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EVALUATION OF INDUSTRIAL POLICY: A CASE STUDY OF KAZAKHSTAN VS. RUSSIA

This article analyses the industry of Russia and Kazakhstan. The comparative analysis of the producing sectors of the Republic of Kazakhstan and the Russian Federation has been carried out. To determine the industry trends development an estimation of industry growth for extraction and processing sectors in Kazakhstan and Russia and the rates of industry average annual increase is provided. Theoretical analysis of the investment dynamics trends using the analytical levelling-off method allowes better regulation of the process and quality of investement.
Keywords: industrial policy; mineral resource industry; processing industry; integration processes; the Customs Union.

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ОЦІНЮВАННЯ ПРОМИСЛОВОЇ ПОЛІТИКИ: ЗА ДАНИМИ РЕСПУБЛІКИ КАЗАХСТАН ТА РОСІЙСЬКОЇ ФЕДЕРАЦІЇ

У статті проведено порівняльний аналіз виробничих секторів промисловості Росії і Казахстану. Для визначення тенденцій розвитку промисловості розраховано приріст добувної та обробної промисловості Казахстану і Росії, темпи середньорічного зростання промисловості. Здійснено теоретичний аналіз тенденцій динаміки інвестицій з використанням методу аналітичного вирівнювання, що дозволяє краще регулювати динаміку і якість вкладень.
Ключові слова: промислова політика; гірничодобувна промисловість; обробна промисловість; інтеграційні процеси; Митний Союз.
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ОЦЕНКА ПРОМЫШЛЕННОЙ ПОЛИТИКИ: ПО ДАННЫМ РЕСПУБЛИКИ КАЗАХСТАН И РОССИЙСКОЙ ФЕДЕРАЦИИ

В статье проведен сравнительный анализ производственных секторов промышленности России и Казахстана. Для определения тенденций развития промышленности проведен расчет прироста добывающей и обрабатывающей промышленностей Казахстана и России, темпы среднегодового роста промышленности. Осуществлен теоретический анализ тенденций динамики инвестиций с использованием метода аналитического выравнивания, что позволяет лучше регулировать динамику и качество вложений.
Ключевые слова: промышленная политика; горнодобывающая промышленность; обрабатывающая промышленность; интеграционные процессы; Таможенный Союз.

Problem setting. Latest researches on integration processes in the world and in the Commonwealth of Independent States (CIS) emphasize the effects from the entry of countries in associations, when the leading position of one country within integration causes pressure on other countries through economic instruments. Any economic union has unequal conditions, different rates of economic growth, geographical position, various levels of education and culture etc. Therefore, studying the influence of the economies within the Customs Union it is necessary to look into the industry increase rates of these countries and define their future positions in the Union.

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Latest research and publications analysis. Researches on industry development have been carried out by K. Abdullayev (2009), E. Atkinson (1995), M. Kargalova (2009), V. Knya-ginin and P. Schedrovitsky (2005), B. Khusainov (2001), B. Mukhamedzhanov (2011), M. Nosov et al. (2009), M. Nosov and Y. Borko, 2009), B. Raizberg (2010), A. Tatarkin (2008).

The research objective is to estimate the Kazakhstan and Russian industry increase rates and the degree of levelling-off for the level of fixed asset formation of the mineral resource sector.

Key research findings. State industrial policy is directly connected with industry growth rates, development of industrial sector and the volume of investments in industrial enterprises. Information on industry growth rates of the Union countries and their possibilities is necessary for effective industrial policy inside the Customs Union. The President's Message to the people of Kazakhstan clearly identifies the priorities in the development of a strong state and outlines the goals of further integration within Common Economic Space (Nazarbayev, 2012). Filling this space with the economy of strong states will be a decisive force in further integration processes, overcoming inertia in industrial development and strengthening the competitiveness.

M. Nosov et al. (2009) studying the European countries' industry development, point at ample opportunities of public instruments of influence in industry. Many countries in reforming their industries increased the state influence in different sector. In particular, Germany took steps to reduce the assistance to unprofitable industries and supports the promising technological ones instead. In the state management theory there are steps on changeover to the technological policy able to raise the level of industrial development (Nosov and Borko, 2009).

Many authors impeach practicality of the Common Economic Space formation (Sirotskyi, 2005). Studying the rates of industrial development in Kazakhstan and Russia seems especially important.

The data for this study were taken from official statistics of Kazakhstan and Russia on the shares of industries in the total industrial production.

From the total share of the primary sector (63.3% in Figure 1) the extraction of crude oil with 58.5% has the most important value. Next is the extraction of non-ferrous metal ores with 2.9%, and the extraction of metal ores with 2.1%. Significant difference is noticeable in distribution of the primary sector industrial components.

