

## Evaluation of technical approaches of industrial policy

Dinara Yermekbayeva, Yekaterina Shishkina, Samat Yermukhan

University of International Business, Abai ave., 8 A, Almaty, 050010, Kazakhstan

**Abstract.** The article is devoted to the formation of industrial policy in Kazakhstan under the conditions of integration, and stresses the importance of such policy-making both in the country and by taking into account interaction with Common Economic Space (CES) countries. Performed analysis of works on the formation of industrial policy allows determine practical arguments in terms of the industrial policy methods and instruments. Analysis of several branches of industry has been accepted for the industrial policy evaluation. Application of analytical leveling-off technique allows determine physical quantities of industrial production in building in the future development plans. This method is effective in carrying out of medium term forecasts for the development of branch complexes, that is very important in periods of economy crisis.

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**Keywords:** industrial policy, innovative policy, engineering productions, analysis of branches, forecasting technique of building industry.

### Introduction

Researches on development of Kazakhstan industry have been carried out in the works of Zh. Davilbekova [1], S. Satubaldin [2,3], M. Sikhimbayev [4], M.Kazhyken [5], M.Kenzheguzin [6].

Analysis of Kazakhstan industry formation from the 90's of last century and development of major industries have been carried out, reasons in formation of Kazakhstan industrial policy have been given in the research of Davilbekova Zh. work.

The works of Satubaldin S., Kazhyken M., Kenzheguzin M. consider researches in the development of up-to-date industrial policy, indicate innovative factors of development. These works provide evaluation of development of Kazakhstan industry on the basis of historical experience and existing advantages, determine outlines of the current industrial policy.

Foreign researchers evaluated opportunities and instruments of the industrial policy in the current approaches for economy regulation. We can refer to them works of Bubb F.B., Schultze C., Trezise P. [7,8,9]. Primary objective of the industrial policy they see in its influence on industrialization of the world economy, and particularly economy of developing countries, which tend to the world achievements by means of using world experience of the industrial policy. They argued in favor of system point of view with relation to the industrial policy and model of "intervenient" policy on the basis of strategic development of a country. These models were considered by the example of Singapore, which achieved much success in economy under the auspices of government. The authors make critical analysis which has practical experience of application at the industrial policy development.

*The research technique* is evaluation of development in Kazakhstan industry with application of analytical leveling-off in the building industry and formation of the industrial policy in accordance with decisions of the Common Economic Space (CES).

### Main part

Kazakhstan industry is represented by three "whales": primary, secondary and engineering sectors. To outward seeming, the industrial policy should move on the development of three kinds of industry to create unified complex of the industrial development of the country. This characterizes the country as a strong state, competitive in the world economy and having a status of leader in the integration space.

There is approximately equal rank in the development of branches of industry among countries of the Common Economic Space, therefore now it is easier harmonize all decisions and actions of the countries on formation of common industrial policy.

Eurasian economic commission moves within the framework of creation of Custom Union and the Common Economic Space. This body carries wide analytical activity on analysis of the industrial policies of three countries.

The following is specified in the quality of mechanisms of the state industrial policy in the national programs of the Common Economic Space countries:

- assignment of the priority branches "growth points";
- improvement of subsidization measures;
- development of knowledge-intensive productions of the industry;
- conversion of patterns of ownership in the industry, development of state-private

partnership;

- creation of favorable business-climate for small enterprises in the industry;
- product quality control on the basis of international standards;
- making of agreed industrial policy within the frame of the Common Economic Space directed on extension of production cooperation, exclusion of productions' duplication; localization of assembly productions on the basis of territorial clusters [10].

Agreement No. 9 "On procedure of organization, control, functioning and development of common oil and oil products markets of the Republic of Belarus, the Republic of Kazakhstan, the Russian Federation" was accepted in the Supreme Eurasian Economic Commission on December 12, 2011 [11]. This decision enters into the common strategy for the development of resource extractive branches of industry which are key branches in Kazakhstan industry.

Rapid development and even greater impressive prospects of the oil-producing branch of the Republic of Kazakhstan create favorable conditions for formation of powerful process industry here, capable not only completely cover internal markets. In general, development of the country oil refining industry is oriented on stable meeting the requirements in all kinds of oil products, creation of auxiliary powers on primary and secondary processes for thorough raw material processing both at the expense of reconstruction and expansion of existing and introduction of new.

