

Economic Problems of Diversification of Enterprises of the Military-Industrial Complex of the Russian Federation

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Abstract - The article is concerned with the study of the economic problems of the military-industrial complex, due to the specifics of the activities and the framework of operation, initially set by the requirements and interests of the state. An assessment of the current situation in the defense industry shows that the potential accumulated by defense enterprises, both technological and personnel, on the one hand, can and should be used for the production of not only military but also civilian products. However, on the other hand, taking into account the principles of a market economy, the possibilities of defense enterprises to use production diversification as the basis for building a profitable business are extremely narrowed. Under the terms and conditions, offered by the enterprises of the military-industrial complex, traditional methods of developing and implementing strategic plans and programs for the diversification of production do not give the desired effect. In this regard, there is the problem of substantiating the most relevant approach as the basis for the formation of effective practices for managing the diversification of production at the enterprises of the military-industrial complex with a view to adapting them to the changed economic conditions.

Keywords: *military-industrial complex, diversification; production diversification strategy; program-targeted management; project approach; synergetics.*

I. INTRODUCTION

In his message to the Federal Assembly dated December 2, 2016, the President of the Russian Federation V.V. Putin formulated the following guidelines for achieving the strategic objectives of the development of defense enterprises: the share of civilian products in the revenue structure should be at least 17% by 2020, 30% by 2025 and up to 50% by 2030. It was emphasized that the development of civilian production becomes a crucial event for the survival of the defense industry in the medium term. At the same time, on the one hand, the position of the President of the Russian Federation and the Government of the Russian Federation regarding the establishment of the desired development objectives of defense enterprises based on the diversification of production cannot, on the other hand, suppose that the process of redistributing resources during diversification should be completely subject to market mechanisms of economic regulation. Firstly, the aforementioned objectives

require extremely fine-tuning of the entire state industrial policy for the purpose of mitigating the problems of defense enterprises that they inevitably face in their attempts to develop new markets and areas of business, to be competitive and, consequently, to survive in the long term. Secondly, the arrangement for the restructuring process of each defense industry enterprise, aimed at formation of new areas of commercial use of military technology and, at the same time, provide for not to fall into the institutional trap of ineffective management. However, prior to receipt of concrete answers to all the challenges arising out of the development of macroeconomic decisions at the highest state level, it is required to identify, to take into account and to systematize those features in the economy and the organization of the activities of defense enterprises that pose threats and life risks in the context of redundant military industries civil products.

The study is aimed at analyzing the economic aspects of the production diversification as a promising area for the development of enterprises of the military-industrial complex of the Russian Federation, to assess the possibilities and justify the approach to the implementation of diversification plans in accordance with the targets for the advanced development of civilian production.

II. REVIEW OF LITERATURE

In economics, theoretical approaches to understanding the management of diversification were considered in the works of such foreign authors as I. Ansoff, P. Drucker, R.M. Grant, D.Lane, M.Meskon, G.Mintzberg, M. Albert, F.Hedouri, and in Russia – B.A.Rayzenberg, S.D. Bodrunov, G.B. Kleiner and others.

Such Russian authors, as V.Zh. Dubrovsky, V.V. Ivanter, V.V. Klochkov, S.S. Kritskaya, S.D. Rozmirovich, E.V. Manchenko, A.G. Mekhanic, A.V. Liss, O.S. Sukharev, G.N. Tsagolov, L.N. Shalimov, V.V. Lesnykh, A.A. Shirov, and others studied the essence of the problem of the military-industrial complex development.

However, the problem of diversification has not been sufficiently studied. In the provided work, an attempt was made to identify the key problems of diversification of the military-industrial complex, as well as to identify the promising approaches to the work arrangement and the

regulation of the enterprises of the military-industrial complex under the modern terms and conditions.

III. RESEARCH METHODOLOGY

The methodological basis of the provided study was the provisions of the evolutionary concept of institutional theory, scientific theories of strategic, project and program-targeted management, and the publication of authoritative specialists, which comprehensively examined the socio-economic aspects of the diversification of the military and industrial complex.

To achieve the set purposes and objectives of the study, the methods of systemic, logical-structural, technical-economic and retrospective analysis, decomposition, graphic modeling, expert assessments were used.