The manufacturing (processing) industry (the secondary sector) structure in Kazakhstan is shown in Figure 2. Manufacturing itself has smaller share in the total industry structure, and the distribution of the industry branches has insignificant values. All this proves the lack of development of the industrial processing. This is due to the low level of the renewal of the fixed productive assets, reduced capital investments in manufacturing etc.

This requires state intervention in the sectoral structure by levelling-off and changes in the ratio of industrial sectors.

Figure 3 shows the structure of Russian industry by sectors. Most of the industry (87% of extraction) belongs to fuel-and-energy mineral resources, then 20% go on petroleum products, 17% — woodworking, 15% — manufacture of rubber and plastic articles, 12% fouls on chemical industry.
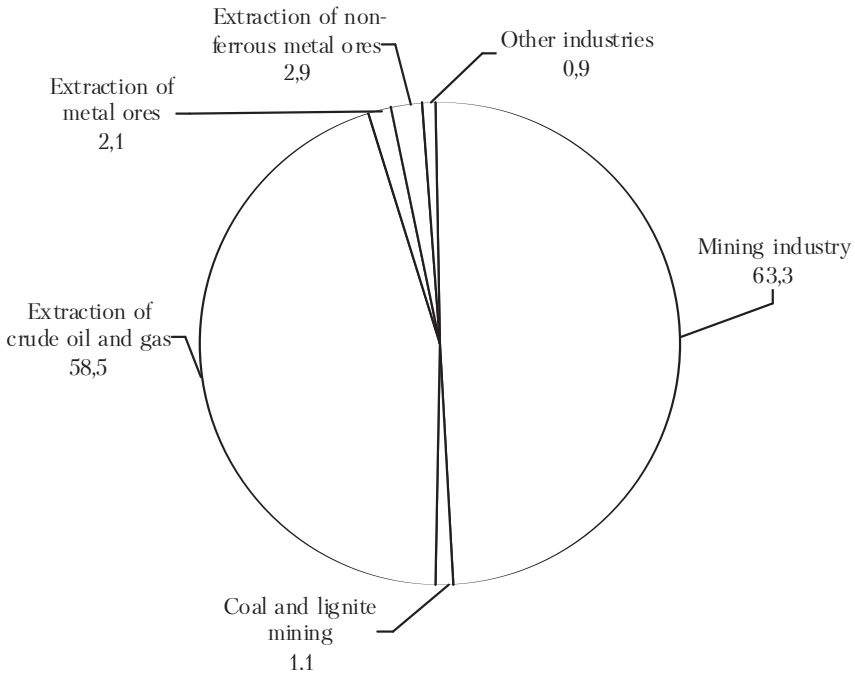
Figure 1. Share of Republic of Kazakhstan primary sector,
according to Industry of Kazakhstan and its regions (Statistic collection)
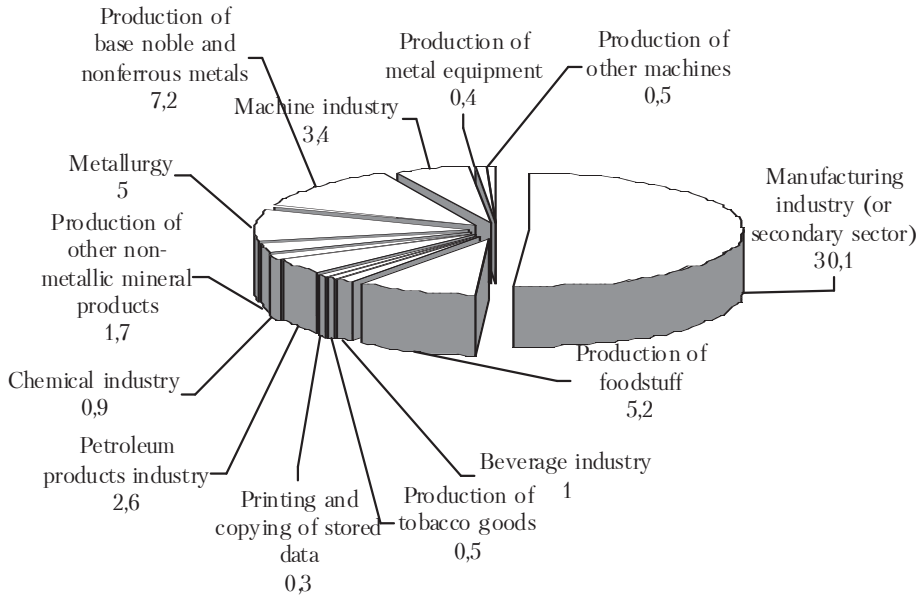in Kazakh and Russian languages, 2012