Nowadays the Republic is on the 13<sup>th</sup> place in the world on the volume of explored oil reserves. Reserves of exploited and prepared for development 202 fields contain 2,2 billion tons of oil, 0,7 billion tons of gas condensate, and 1,8 trillion of cubic meters of gas. Kazakhstan is on the 26<sup>th</sup> place among countries extracting hydrocarbon material.

According to even the most conservative estimates, Kazakhstan's oil potential contains 25-35 billions of barrels. As is known, balance analysis of oil resources, oil demand and supply on the world market, combination of strategic targets and economic benefits establish routes of export oil pipelines from Kazakhstan.

In Kazakhstan the primary sector is priority-oriented in the development of the whole industry, and key role belongs to the oil producing branch. It is presented by a large company, KazMunaiGas, which has 3 oil-processing plants and networks of trade companies working abroad to push interests of the company, conducting export and trade operations [12].

Gas and oil producing sector is a locomotive for development of processing productions which

have close raw material links with each other.

Oil production enterprises of Ural-Emba area, Mangistau, Atyrau-oil-processing plant and chemical integrated plant, Kazakh gas-processing plant (Zhanaozen city), plastic articles plant (Aktau city), gas-processing plant (Kulsary), and also possible gas and oil processing productions in Mangistau and near Aktau are generally considered as a unified petrochemical complex based on own raw material basis.

The Republic, possessing by unique hydrocarbon material resources, currently has weak technologically linked petrochemical productions, allowing provide needs of different economic branches and implement its potential of competitive producer of high marketable availability petrochemical products. Meanwhile, profit from realization of petrochemical products, produced in a result of processing of hydrocarbons, on 4-4,5 times exceeds indexes obtained from sale of oil-gas raw material. Such petrochemical products as polystyrol, low and high density polyethylene, polypropylene, butadiene rubber, polyvinylchloride, high-quality motor fuels and others are in great demand in the world.

Further development of oil-processing complexes should be directed on creation of raw material clusters in oil-extracting and processing industry, which experience can be used both in other branches and other countries of common economic space.

Thus, support of stable dynamics of industrial production, modernization and increase of production capacities was noted in the concept of the Program on development of industrial complex of the Republic of Belarus – 2020. It was achieved due to the complex development of industrial branches, including knowledge-intensive business and engineering production.

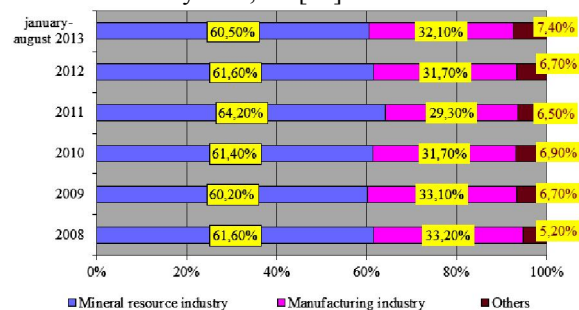
Structural and institutional reformations, improvement of system of innovative development and management of industry were used in the quality of instruments of the state industrial policy.

By definition of scientists-experts, development of the world economy is specified by relation of countries in exchange by financial capital, technologies and natural resources. Countries with financial capital and technologies will prevail. Therefore, in the strategies of leaders-countries more attention is paid to the development of technologies and gaining of forward positions in this field. So, we have placed the engineering production along with extractive and processing industry into the separate priority. Kazakhstan has all conditions for the development of technologies in all industrial branches: there is a total reconstruction of oil-processing plants,

mastering of new processing methods, opportunities for new models of knowledge-intensive productions in the extraction and processing of oil, the same processes are in the manufacturing branches, including formation of manufacturing system in the building industry.

The industrial policy of Kazakhstan was formed in the State program on forced industrial-innovative development of the Republic of Kazakhstan on 2010-2014, Program on Productivity 2020, Industrialization map. Development of the industry moves in raw material direction.

So, for the period from 2008 to 2012, in the overall production little more than 30% fell at the share of manufacturing industry, over 30% – at the share of mineral resource industry. In 2013, there were the same indexes: in January – August 2013 share of the manufacturing industry was 32,1%, of the mineral resource industry – 60,5% [13].