IV. PRACTICAL IMPORTANCE, SUGGESTIONS AND RESULTS OF THE STUDIES

The results of the study indicate that the list of solutions that meet certain requirements is relatively small. The general approach is to recognize that while reducing the state defense order (SDO), but with the condition of its preservation and development, the value of state support for defense enterprises does not decrease. However, in the case of any individual defense industry enterprise, the creation of a system of various managerial competencies, planning and control methods, and special tools for analyzing and evaluating the results of production diversification is of particular importance. The so-called synectics approach to solving the problems of production diversification, proposed by the author, is illustrated by the positive experience of one of the leading defense companies.

A. Assessment of the current situation of the military-industrial complex (MIC)

Focusing on the achievement of the objectives set by the President of the Russian Federation for the development of MIC enterprises through the diversification of production with an emphasis on the production and sale of civilian products, a significant number of enterprises have encountered a number of problems that are systemic in nature.

Reference of the enterprises to the MIC is characterized by the availability of specific requirements, the need to ensure whereof provides for a financial burden on the enterprise. These are mobilization capacities, regime requirements, obligatory observance of contractual terms, etc. Moreover, these requirements determine the essence of the military-industrial complex, i.e. distinguish it from civil enterprises in general, as well as from civil enterprises, involved in the cooperation on the execution of the state defense order.

The enterprises of the military-industrial complex have a block of obligatory expenses, the coverage of which affects the price structure of finished products, while such expenses are distributed according to the accounting policies of enterprises, but they are also related to defence products and civil products. In particular, the aircraft industry noted the need to preserve technological independence across the entire range of components, despite the "inevitability of excessive costs" [4, p. 63].

It should be noted here that the prices for the same products for military products and civil products are different, which makes it possible to cover these specific "overhead" costs in a stable or growing state defense order. However, even a slight drop in the state defense order results in redistribution of the overhead costs and a significant increase in the cost of production. At the same time, the prices for the state defense orders are fixed, and the customer (in turn, also limited by the allocated budget and the "20 + 1" rule) goes for their revision towards higher prices in strictly exceptional cases.

As you know, MIC Russian enterprises have an insufficient amount of profit, including due to the existing "20 + 1" rule during the fulfillment of the state defense order, whereby an organization may fix 20% of its profits for work performed on its own, and only 1% for deliveries parts and third-party work [7, p.12].

Therefore, with full self-sufficiency of the enterprise with components, its profitability will be 20%. And with a 90% share of purchased components (which is not rare in the MIC), profit is decreased to 3% [5, p.4]. As a result thereof, even with high operational efficiency (with EBITDA up to 20% and more) companies with a high degree of probability get negative financial results.

All this puts enterprises in a specific situation. In a market economy (wherein they have been actively introduced since the beginning of the 1990s), the main objective should be making a profit and, at a minimum, eliminating unprofitable jobs, eliminating the expenditure of limited resources to overcome institutional barriers. It would be logical to refuse to execute contracts that incur losses, but enterprises often do not have the right to do so (up to criminal liability for failure to fulfill the state defense order – in particular, pursuant to Articles 201.1 and 285.4 of the Criminal Code of the Russian Federation No. 63-Φ3 as amended on 19.02.2018, officials are charged with a penalty in the amount of RUB 1 to 3 million and imprisonment up to 10 years).

Due to the aforementioned factors, the implementation of the state defense order is more directive than market. Although the market conditions for the operation of the enterprises of the military-industrial complex are not at all of the "conditional" nature.

B. Specific Terms and Conditions for the MIC Activities

Characteristics of the terms and conditions of activity of the MIC enterprises indicate that the state defense order market is a typical monopsony, in which the customer has every right and every opportunity not only to dictate their conditions, but also to control their observance with the involvement of executive authorities.

Summarizing the views of the expert community on solving the problems of the preservation and development of the MIC (military-industrial complex) allows all proposals to be reduced to three sets of measures:

1. increase in the volume of the state defense orders capable of maintaining the current mandatory expenditures;
2. financing of prospective developments and implementation of investment projects;

3. removal of legislative restrictions on specific requirements, which will reduce the share of overhead costs in the revenue structure and redirect them to development projects.