Figure 2. The share of the Republic of Kazakhstan secondary sector,
according to Industry of Kazakhstan and its regions (Statistic collection)
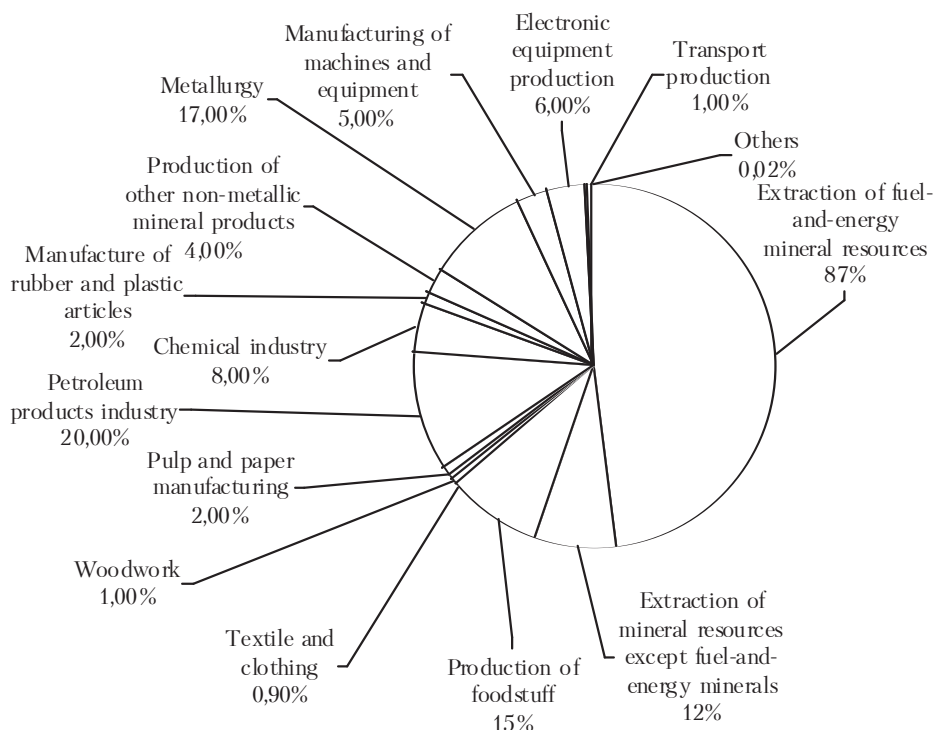in Kazakh and Russian languages, 2012

Figure 3. **Shares of Russian Federation mining and manufacturing in the total production volume,** *according to* Industry of Russia, 2012

Even though mining dominates in Russia as well, manufacturing is represented by such industries which supply products for industrial production.

The graphics thus shows the differences in industrial production in Russia and Kazakhstan. Consequently, there will be different approaches to the industrial policy development. Russia as a strong industrial power can become a driving force for the industry of Kazakhstan, but at the same time Russia can be a stronger mechanism absorbing a weaker one. To determine the trends in the industries of these two countries we carried out the analysis of growth of their industries by sectors.

To calculate the rate of industry increase according to the statistics we used time series and absolute increase concepts (Avrov and Avrova, 2004).

The average industrial volume is calculated by the formula:

$$\bar{y} = \frac{\frac{1}{2}y_1 + y_2 + y_3 + \ldots + \frac{1}{2}y_n}{n-1}. \tag{1}$$

In calculating the average growth rate it is necessary to use the formula for average (Avrov and Avrova, 2004):

$$T_p = \sqrt[n-1]{T_{p1} \times T_{p2}}. \tag{2}$$

The results are shown in Tables 1 and 2.

Note that the average annual increase in Kazakhstan manufacturing industry is higher than in the mineral resource industry although manufacturing in the general sectoral structure has a smaller share.

Table 1. **Increase rates of Republic of Kazakhstan mineral resource industry,**
calculated by the author

	Physical quantities, mln KZT	Growth rates, %	Increase rates, %	Average volume for 2008−2011, mln KZT	Absolute increase	Annual average growth rate, %	Average annual rate of increase, %
Mineral resource industry							
2008	6229667	105.9	5.9				
2009	5502014	107.2	7.2				
2010	7419550	107.2	7.2				
2011	10081254	101.0	1.0				
				4799809	1283862	105.1	5.1

Table 2. **Increase rates of Republic of Kazakhstan manufacturing industry,**
calculated by the author

	Physical quantities, mln KZT	Growth rates, %	Increase rates, %	Average volume for 2008−2011, mln KZT	Absolute increase	Annual average growth rate, %	Average annual rate of increase, %
Manufacturing industry							
2008	3359551	97.5	-2.5				
2009	2945966	97.1	-2.9				
2010	3844658	113.9	13.9				
2011	4801407	107.7	7.7				
				2903484	480618	106	6

Tables 3 and 4 show the Russia's industry increase rates. From these data it is clear that in Russian industry the increase rates are lower in comparison with Kazakh industry.

