized by such an indicator as export of high-tech products, the share of high-tech products in total exports of industrial

goods was chosen for analysis. Due to unavailability of data, Kazakhstan, Ukraine and Azerbaijan were included into the group of commodities-producing countries and showed the maximum growth of this indicator 4.5% to 14.5% in 2000–2012. The non commodities-producing countries demonstrated a more than 2 times reduction in the indicator in the same period. Among the new EU member countries, Latvia's and Lithuania's indicators doubled, while Estonia showed a 3 times drop.

5. Analysis of Human Development Indexes

The following indicators were obtained from the reports of the World Bank and the UN and used to analyze the relationship between the commodities sector development in post-soviet countries and the population's quality of life: human development index, education index, total spending on health care. These indexes characterize various aspects of human development.

In 2012 the highest human development indexes belonged to the new EU member states group and Russia, 0.83 and 0.79 respectively. The non commodities-producing and commodities-producing countries had similar values 0.70–0.71. In 2000–2012 a steady increase in all groups of countries was observed, that of the non commodities-producing countries group and Russia being the highest. In addition, it can be noted that the gap between the average values showed by groups of countries tends to reduce.

In 2012 the highest education index of 8.32 was traditionally observed in the new EU member countries that are not global leaders in any industry, and the lowest 5.79 in the non commodities-producing group of countries. This situation has been persisting over the recent decade.

The data published by the World Bank in 2012 (The World Bank, 2012) on the share of education expenditure in GDP for the period of 2006–2010 partly contradict the average values of education index among groups of countries: the highest index 5.7% was observed in the new EU member countries and the lowest 3.9–4.1% in the commodities-producing countries and Russia. The situation in health care is similar.

6. Institutional Development Analysis

As the performed study showed, the traditional (institutional) approaches describing relationships between availability and dimensions of the commodities sector, on the one hand, and economic development of those countries where public institutions are still being formed, on the other hand, can hardly be applied without appropriate restrictions. In this way, there are no evident relationships between institutions development and rates at which macroeconomic indicators change. In addition, a well-developed commodities sector does not restrict innovation implementation and manufacturing industry development. Moreover, if there are several commodities industries available, the state is able to allocate extensive funding for health care and education.

7. Conclusions

Analysis revealed the following relationships between the commodities sector and economic development of the studied post-soviet countries, which can be assessed in terms of level, rates and quality of changes.

Economic development level and rates are largely determined, on the one hand, by the industrial potential available in these countries at the time of their emergence with the rate of its subsequent degradation, and, on the other hand, by the rates of commodities sector compensating development (if there was any). The quality of changes consisting of manufacturing sector growth, innovation implementation and amounts of funding allocated to health care and education is determined by available sources, mainly natural resources for the commodities-producing group of countries or government borrowings for the new EU member countries.

Countries with immature public institutions are subject to high risks which largely limit their access to financial resources through borrowings thus constraining their further growth. Initial conditions, such as national and cultural features, geopolitical position and level of

economic development determine the rates and nature of institutional changes to a much greater extent than the availability of natural resources does.

Rates of economic development (macroeconomic indicators) are largely determined by financial sources, obtainable through either the natural resources development observed in commodities-producing countries or borrowing as in the case of the new EU member countries. A deficit of such sources leads to a "slowdown" in socio-economic development. Unavailability of proper sources of development and subsequent extended borrowings increase volatility of socio-economic development indicators.

The 2008 crisis affected the macroeconomic dynamics of the studied countries in different ways. In this context the natural resources simultaneously perform both stabilizing and constraining functions: on the one hand, countries with a more developed commodities sector demonstrated a slighter decrease; on the other hand, the rates of their economic recovery were relatively slower than those of non commodities-producing countries, especially of the new EU member countries.

In addition, it should be noted that the evolution of ideas about the role of natural resources in economies of countries is still ongoing. As experience shows, the role of natural resources in a given country is determined by a wide range of factors including the following: stage of a country's economic development, development of the institute of rights for mining and the mined product, principles of allocation of financial funds obtained from natural resources usage, the ratio of domestic consumption of raw materials to those extracted for export, as well as degrees of their processing, the degree of a country's commodities sector and national economy participation in the global integration processes, etc.

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