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## **Structural changes in the economy through the prism of macroeconomic indicators On the example of the Republic of Kazakhstan**

In the context of the post-industrial development of the world economy, the intensification of internationalization and the globalization of international economic relations led to unprecedented structural changes in the economic system of society. The transition of the development of society to a postindustrial stage requires a radical change in the structure of the national economy. Here, first of all, we should pay attention to increasing the share of the sectors of the processing industry and services in the structure of the national economy, as well as their constant support. There are some macroeconomic indicators that characterize the effectiveness of structural changes in the economy. The article analyzes some of these indicators, including changes in the GDP growth rate, the structure of exports and imports, and the employment structure of the population. The results of any structural changes in the economy should bring changes directly to the structure of GDP, exports and imports, the balance of payments, and also to the employment structure of the economy. Structural changes in the economy, carried out during the years of independence, are analyzed and estimates of these changes are given. In conclusion, the need to carry out structural changes in the economy of Kazakhstan under conditions of a decline in world prices for mineral resources is argued.

*Keywords:* structural changes, economic growth, diversification, GDP structure, export, import, manufacturing, structural policy.

### *Introduction*

One of the most important elements of the state policy aimed at the sustainable economic development is the structural policy including diversification of the economy for the purpose of formation of the branch structure corresponding to tendencies of development of modern world economy. Though new market economies are still capable to exploit the opportunities of the catching-up development, they have to make constant, rapid and sometimes difficult structural changes along with the reforms and construction of new institutes. The ability to assimilation of structural changes has deeply settled in many new market economies, became a basis of potential growth of these economies [1; 232]. Transition of the Post-Soviet countries to market methods of housekeeping doesn't cancel the need of the state structural policy, it just leads to the change if the methods and instruments of execution of such policy. In the conditions of openness of the economy to the world the structure of the economy is highly influenced by the environment of the world markets which can lead to the unbalanced growth of national economy and its instability in the changing conditions of the world market. The purpose of the structural policy of the state in such conditions is to provide sustainability of the national economy, and the main tool here would be its diversification.

This article analyses structural changes of the economy of Kazakhstan during the years of independence at the macro-level i.e in the large spheres and sectors of economy and the problems of its diversification for the purpose of making national economy resistant to the influence of sharp changes in the environment of the world market.

For more detailed analysis of structural changes at the macro-level it is expedient to divide the years of independent economic development of Kazakhstan into three main stages: 1991-1999 – a stage of intensive economic reforms; 2000-2007 – a stage of stabilization and rapid economic growth; 2008-2016 – a stage of economic development in the conditions of world financial and economic crisis.

At the first stage in connection with the transition to the market economy the government of Kazakhstan, first of all, needed to change all available normative legal acts and the legislative base, adapting them to the new conditions of housekeeping. At this time integration into the world economy has been defined by the country leaders as the priority direction of the state economic policy. It has served as an incentive for implementation of major structural changes in the economy both at macro and micro scales, since the international and regional economic organizations recommended to modify the structure of the economy, create

new institutes of market economy and adopt new laws and statutory regulations. During this period the Constitution of the Republic of Kazakhstan in 1993 and 1995, the Law on investments, the Law on banks and bank activity, the Decree of the President which is valid the law on National bank, the Law on monetary policy, and other major acts have been adopted. At the same stage the policy of privatization of property has been executed. All these measures have been directed to the accelerated adaptation of subjects of economy and national economy in general to new conditions, i.e. the market ones.

At the second stage the economy of Kazakhstan boomed thanks to the high prices of mineral raw material resources in the world commodity markets. Kazakhstan took the leading positions in the world rates of economic growth. At this stage of development the state leaders accepted a number of programs and strategies dedicate to diversification of national economy. With this purpose there was established the foundation for a number of clusters was and were free economic zones created.

The third stage of development of national economy of Kazakhstan took place on the background of a permanent economic crisis that began in 2008. Those years the national economy went through several reforms dedicated to the change of the structure of economy, lowering its dependence on the environment of the world markets of raw materials. Reforms were introduced within specific programs and strategies, such as Kazakhstan-2030, «The state program on industrial innovative development for 2010-2014», «The concept of innovative development of the Republic of Kazakhstan till 2020», «The state program on industrial innovative development for 2015-2019», etc.