Table 3. **Increase rates of Russian Federation mineral resource industry,**
calculated by the author of (Industry of Russia, 2012)

	Physical quantities, mln KZT	Growth rates, %	Increase rates, %	Average volume for 2008−2011, bln RUB	Absolute increase	Annual average growth rate, %	Average annual rate of increase, %
Mineral resource industry							
2008	175724	100.1	0.1				
2009	169169	100.4	0.4				
2010	207553	103.1	3.1				
2011	267704	101.3	1.3				
				199478	32845	101.6	1.6

But for better assessment of industries' development it is important to consider the level of investments in fixed assets, which shows future increase in industry productivity. If theoretical analysis allows us draw some conclusions about the equation form reflecting the trend, the analytical levelling-off method can be used, in which the levels of dynamics are expressed as a function of time:

$$\overline{y}_t = ft. \tag{3}$$

The following equation is used for the row of dynamics levelling-off in a right line:

$$\overline{y}_t = a_0 + a_1 t. \tag{4}$$

Table 4. Increase rates of Russian Federation manufacturing,
calculated by the author

	Physical quantities, mln KZT)	Growth rates, %	Increase rates, %	Average volume for 2008−2011, bln RUB	Absolute increase	Annual average growth rate, %	Average annual rate of increase, %
Manufacturing industry							
2008	562120	100.5	0.5				
2009	478399	84.8	-15.2				
2010	629069	111.8	11.8				
2011	760078	106.5	6.5				
				589522	65986	99.84	-0.16

By changing the parameters for the method of least squares (Nosov and Borko, 2009: 65), we derive the following formula:

$$a_0 = \frac{\sum y}{n}; \, a_1 = \frac{\sum yt}{\sum t^2}. \tag{5}$$

According to the analytical levelling-off method from (4) we derive the following equation:

$$\overline{y}_t = 4210 + 207.9t. \tag{6}$$

Calculation of target values is shown in Table 5.

Table 5. Indicators of analytical levelling-off, *developed by the author*

	y	t	t^2	yt	$\overline{y}$
2008	3392	-3	9	-10176	3586.3
2009	4210	-1	1	-4210	4002.1
2010	4585	1	1	4585	4417.9
2011	4653	3	9	13959	4833.7
Total	16840	0	20	4158	16840

This equation can be used for calculating the data for the future period. The investments volume levelling-off right line is represented by the diagram in Figure 4.
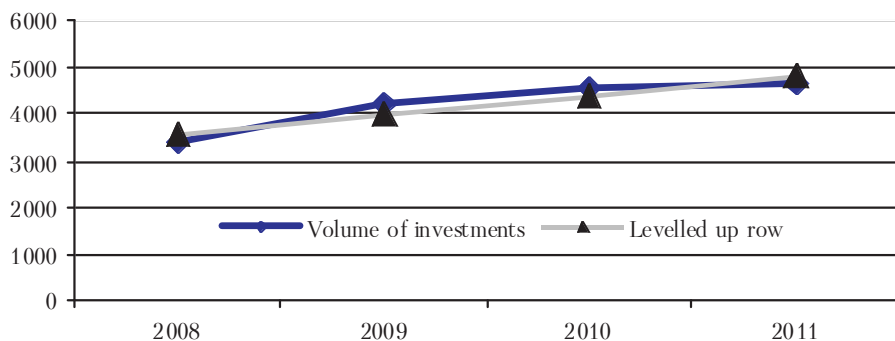

Figure 4. Analytical levelling-off on the volume of investments in a right line,
developed by the author

The results can be used at investments targeting in the mineral resource industry where the major volume of investments is produced.

According to the data of the Republic of Kazakhstan National Bank on January 1, 2013, there were invested 25617 mln USD into the mineral resource industry and 19945 mln USD into manufacturing. Although the analysis of Kazakhstan industrial increase has seen significant growth, but the analytical levelling-off method can more accurately determine the level of investments into the industry and plan this indicator for development plans on industrial production.

The following **conclusions** can be drawn on the basis of the research concerning the industrial policy development:

1. The development of extractive industries satisfies the current economic demands in both countries.

2. Undifferentiated sectoral development of both economies will not help them achieve a competitive position in the global economy.

3. An effective industrial policy should consolidate the efforts of states within the Customs Union, which is necessary for the balanced development of industries.

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