However, the specificity of the situation is precisely in the impossibility of the full implementation of these measures. In addition to the reduction of the state defense order, a number of the MIC enterprises have faced with the urgent need to find other ways to generate revenue in the required amount, primarily to cover a significant amount of fixed costs. The significant in volume investments in the MIC made in the recent past are expected to yield a return. However, as noted by A.A. Shirov: "Those sectors where there is success (MIC, metallurgy, chemical production, etc.) have a natural investment pause, because the investments have already been made, the capacities have been modernized, but there is no necessary domestic demand for the products being made" [8, p.75]. The MIC market is strictly limited to the state armaments program and budget financing. In other words, the customer, for a number of objective reasons, cannot and does not have the right (in the current conditions and in peacetime) to provide the MIC enterprises with unlimited resources.

The analysis of the situation shows that there are several options for the MIC enterprises to receive additional revenue outside the state defense order market:

- supplies through military-technical cooperation (MTC);
- delivery of civil products under the state order;
- delivery of civilian products to civilian customers (mainly state corporations);
- supplies of civilian products for export.

The understanding that the state defense and military-technical cooperation are sated, and the army requires support, has resulted in active search for options for preserving the military-industrial complex, and those that would not allow it to be deactivated, but would ensure its priority development. The President of the Russian Federation have set such objectives to the state corporations and the largest MIC enterprises.

In general, the successful implementation of the HPV-2020, expressed, among other things, in large-scale technical re-equipment of defense enterprises, has significantly increased the production potential, which today, in essence, is becoming the basis for the growth of the entire industrial complex of the Russian Federation. At the same time, it is obvious that in order to strengthen market positions and ensure the loading of the created production capacities, a number of large domestic defense enterprises need to diversify production with a focus on high-tech civilian production markets [2, p.115].

Solution of the issues of the MIC preservation through the conversion of the public sector in compliance with market principles is not possible at the current level of the MIC development. As rightly noted by G.N. Tsagolov: "In its pure form we have neither a free market economy, nor a planned economy. In the early 1990s, we threw out planned development, but did not create a competitive market"[6, p.366].

As for the B2C markets, access to them (as shown by the experience of creating the service and sales network of JSC PO UOMZ) requires the implementation of the principle of bringing sales to the consumer, i.e. development or creation of a significant infrastructure for sales and service of products in the MIC circuit. The implementation of state-owned facilities through B2B requires taking into account in the price structure the benefits of an intermediary, which in some cases can reach 30%.

However, the transition to the production of civilian products is fraught with certain difficulties. First of all, it is necessary to find such segments, which together will ensure the fulfillment of the conditions:

1. the products must comply with the enterprise profile;
2. the products must be manufactured on machines intended for the production of defense products, ensuring the loading thereof;
3. the products must be single-piece and expensive;
4. the products must be high-tech;
5. the market must be competitive and capacious;
6. In case of a single production, civil products should be in demand on the market at a price with a margin not lower than that of defense products;
7. In case of mass production of civil products, sale thereof should be ensured on a scale that allows maintaining the structure of the price for defense products after allocation of overhead costs.

Therefore, a situation arises in which the state sets the task of compensating for specific MIC expenditures due to the effective marketing of civil products in non-core facilities with a high level of overhead load, but at low market prices. At the same time, the state is still the monopoly customer for defense products controlling even the military-technical cooperation.

The generalization and analysis of the specific conditions for the functioning of the MIC enterprises allows the formation of the so-called "problem field", the elements of which are:

1. established technological competence;
2. special insight on margins;
3. specific attitude to civilian products, as to a simpler and cheaper than defense products, which is explained by the experience of conversion, but not always correspond to reality;
4. the lack of the necessary competencies – civil products require mass production to reduce the price, and the defense products by the merits thereof are a single unit, the main competitive advantage of a citizen of a product is the price, and for the defense products – tactical and technical characteristics;
5. the desire of the civilian market to reach the end user (ideally B2C);
6. the need for broad product lines of civil products;
7. the difference in the nature of the development: the development of defense products are mainly on a specific technical task, predetermined and agreed with the

customer – the market is highly predictable and the financing of civilian development is risky;

8. limited access to the market of financial resources according to a fixed list of certified banks and counterparties;

9. possibility of additional purchase of necessary competences (M&A) only at the expense of net profit;

10. organizational complexity and lengthy procedures for the coordination of initiative projects (R&D and OCR) of civil products – by analogy with defense products;

11. increased requirements for the quality of the civil products and ensure their reliability by analogy with the defense products;

12. abundance of inspections that require the utmost “cleanliness” of the economy, which is not always typical of civilian markets;

13. redundant staffing and regulation of organizational procedures (additional departments for defense products);

14. regime requirements;

15. the need for full and exhaustive licensing of the results of intellectual activity by analogy with the defence products.