#### *Analysis of macroeconomic indices*

Now practically all theoretical and applied models of state regulation of market economy include structural policy as an element of economic policy of the state [2; 14].

The executed reforms of the national economy resulted in the positive structural shifts, creation of new branches and types of services that characterize diversification of national economy in a varying degree. However, these changes were insufficient, first, to provide independence of economy of Kazakhstan on the world prices for raw materials and, secondly, to ensure development of new branches.

The main goal of structural reforms in Kazakhstan is to make economy diversified and competitive. But today it has extremely high dependence on export of oil and other natural resources. With low prices on energy carriers the country survives only on transfers from National fund, and its resources are not infinite. Successful and fast implementation of structural reforms is vital for Kazakhstan. However, the current situation shows that we have serious problems with them now [3]. It is known that before the beginning of world financial and economic crisis in 2008 the economy of Kazakhstan had been developing in many respects due to huge demand and the raised prices of mineral raw material resources which Kazakhstan delivers to the world market. After 2008 the growth rates of GDP of Kazakhstan promptly decreased as the prices on mineral raw material resources fell in connection with a world economic crisis. We provide the table reflecting growth rates of GDP of Kazakhstan selectively for the last twenty years (Table 1) [4].

Table 1

#### **Growth rates of GDP of Kazakhstan in 20 years (1996-2016)**

Years (1996-2016)	1996	2001	2006	2011	2012	2013	2014	2015	2016
GDP growth rates, %	0,5	13,5	10,7	7,5	5,0	6,0	4,3	1,5	1,0

*Note.* The table is made by the authors on the basis of data of a source [4].

One of the indicators characterizing diversification of economy is the branch structure of GDP. During the years of independence the structure of GDP of the country has shown little changes towards increase in a share of industry and decrease in a share of agriculture. These changes are reflected in Table 2.

Table 2

## Share of branches of economy in GDP of Kazakhstan in 1996-2016, %

Branch and field of activity	1996	2001	2006	2011	2016
GDP	100	100	100	100	100
Including:					
<i>Production of goods</i>	37,8	46,1	43,9	42	36,4
Rural, forest and fishery	12,2	8,7	5,5	4,9	4,6
Industry	21,2	32,0	29,5	30,7	25,8
Costruction	4,4	5,4	8,9	6,4	6,0
<i>Production of services</i>	57,2	49,3	52,6	49,1	57,9
Trafe	17,3	11,8	12,0	13,6	17,1
Transport*	9,7	10,9	9,0	6,8	8,3
Communication	1,6	-	2,1	2,6	2,1
Other branches	28,6	26,6	29,5	26,1	30,4

*Note.* The table is made by the authors on the basis of data of a source [5]. in 2001 «Transport» and «Communication» were united in one point – «Transport and communication».

The analysis of the statistical data provided in Table 2 allows to draw a conclusion that the branch structure of GDP of Kazakhstan hasn't changed significantly for years of reforms except for an agriculture share. Therefore, it is possible to note that structural changes did not become a quintessence of self-development of industries and dynamic economic growth. Increase in a share of production of services has become possible thanks to so-called traditional types of service, such as trade, public transport, education, communication and others. New branches which are directed to production of innovative products or services haven't given essential results yet. Now it is important for Kazakhstan to cope with the system effects that are certainly inherent for resource economies of the countries with developing markets and to implement its own model of innovative development in order to avoid increase of technological abyss and dependence on competitors [6; 5].

In fact, structural changes are the most indicative fact of quality of economic growth: the most accurate examples of such changes are industrialization and transition to service economy [7].

Results of any structural transformations in economy have to make changes directly to the structure of GDP, export and import, the balance of payments and also to structure of employment of the population on branches of economy. In Kazakhstan in different years, in particular after the 2000s, the programs dedicated to diversification of economy, first of all export and at decrease in an dependence on import in the Kazakhstan economy were actively implemented.