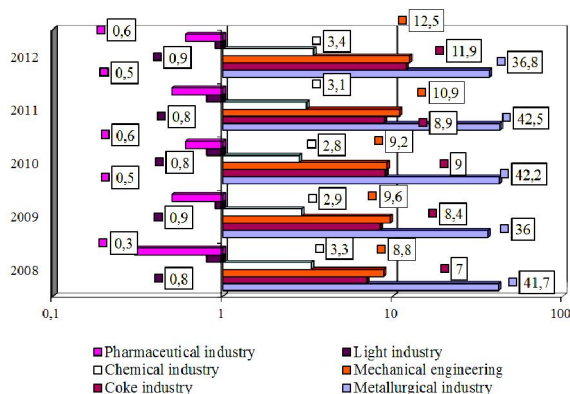


**Figure 1. Share of the mineral resource and manufacturing sectors in the structure of industrial production of the Republic of Kazakhstan for 2008-2012 and January – August of 2013, in % [13]**

In 2012, in comparison with 2008, increase in the following shares is noted in the manufacturing industry:

- production of coke and oil refining products – on 4,9 points (from 7,0% to 11,9%);
- mechanical engineering – on 3,7 points (from 8,8% to 12,5%);
- chemical industry – on 0,1 points (from 3,3% to 3,4%);
- light industry – on 0,1 points (from 0,8% to 0,9%);
- pharmaceutical industry – on 0,3 points (from 0,3% to 0,6%);
- reduction in metallurgy – on 4,9 points (from 41,7% to 36,8%) [14].

– Analysis of the manufacturing industry structure for 2008-2012 points at significant differences in the development: the maximal volume contains metallurgical branch, coke industry and mechanical engineering. Pharmaceutical and light industries are underdeveloped.



**Figure 2. Structure of the manufacturing industry for 2008-2012, in % [14]**

The implementation of the state policy of the pharmaceutical industry requires institutional, infrastructural development and investment measures, as well as system-wide state measures of the pharmaceutical industry of the Republic of Kazakhstan. Organization of pharmaceutical production is a complex and demanding task that requires knowledge and skills not only in business, informational technologies, training personnel and a variety of other areas, but in the organizational design (engineering) [15].

Development of the building sector in Kazakhstan is characterized by fast paces, and this branch is the largest in the structure of GDP.

Steady increase in volume of contracting building works from 424 billion KZT to 1 876 billion KZT or on 341% is observed in the Republic from 2003, that is expressed by positive index of physical volume respectively. However, due to the negative consequences of economic recession in 2009, the dynamics was negative -3% to 2008 [16].

This reduction is levelled by 7% increase in indexes in 2010 up to 1,87 trillion KZT. Specialists think that in future the increase in branch will directly depend on general economic situation, and considering existing state support in civil engineering, estimate potential as “sufficiently high”.

Owing to strategic initiatives, the government tries to overcome specified problems on prime economic indicators of the Republic using performance and development of the building sector. Due to the state support, and improvement of economic situation in the country with increase in GDP of RK on 7% to 18,1 trillion KZT (without considering a deflator), volume of the building sector turnover increased. Also, increase in number of building organization on 3% to 2009 or up to 6,9 thousand of companies has traced, interest to innovations in the building industry has increased. Growth habit components, namely, demand on

services of contracting building enterprises, have increased.

In the planning of the building sector indexes during crisis, we can use equation of analytical leveling-off of the building sector physical volumes that will allow more efficiently plan volumes of the branch.

For this purpose we use equation given in [17]

$$\hat{y} = a_0 + a_1t \quad (1)$$

Conversion of calculation parameters by the least square method [made according to 17, p.65], the following formula is derived:

$$a_0 = \frac{\sum y_i}{n}; \quad (2)$$

$$a_1 = \frac{\sum yt}{\sum t^2} \quad (3)$$

Let's present data of the building industry physical volumes for 2007-2010 for calculation of the analytical leveling-off parameters and carry out relevant calculations presented in Table 1.

**Table 1. Indexes of the building industry analytical leveling-off, in millions KZT**

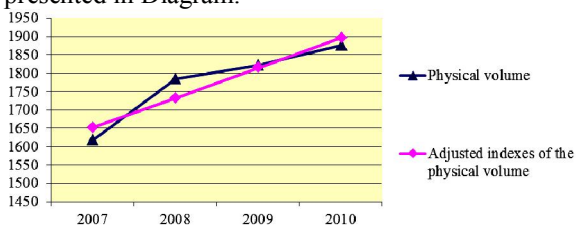
	y	t	t <sup>2</sup>	yt	ŷ
2007	1617	-3	9	-4851	1652,4
2008	1784	-1	1	-1784	1733,8
2009	1821	1	1	1821	1815,2
2010	1876	3	9	5628	1896,6
	7098	0	20	814	7098

According to the analytical leveling-off method we derive equation (4) from (1)

$$1774,5 + 40,7t \quad (4)$$

Inserting values t from Table 1 into equation (4), we find values ŷ, which presented in the last column of Table 1.