The high-margin, fast-growing markets for high-tech products with a B2G or B2B orientation are well known. These are medical equipment, road safety, street lighting, satellite communications and other markets in which special requirements are placed on products (for reliability, accuracy, safety, etc.), but there are new difficulties:

1. unobvious competitive advantages of a new product (availability of a similar product in the market);

2. high cost of production of a new product, especially during the period of its development;

3. long development cycle of innovation;

4. products require an abundance of licensing documentation and evidence that, in addition to the time and effort involved, results in freezing of a significant amount of capital funds;

5. products may not be brought into circulation except as serial.

As a result thereof, we get a set of contradictions: besides the fact that there are foreign analogues (in quality or price), until the product reaches the market, it becomes obsolete; as well as its technical characteristics, fixed in standards of equipment and GOST; complex equipment and various restrictions on attracting contractors to the defense industry, due to the fact that enterprises are closed to the outside world, do not allow the company to respond flexibly to changes in the external environment. In part, these contradictions can be resolved if the MIC enterprise undertakes to develop, master production and promote products that form a fundamentally new need or have quality characteristics that significantly distinguish it from what the market offers.

Therefore, there are the MIC capacities that were made under the expectations of “20+1”, and there is a requirement of the Government of the Russian Federation for the preservation and modernization of capacities. The

government of the Russian Federation (it’s the de facto owner) ensures the high margins of the “20+1” military supplies. At first glance, this difference should suffice to cover the net profit, to ensure timely deliveries, including supporting mobilization capacities and ensuring regime requirements. However, in the conditions of limited demand for the defense products and the transition to the civil products there is the question whether the Government of the Russian Federation should not take liability for maintaining such equipment or compensate part of the costs by exempting enterprises from paying taxes?

C. Approaches and methods for solving the problems of production diversification in the MIC enterprises

In this situation, one of the ways to resolve the contradictions that have arisen is the obvious need for a qualitative improvement in the efficiency of the defense-industrial complex management, both at the level of the enterprises themselves and at the state level. At the same time, it is important that the effectiveness of management is determined by applying at each level a whole complex of methods, in accordance with the degree of their suitability under specific conditions.

The MIC is a unique tool for technological development in the hands of the state, which operates in “non-market” conditions, but at the same time, is capable of developing and producing unique products. To preserve such competencies in the face of the need for reorientation of production, it is advisable to identify such product segments that will allow you to maximize the benefits of the MIC, i.e. their potential ability to produce unique high-tech products for civilian use. And, which, moreover, in use will solve social problems in importance which exceeds both the value of products and the level of coverage of high margins on the part of the customer.

Another important issue is the obligation to diversify production for all defense enterprises without exception. In particular, Yu.V. Yakunin voiced the proposal to abandon the placement of the state order in those enterprises that do not meet modern requirements [9, p.375].

Due to the fact that the implementation of socially significant projects is within the competence of the state, it seems that it should be the general customer of such products. In fact, the solution to the problem of preserving the MIC is reduced to covering its artificial (non-market) specific expenses, which is possible by changing the state order from MPP to FPG. Moreover, the procurement of PGN should be carried out under the same conditions as for the defence product to civil product, i.e. while maintaining the “20 + 1” rule, and not based on the principles of competitive order placement. This position is supported by specialists. So in the opening speech of the expert session of the coordination committee of the VEO club of Russia V.V. Ivanter outlined “the tremendous development of the defense industry, as an example of a sector where there is and need a certain paternalism” [3, p.326]. The following assumption is also important: it is enough for the state to abandon the market (tender) purchases of the national headquarters in the implementation of socially important projects, the implementation of which is possible by the defense industry. For that purpose, it is necessary that a regulatory basis should

appear to transfer civilian orders to MIC enterprises on the terms of ensuring the acquisition of domestic products with payment by the cost method in compliance with the “20 + 1” rule. In fact, we are talking about the conversion of the state order.

The word “conversion” causes rather controversial associations, therefore, in the context of the MIC objectives, the term “diversification” is being actively used, perhaps in part, precisely as a kind of surrogate for conversion. However, between these methods there is a significant difference.

According to R.M. Grant: “The main way in which diversification creates a competitive advantage is the distribution of resources and abilities among various businesses” [1, p.448].

