

## **PECULIARITIES AND REFERENCE POINTS OF MACHINE-BUILDING ENTERPRISE ACTIVITIES**

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**Summary.** The state of Ukraine's machine-building complex with reference to the consequences of world economic crisis is considered. Recommendations for stabilization of machine-building enterprises activity are given.

**Key words:** machine-building, industry, export, import, enterprise, market.

### **INTRODUCTION**

Machine-building is a large complex of Ukraine's industry. More than one third of industrial personnel works there. Machine-building is basis of technical and technological progress.

In Ukraine large-profile machine-building is highly developed, which enterprises form complicated associate machine-building complex. All basic industries of machine-building are included in its composition. A leading place is occupied by an instrument-making, tractor and agricultural engineer, about one fifth of people who work in machine-building work here. Transport machine-building, industry of metallic constructions, constructions, machine-tool and instrumental industry are being developed. The characteristic feature of industry is expansion of issue of wares, which was before delivered from abroad, upgrading of some types of products.

Taking this into account - a dynamic revival of machine-building is necessary pre-condition of the proof economy growing, overcoming of technological lag and creation of the proper pre-conditions of output of country from a crisis situation.

### **ANALYSIS OF ANALOGICAL RESEARCHES**

Presently at the market of economic literature of Ukraine the amount of editions which are devoted to machine-building has increased. The next researchers have

devoted their works to the question of machine-building development - D.A.Sosnin, C.II. Timoshenko, G.G. Mukhin, V.V. Klyueva and others.

The analysis of literary sources allows to draw a conclusion, that in scientific works of the noted authors the state of machine-building is neither not quite examined, nor examined to crisis situation, which has stipulated the actuality of presented research.

### ARTICLE AIMS FORMATION

Article's aim is to analyze the state of Ukraine's machine-building enterprises in the conditions of economic crisis, to outline possible development directions of machine-building enterprises of Lugansk region.

### EXPOSITION OF BASIC MATERIAL

Machine-building complex of Ukraine at the beginning XXI century was developing with passing ahead rates (Table 1) [2].

Table 1. **Indexes of products volume of machine-building by types of activities (percents are compared to the previous year)**

|  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  |
|--|-------|-------|-------|-------|-------|-------|-------|
| Region total   | 122,5 | 118   | 124   | 107,7 | 105,7 | 150   | 116,6 |
| Production of machines and equipment                     | 99,6  | 107,4 | 118,2 | 96,6  | 98,6  | 125,7 | 106,3 |
| Production of electric, electronic and optical equipment | 103,5 | 111,9 | 110,4 | 141,1 | 80,6  | 107,3 | 83,7  |
| Production of transport vehicles and equipment           | 160,2 | 129,2 | 131,5 | 109   | 115,6 | 165,1 | 123,7 |

During last 5-6 years machine-building by the rates of the growth exceeded the dynamics of development of metallurgy in 2-3 times.

Growth of general production volumes in machine-building during 2003 – 2007 years is a cause of combined co-operation of internal and external factors, which involved the present resources of growth. Positive changes are foremost constrained with:

- with the favorable world economic state of affairs and growth of profits in export-oriented industries, which, in same queue, entailed growth of internal solvent demand on the products of machine-building;
- with the positive change of pattern of eventual consumption in behalf of commodities of the long-term use.

In the III quarter of 2008 the main problem of industry of Ukraine was caused by a global economic and financial crisis as a result of which we have the downstream of products productions in comparison to the previous year on 3,1% (Table 2) [2].

Table 2. **Change rates of production volumes in basic industries %**

|                  | 2003  | 2004  | 2005 | 2006  | 2007  | 2008  |
|------------------|-------|-------|------|-------|-------|-------|
| Industry         | +16,0 | +12,5 | +3,0 | +6,0  | +1,0  | -3,1  |
| Metallurgy       | +14,3 | +12,0 | -1,5 | +9,0  | +8,0  | -10,6 |
| Machine-building | +35,8 | +28,0 | +7,1 | +11,5 | +28,6 | +8,6  |

Such situation is caused by sharp reduction of production volumes in the IV quarter of 2008 year. (on 24,9%). The most falling by comparison to an analogical quarter of 2007 year was observed on the enterprises of mining-metallurgical complex (on 39–45%), machine-building (29,2%).

The basic factors of decline in a production in machine-building is the rising in price of metal in the first half-2008 year, which in same queue resulted the increase of costs of eventual products in such threw capacious industries as carriage building, metallurgic machine-building, machine-tool construction and energetic machine-building.

Share of machine-building in the general structure of products export and import from 2005 to 2007 was growing constantly (Table 3) [2].