Below we will consider commodity structure of export and import of Kazakhstan from these positions for the last twenty years (Table 3).

Table 3

## Commodity structure of export of Kazakhstan in 20 years

№	Name of groups of products	Share in export, %				
		1996	2001	2006	2011	2016
1	Mineral products	36,9	58,0	71,9	77,6	65,0
2	Metals and products from them	31,3	24	16,1	13,2	16,7
3	Products of chemical and related industries (including rubber and plastic)	9,2	5	4,2	3,9	7,2
4	Products of animal and phytogenesis, final food products	12,1	5	2,8	2,1	5,8
5	Machines, equipment, vehicles and devices	5,4	3	1,8	0,9	1,9
6	Other	5,1	5	3,3	2,3	3,4
	Total	100	100	100	100	100

*Note.* The table is made by the author on the basis of data of a source [5].

As you can see from Table 3 about 2/3 of Kazakhstan's exports for 2016 make mineral resources which shows raw oriented economy. It means that 2/3 of foreign trade balance of the country is only dependent on the market of mineral raw material resources, the prices for which are unstable. Of course, the state program on industrial innovative development (GPFIR) for 2010-2014 allowed to create certain prerequisites for further development of the industrial sector: the system of institutes of development has been created, a number of necessary normative legal acts has been adopted, separate tools have been developed. Execution of GPFIR resulted in trend shift towards increase in level of manufacturing industry, but it still remains rather low [8; 110].

Respectively, there is an opposite picture in structure of import. Here we can see a high share of ready-made products, cars, equipment, devices, the prices for which are more stable. In the conditions of open market the high efficiency of export of raw materials has created steady tendencies of growth of the share of primary and raw sectors at essential reduction of the share of processing industries, especially high-tech industries. Due to underdevelopment of processing industries the opportunities for extension of the nomenclature of export production are extremely insignificant [9; 443]. «Scissors of the prices» which were formed because of sharp reduction of prices of fuel resources were reflected on conditions of the budget, trade and payment balances of the country [Table 4].

Table 4

**Commodity structure of import of Kazakhstan in 20 years**

№	Name of groups of products	Share in import, %				
		1996	2001	2006	2011	2016
1	Mineral products	21,2	14	14,3	14,6	9,1
2	Metals and products from them	10,9	14	13,3	10,0	12,5
3	Products of chemical and related industries (including rubber and plastic)	15,1	14	10,8	13,4	16,1
4	Products of an animal and phytogenesis, final foodproducts	13,3	8,0	7,0	10,8	12,1
5	Machines, equipment, vehicles, devices	29,3	41	45,2	39,3	37,8
6	Other	10,2	9,0	9,4	11,9	12,4
	Total	100	100	100	100	100

\*Note. The table is made by the authors on the basis of data of a source [5].

Another macroeconomic indicator that characterizes development of the economy is the level of employment of the population. For assessment of structural changes in economy the structure of employment by economic sectors play an important role.

Table 5

**Structure of the employment of the population by sectors of economy (1996-2016)**

№	Sectors of economy	Employed population, %				
		1996	2001	2006	2011	2016
1	Rural, forest and fishery	21,3	40,2	31,5	26,5	16,2
2	Industry and construction	20,6	15,6	18,0	19,0	20,6
3	Services sector	58,1	44,2	50,0	54,5	63,2

Note. The table is made by the authors on the basis of data of a source [5].

Apparently, as we see from Table 5, the share of the employed population in the services sector dynamically grows which characterizes development of the tertiary sector of economy (see Fig.).