The indexes of the building industry physical volumes and indexes of leveling-off these volumes are presented in Diagram.



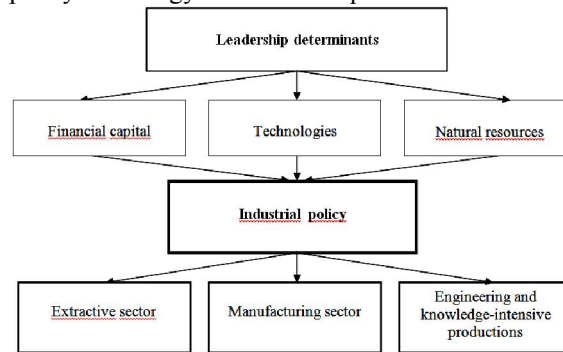
This method can be applied at forecasting of a branch indexes using the analytical leveling-off equation. Received indexes of the leveling-off for the future period will allow plan more precise indexes on the branch that is very important in a precritical period.

By this means, we observe increase in the extractive branches, and lag in the manufacturing branches in Kazakhstan industry. This characterizes the industry as a prone to the raw material direction.

As relations of economic entities are characterized by change of technologies, finances and resources, then formation of the industrial policy should be drawn on these three factors.

In modern times we should have sufficient financial resources, use new technologies and natural resources. Countries with all three factors and effectively using them will be leaders in the world economy. However, possessing by technologies and being short of sufficient natural resources, countries may be successful at the expense of implementation of new technologies in the industry.

Proposed by us model of the industrial policy can serve as a base for development of new industrial policy or strategy for the future period.



**Figure 3. Formation of the industrial policy of Kazakhstan**

Kazakhstan has all factors of leadership which can form the industrial policy and harmonically enroll it into the common industrial policy of the Common Economic Space countries.

This factor is very important in the period of formation of the Common Economic Space in its countries and application of principles for coordination of actions on the industrial development of these countries, for their effective functioning.

Specific role of the industrial policy for the countries of Eurasian space is emphasized in decisions of the Eurasian Commission, as it is necessary to consider development of exported industrial products of identical assortment, development of industrial cooperation and specialization.

**Conclusion**

Approach to the industrial policy definition which includes both methods of the state support and change of thinking to the industrial policy formation is changed in the current period of Kazakhstan economy development. This approach includes special features of the industrial development in Kazakhstan in the quality of the Common Economic Space participant, changes in the industrial functioning conditions, change of priorities of the industrial development. Formation of the industrial policy will occur under the



influence of industrial cooperation of the Common Economic Space countries-participants, development of new industrial formats, deepening of cooperation of business-society in the industrial production, creation of attraction as industrial investment on the territory of the Common Economic Space.

At this rate, the industrial policy is a process of transformation of government influence measures on the industry in connection with changing economic conditions. These measures involve complex of interactions of state analysis, evaluation of the industry current condition, development of the industrial policy strategy on the medium- and long-term periods, consideration of all factors of the industrial development in the integration union, determination of the priority industrial branches, creation of conditions for interaction of branches by means of industrial cooperation, specialization and deepening of the industrial policy current methods. Complex of the industrial policy measures in the current period is directed on adaptation of national features to participation in the industrial policy within the frames of the Common Economic Space. This is very actual as all decisions of the Common Economic Space purposely influence on coordination of national industrial policies in the development of industry of the countries-participants. Efficiency of such policy will bring use to all states.

#### Inferences

Formation of the industrial policy is directed on future development of resource-extractive branches and formation of small businesses with introduction of innovative machinery within the frames of the Common Economic Space. This direction should be one of the priorities of the industrial policy.

#### Corresponding Author:

Dr. Yermekbayeva Dinara  
University of International Business  
Abai ave., 8 A, Almaty, 050010, Kazakhstan  
[dinaraphd@mail.ru](mailto:dinaraphd@mail.ru)

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