Table 3. **Share of machine-building in the general structure of products export and import, %**

|        | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|--------|------|------|------|------|------|------|
| Export | 16,5 | 17,3 | 13,5 | 14,5 | 17,2 | 16,0 |
| Import | 24,8 | 26,7 | 27,7 | 30,4 | 32,6 | 29,7 |

This was supported first of all by the fact that mechanical equipment, transport vehicles and pathfinder equipment, was needed at the capacious market of the UIC, including Russia where, for example, only 68,2 % of inventory park of freight carriages of countries of Union, on the 01.01.2006 date, suited exploitation. Russia is the most point-of-sale partner of Ukraine [1]. Taking to account that in the proper country considerable attention is spared to fuel and energy industries Ukraine gradually grew into the center of machine-building for these industries on the walks of life of UIC. Only from 2004 to 2007, specific gravity of machine-building products in an export to Russia grew from 18% to 25,9%.

Advantage of domestic machine-building products was always relatively low price, what after the increase of rental became approach to the level of the European competitors. In 2008 year a price advance in machine-building was about 25%, what assisted in falling of demand on its products on the basic markets of sale, more than all, in Russia, Table 4 [2].

Reduction of world demand on domestic machine-building products resulted to exporters losses on overseas markets of sale. Taking into account high dependence of machine-building industry on the traditional overseas markets of sale of products (mainly, Russian) and low level of diversification of overseas markets, this factor comes forward as substantial limitation in relation to development of machine-building.

**Table 4. Producers price indexes of machine-building products in 2003-2008**  
(percents are compared to the previous year)

|  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  |
|--|-------|-------|-------|-------|-------|-------|
| Machine-building in total                                | 104,4 | 110,9 | 110,1 | 104,3 | 109,9 | 120   |
| Production of machines and equipment                     | 103,2 | 108,8 | 110,8 | 108,6 | 108,3 | 111,2 |
| Production of electric, electronic and optical equipment | 108,4 | 116,9 | 106,4 | 99,8  | 110,7 | 127,3 |
| Production of transport vehicles and equipment           | 103,1 | 108,3 | 114,4 | 106,3 | 110   | 115,5 |

The volumes of import exceed the volumes of export considerably. The import of machine-building products of considerably higher technical descriptions is sharply increased in comparing to domestic products what is predefined by the increase of internal demand by activation of processes of modernization of equipment in industry. There is a lot of import of those types of products which domestic enterprises would produce. It touches the production of machines and equipment, electric machines and facilities of ground vehicle. Such situation threatens for domestic industry because penetration of import of base kinds of economic activity of machine-building which provide the production of highly technological commodities, is high enough.

Among general problems of Ukraine machine-building industry is a problems that, as a rule, on this enterprises on-finished production but separate knots and asms are being released. Machine-building enterprises were only part of the general technological part of production system of former Soviet Union. In this connection it is yet needed to master the machine-building enterprises of Ukraine and learn to produce eventual products competitive on oversea markets.

For the effective use of existing in a country industry potential it is necessary to have scientifically production structures so powerful, that they could carry out all cycle of experimental, experimentally -constructive, preparatory, marketing activities on creation and mastering of production of new generations of technique, which would have a sufficient excess capacity and would be able to resist on the internal and external markets of competition of strong, including transnational companies.

A retentive factor for an engineer is limit of financial resources, which predetermines the small volumes of investing. In Lugansk area an index of investments into the fixed assets of machine-building enterprises diminished on 21,9% in 2008 comparing with 2007, Table5 [3].

**Table 5. Investments indexes into the fixed assets of machine-building in Lugansk region**  
(percents are compared to the previous year)

|  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  |
|--|-------|-------|-------|-------|-------|-------|-------|
| Machine-building   |       |       |       |       |       |       |       |
| Region's total   | 84,9  | 165,8 | 146   | 101,3 | 85,6  | 161,5 | 139,6 |
| Production of machines and equipment                     | 95,3  | 150,1 | 158,2 | 140,1 | 65,7  | 127,4 | 132,9 |
| Production of electric, electronic and optical equipment | 149,5 | 99,3  | 281   | 91,4  | 94,0  | 195,3 | 62,3  |
| Production of transport vehicles and equipment           | 66,8  | 206,4 | 112,3 | 69,6  | 118,0 | 180,5 | 179,8 |

The general volume of investments went down with low rates. So, despite a widespread idea, falling of investments in general, does not have collapse character. In machine-building most reduction of production investments is observed in the sphere of electric, electronic and optical equipment.

In the nearest time there are no principles to hope on proceeding in the financial system. And it means that an investment slump will proceed.

In these terms it is necessary to provide facilities of state stimulation and support of commodity producers.