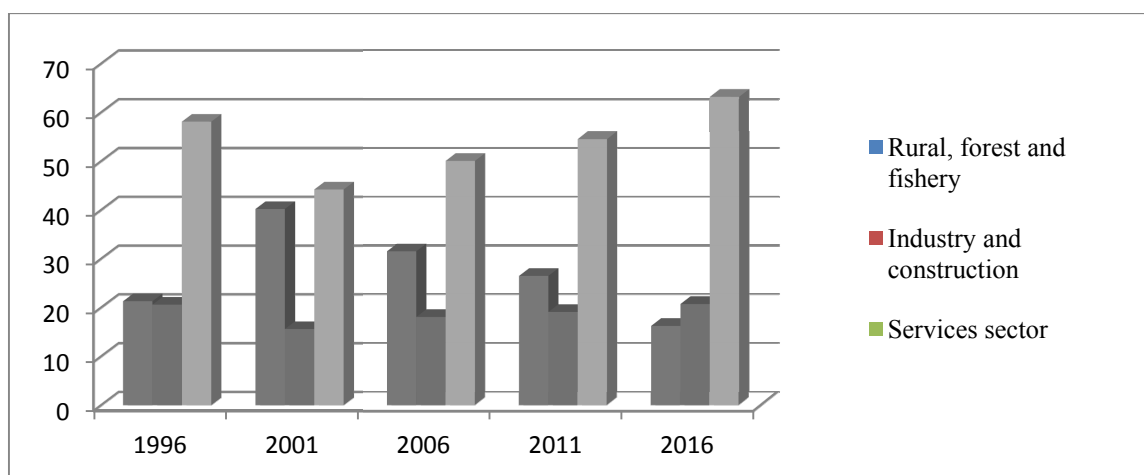


Figure. Dynamics of structure of employment by sectors of economy

However, as we have already mentioned above, it is promoted by growth of so-called traditional types of service (trade, transport, education and others). In the developed countries we observe restructuring of all economy and concentration of resources around the most profitable business related to innovations [10; 62].

And the main instrument of active implementation of structural changes both at the level of the enterprises and at the state level is the innovative policy, i.e. creation of new products, production technologies and administrative tools. To survive in the environment of competition, the enterprises should promptly adapt the portfolio of their goods and services to the changing demand of consumers [11]. To provide competitiveness the companies and the countries have to introduce innovations in all of their forms, which means that the strategies which are mainly directed to cost cutting will be less effective than the strategies based on more innovative ways of the offer of products and services [12; 48].

As the President of the country N. Nazarbayev noted in the Message to the people of Kazakhstan in 2017 «It is necessary to develop such perspective branches in the country as 3D-printing, online trade, mobile banking, digital services, including in health care and education, and others. These industries have already changed structure of economies of the developed countries and gave new quality to traditional branches» [13]. In modern conditions it is necessary to develop such branches as information technologies, heavy mechanical engineering, the textile industry, space, fiber-optic technology, genetic engineering etc. in Kazakhstan. These branches should become the engine of the national economy against the background of decrease in the world prices for raw materials [14].

Thus, Kazakhstan is a developing, open and small economy that supplies raw materials to the world markets, therefore it depends heavily on the conjuncture of the world commodity markets. The drop of prices for oil, the devaluation of the Russian ruble, the decline in prices for exports, the overall geopolitical and economic crisis have a negative impact on the trade balance and the economy of Kazakhstan [15].

Thus, it is possible to make a conclusion that the modern raw structure of national economy of Kazakhstan shows the strong vulnerability from an environment of the world market. Therefore the policy of diversification and industrialization has to complete rather quickly the formation of complete sectors of economy as local centers of stability. In particular in the agrarian sector in the closest years it is necessary to take to a self-dependent level on milk, vegetables, fruit, meat to 90-100 %. It is necessary to strengthen the functioning of the agro-industrial sector on processing and production that have a considerable internal potential and demand [16]. The taken measures on questions of state regulation of economy, introducing the amendments into the adopted programs and strategy, restoration of an environment of the energy market have short-term character. The main thing is taking the course towards essential changes of structure of economy aimed at the accelerated development of processing industry and new technologies for which there are favorable conditions in Kazakhstan.

#### *Conclusions and recommendations*

As a result of the retrospective analysis of dynamics of basic macroeconomic indicators and quantitative assessment the historical picture of efficiency of the carried-out structural changes in economy of Kazakhstan is received. The received results allow to draw the following conclusions:

1. The economy of Kazakhstan remains strongly dependent on the world prices for mineral raw material resources.

2. The undertaken structural reforms generally had short-term character and therefore haven't given essential effects in the long-term period.

