THE PROBLEMS OF CONTEMPORARY ENGINEERING DEVELOPMENT IN KAZAKHSTAN

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Keywords: machine building industry in Kazakhstan, the dynamics of industry GDP, the share of machinery production, the structure of investment in industry in Kazakhstan, the problems of machine-building industry in Kazakhstan.

The author of this article considers the development of mechanical engineering of Kazakhstan nowadays, analyzes the main indicators of the industry for the given period of time, gives comparative characteristics, and suggests ways of improving it.

One of the Kazakhstan priorities is the development of domestic engineering. Machinery is part of the aggregated industry, the so-called "Mechanical engineering and metal manufacturing". In turn, mechanical engineering includes 37 sub-sectors, such as energy, diesel-engine, metallurgical, mining, railway building, chemical, automobile, tractor, agricultural, aviation, military, shipbuilding sector and others.

The dynamics of GDP, both in general industry, and in manufacturing and engineering industries is shown in table 1.

As it is seen from table 1, in the recent years the volume of production of engineering was constantly growing. In 2003 it amounted to 18.4 billion rubles.

Last year the plants of Kazakhstan issued and sold products on the amount of over 38,2 billion rubles. Industry as a whole is growing faster than the economy, but in terms of value it gives only 3,5 per cent of total production.

The share of mechanical engineering production in total industrial output of Kazakhstan fell from 15.9% in 1990 to 3,5% in 2009.

Table 2 shows the proportion of mechanical engineering production in total industrial Kazakhstan production, %.

From this table it is evident that the largest share in total industrial production in Kazakhstan amounted to 15,9% in 1990. The dynamics of the reduction of this figure to 2.2% in 1999 (13,8)) is seen later. It was due to the transition to market economy. By now, this figure has risen to 3,5%, but it remains in significant. For comparison, a similar rate of Japan reaches 50%, Germany - 48%, Sweden - 42%, USA - 40%, France - 38%, Russia - 30%, China - 25%.

The number of employees in Mechanical Engineering in 1990 was about 350 thousand people, now it accounts for about 75 thousand people. This slight increase of machine-building industry in total industrial production is related to the increasing demand for oil and gas equipment in domestic production. Average capacity utilization in the industry, according to the Market Survey is 48%, although there are companies where it does not exceed 10-20%. There

Table 1

Dynamics of GDP of total industry, manufacturing and engineering (for current prices: bln. rubles)

Indicators	2003	2004	2005	2006	2007	2008	2009
GDP	922,4	1174	1518	2042,6	2545,2	2878,2	2922,4
Industry	567,2	773,6	1050,6	1302	1563,2	1073,8	1090,2
Manufacturing	243,4	307,4	370,4	481,4	591,2	370,3	397,6
Engineering	18,4	25,6	35,9	45,7	56,2	53,8	38,2

Table 2

Proportion of mechanical engineering production in total industrial Kazakhstan production, %

The share of engineering in industry	1990	1995	2000	2005	2006	2007	2008	2009
Engineering	15,9	7,3	2,5	3,4	3,5	3,5	3,5	3,5

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is a high degree of funds wear (about 43%), including the active part (80%). For most enterprises, the coefficient of renewal of the main funds amounts to 11-17% and the rate of breakage is 7,3-8,2%.

The main problems of mechanical engineering industry in Kazakhstan today are:

1. The low proportion of machinery and engineering equipment manufacturing in the Gross Domestic Product of the country;

2. High proportion of depreciation of the main material recourses;

3. Lack of financing;

4. The technological obsolescence;

5. The main enterprises are not working;

6. Low investment;

7. The absence of high-qualified personnel.

Concerning these discussed points we suggest that:

1. Today Kazakhstan is at the crossroads of choosing between political and historical development, not only in mechanical engineering, but in the whole economy as well. One way is the inertia, extensive use of resources. And the other one is the technological scenario that involves significant structural adjustments and the reorientation of financial investment and improvement of the growth rates in the next 15-20 years up to 10-15%.

2. In world practice there are two main ways of intense technological development of countries. The first way is the so-called 'American way'. The second way is the so-called 'Japanese way', based on centralized control points, state planning and accelerated branch changing resources. This way is preferable for our country.

3. The experience of south-east Asian countries shows again that having regular and correctly designed tax fiscal policy, the state can achieve incredible success, but even the state cannot afford to invest in its branch.

4. Reducing the tax will lead to increasing the investment attractiveness of the industry and attract the funds of the interested investors, and reduce government support for the industry.

5. For the preparation of Kazakhstan mechanical engineering skills it's necessary to increase in the number of technical schools and engineering professions in universities.

6. It's necessary to increase funding for scientific research and experimental development, to introduce tools of domestic engineering.

7. Taking into account the complexity and the cost of removing the technological obsolescence of the industry, it is required to establish the mechanism of leasing which is used in developing countries.

8. The development of foreign markets through the expansion and diversity of foreign supplies.

Received for publication on 25.02.2010