In particular a government must consider possibility in a priority order to carry out purchases by such large governmental companies as “Ukrzaliznytsya”, “Naftogas”, “Energoatom”, on domestic machine-building enterprises. Private companies, for example metallurgical, must become the large users of machine-building products. To the present tense 80% orders on the update of capital assets of metallurgical industry were received by the European machine builders, however in the modern terms of financial deficit metallurgical enterprises have to pay more attention to the equipment of domestic production. More to that such producers as Novokramatorskiy machine-building plant and «Azovmash» are ready to supply metal equipment of world level.

In addition, it is important to consider the concentration of state assets an important moment. Government has to maximally fasten the creation of branch machine-building holdings. Incorporated state enterprises of aircraft building, fuel complex, energy machine-building able to will be able to accumulate necessary facilities for realization of the large programs, including state order.

In a present situation a main strategic task of the state is renewal and intensive growth of internal markets of consumption of industrial products. It is possible during realization of many large infrastructural projects which will create internal demand.

On the products of engineer high technical complication, specificity of application, high cost, is inherent, which impose on a producer certain limitations in the volumes of realization, advancement to the market, service and other. The producer of such products cannot count on the attained volume of sale in a complete measure, because the coefficient of update of demand on the products of machine-building is very low. This, in same queue, influences on efficiency of production and distributing of products, profitability of sale and others.

Exposure of conformities and basic tendencies which influence on forming of conception of distributing of domestic enterprises in modern terms must promote to the solving of this problem.

Obviously, that it is worth, leaning on basic conformities to law, related to advancement of products, to offer a distributing model, that requires establishment of the protracted partner relations between all elements of distributing process – by the branches of producer distribution, distribution mediators and partners of distribution [4,5,6,7,8,9,10]. It will allow to deepen partner connections, considerably to improve the use of resource potential of all participants of distributing process, including buyers, to accelerate development of territories which partners operate on.

Without regard to that, one of central places at distributing of products belongs to distribution channels, a theory and research of this question come to the point that, the distributing channels are analyzed mainly from point of the use separate by organizations with the purpose to structure and adjust the activity of their participants.

An analysis on a micro level is consonant to traditional for marketing management approaches of the problems solution. At the same time the question of maintenance, adaptation and development of the distributing channels, which exist in the conditions of “organisms” competition, is paid not enough of attention. In addition, practical researches of distributive networks are much limited from point of their scale and methodology. Majority of works in relation to channels of distributing are clearly descriptive, they don’t contain or almost don’t contain place for verification of formal hypotheses shown out of theory.

Distributing problems become more complicated, and connections with subjects of distribution process – more guided in the conditions of market. Therefore there is a necessity for development and application of management mechanisms, which engulf main problems. Without regard to present deep development of mathematical apparatus, long-term consequences can not be taken into account which can arise up in economic activity of enterprises in the case of acceptance of that or other variant of organization of distributing process or at determination of strategy of scope of market, so far. In addition, complications at the estimation of activity of distributing participants rise up.

The estimation of participants activity of products distributing pulls out the special requirements to the informative providing.

At first, the difficult organizational structure of construction system of products distributing requires the informatively-analytical systems, which would have provided all process of enterprise products distributing the necessary volume of relevant information.

Secondly, in the process of enterprise products distributing there are informative streams from financial, marketing and other activities, which must be accumulated, processed and analyzed in accordance with the put tasks.

Thirdly, distributing of mine-out products through straight and non-straight channels causes a necessity to control activity of every participant of distributing, which also results the accumulation of great number of information, which must be structured, proceeded and used when necessary.

Growth of distributing role on macro- and microeconomic levels stipulates the necessity of improvement organizationally the economic providing of enterprises products distributing. It is meant here not only the improvement of separate elements of distributing process but about working on special approaches as for organization of distribution management as a system.

Development theoretical and methodological bases and methodical approaches which create terms for the improvement of distributing of products of enterprises, include:

- development of organizationally economic mechanism of management distributing;
- determination of methodical decisions complex, necessary for embodiment of this mechanism in practice;
- development of methodical approaches as for formation of organizational structure of management distributing.

## CONCLUSION

The conducted research of Ukraine's and Lugansk region's machine-building current state showed that one of the substantial problems there is products distributing both on internal and external markets. Machine-building prospect of development depends from exposure of conformities and basic tendencies which influence on the distribution concept formation of domestic enterprises in after-crisis conditions, and development and implementation of organizational and economic mechanism of distribution management.

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## ОСОБЕННОСТИ И ОРИЕНТИРЫ ДЕЯТЕЛЬНОСТИ МАШИНОСТРОЕНИЯ

Герцик В.А.

**Аннотация.** В статье рассмотрено состояние машиностроительного комплекса Украины с учетом последствий мирового экономического кризиса. Предложены рекомендации по стабилизации деятельности машиностроительных предприятий.

**Ключевые слова:** машиностроение, промышленность, экспорт, импорт, предприятие, рынок.