3. Despite the undertaken structural reforms, in structure of import the share of ready-made products of processing industry, and in structure of export mineral and raw products of mining industry prevails.

For improvement of structure of economy and for the solution of the existing problems according to us the country leaders need to pay attention to the following strategic priority areas:

– stage-by-stage accumulation of productivity in each of branches of economy. Radical transition from «the aspiration to reach absolute employment and support of continuity in economy» to «concentration on achievement of world-class productivity in each branch» is necessary;

– mincrease in competitiveness of the enterprises of small and medium business;

– increase in efficiency of public administration for the purpose of formation of the government providing world-class services;

– development of the world-class service sector through the accelerated capacity-building of innovative types of service.

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## Макроэкономикалық көрсеткіштер арқылы экономикадағы құрылымдық өзгерістерді көрсету Қазақстан Республикасы мысалында

Әлемдік экономиканың постиндустриалды дамуы жағдайында халықаралық экономикалық қатынастардың интернационализациялануы мен жаһандануының күшеюі қоғамның экономикалық жүйесінде бұрын-соңды болмаған құрылымдық өзгерістерге алып келді. Қоғам дамуының постиндустриалды кезеңге өтуі ұлттық экономика құрылымын түбегейлі өзгертуді талап етеді. Мұнда, ең алдымен, ұлттық экономика құрылымындағы өңдеуші өнеркәсіп пен қызмет көрсету секторларының үлесін арттыру мен оны ұдайы қолдауға баса назар аударылуы тиіс. Экономикада жүзеге асырылған құрылымдық өзгерістердің нәтижелілігін сипаттайтын бірқатар макроэкономикалық көрсеткіштер бар. Мақалада осы көрсеткіштердің бірқатары, соның ішінде ЖІӨ-нің өсу қарқыны, экспорт пен импорттың құрылымы, халықтың жұмысбастылық құрылымы талданады. Экономикада жүргізілген кез келген құрылымдық өзгерістердің нәтижелері тікелей ЖІӨ, экспорт пен импорттың, төлем балансының, сондай-ақ экономика секторлары бойынша халықтың жұмысбастылық құрылымына өзгерістер енгізуі қажет. Тәуелсіздік жылдарында жүргізілген экономикадағы құрылымдық өзгерістер талданып, бұл өзгерістерге баға берілді. Қорыта келгенде, минералды-шикізат ресурстарына әлемдік бағаның төмендеуі жағдайында Қазақстан экономикасында құрылымдық өзгерістерді белсенді жүргізу қажеттілігі дәйектелген.

*Кілт сөздер:* құрылымдық өзгерістер, экономикалық өсу, диверсификация, ЖІӨ құрылымы, экспорт, импорт, өңдеуші өнеркәсіп, құрылымдық саясат.

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## Структурные изменения в экономике через призму макроэкономических показателей На примере Республики Казахстан

В условиях постиндустриального развития мировой экономики усиление интернационализации и глобализации международных экономических отношений приводило к небывалым структурным изменениям в экономической системе общества. Переход развития общества на постиндустриальный этап требует кардинального изменения структуры национальной экономики. Здесь прежде всего должны обратить внимание на увеличение доли секторов перерабатывающей промышленности и услуг в структуре национальной экономики, а также на постоянную их поддержку. Существуют некоторые макроэкономические показатели, которые характеризуют результативность проводимых структурных изменений в экономике. В статье анализируются некоторые из этих показателей, в том числе изменения темпов роста ВВП, структуры экспорта и импорта, структуры занятости населения. Результаты любых проведенных структурных преобразований в экономике должны внести изменения непосредственно в структуру ВВП, экспорта и импорта, платежного баланса, а также в структуру занятости населения по отраслям экономики. Проанализированы структурные изменения в экономике, проведенные за годы независимости, и даны оценки этих изменений. В заключение аргументируется необходимость активного проведения структурных изменений в экономике Казахстана в условиях снижения мировых цен на минерально-сырьевые ресурсы.

*Ключевые слова:* структурные изменения, экономический рост, диверсификация, структура ВВП, экспорт, импорт, обрабатывающая промышленность, структурная политика.

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