If diversification is in general terms the expansion of fields of activity through the development of new business areas, then conversion is a change (reorientation) of activities aimed at changing key areas from military production (in the MIC interests) to civilian or vice versa.

Conversion is primarily a change in the production program, which is usually of a prescriptive nature and works most effectively in a planned economy.

Diversification is, first of all, the expansion of the production program, which is determined by market potential, the availability of competencies, and works most effectively in an open market.

Therefore, at the disposal of the enterprises of the defense industry there are two different methods, each of which characterizes a special approach to the management of the development of production, can work and ensure the obtaining of significant results, but only under strictly defined conditions. At the same time, it appears that the level of complexity of the economic problems of the defense industry complex is such that their solution lies more in the integration of the above approaches.

Let us explain. This is not about replacing the military direction with the civil one, but about strengthening the civil directions in order to preserve and ensure the development of military directions without losing the gross revenue of the MIC enterprises. It is necessary to integrate management methods using a synectics approach at the interface of the most progressive and well-established management practices in terms of both diversification and conversion.

The implementation of the synectics approach implies the use of various managerial competencies, planning and control methods, and special tools for analyzing and evaluating the results of implemented decisions in an organized complex.

Within the program-targeted management system, coordination and coordination of plans for the development of production of civil products is ensured, a balanced development of specific business areas is being organized, monitoring of compliance with the deadlines and movement of resources, including financial resources, is being arranged for.

The project management flexibly and efficiently implements innovative projects, allows to accelerate their development and bringing to the organization of mass production. The consistently high effectiveness of project

management is achieved by taking advantage of budget financing.

The strategic management of the development of individual business areas, even under budgetary constraints, made it possible to transform the business model towards bringing production closer to the consumer through the organization of both the product offer and the service support. As a result, specialized civilian production at an enterprise becomes a necessary stage in the life cycle of a large long-term service contract (examples: contract for the life cycle of a project to illuminate the streets of Nizhny Tagil, equipment projects for perinatal centers of the Russian Federation, etc.). The model for arranging for the civil products supply, developed at JSC PO UOMZ, allows not only to respond flexibly to market demands or even to generate new market needs. Ultimately, its use as an element of strategic management of production diversification creates the preconditions for the stable current work of the enterprise as a whole.

V. CONCLUSION

The results of the MIC activities, demonstrated to the world community, indicate that Russia’s scientific and technical potential is at a fairly high level. And, at the same time, it is characterized by a number of advanced competitive technologies that exceed the world level. Therefore, it seems quite logical to decide the highest state bodies that set the task of a phased transition to the use of dual-use technologies to create the potential for the production of high-tech civilian products. At the same time, the creation of prerequisites for ensuring the stable functioning of the military-industrial complex in the conditions of the development of diversified competitive civilian industries that are not subsidized by military orders faces the need to overcome contradictions arising from the specific realities of the organization of economic and economic activities of the MIC enterprises. A significant part of the contradictions must be resolved with the help of the state ensuring the MIC institutional transformation. Therefore, the priority tasks of diversification of production in the defense industry may be solved, including the creation of mechanisms for attracting extra-budgetary investments in the creation of civilian products, as well as the financing of research and development and the additional costs that determine the mobilization readiness of the defense industry enterprise, multiply their ability to gain market leadership and overcoming demand constraints.

On the other hand, the liability for the development and implementation of plans and programs for the diversification of production, ensuring the achievement of the objectives set for the military-industrial complex, is in the MIC enterprises. The results of the study certify that their successful implementation is impossible without creating a system of new managerial competencies, using effective planning and control methods, and special tools for analyzing and evaluating the results of production diversification. This is evidenced by the positive experience of one of the leading enterprises of the defense-industrial complex JSC PA UOMZ in the development and implementation of a production diversification strategy.

VI. DISCUSSION OF THE RESULTS

Specialists of JSC PO UOMZ faced WITH the need to develop just such an approach when there was a need to develop a strategic plan for production diversification that meets the objectives and objectives outlined by the President of the Russian Federation and enshrined in the strategy of Rostec. At the same time, the level of complexity of the problems that had arisen became apparent after the decomposition of targets for the advanced development of civilian directions was performed. It was allocated two directions of their decision. Within the framework of the first, the necessity of implementing a whole complex of organizational and managerial measures was envisaged. As part of the second – the development of projects and programs aimed at the creation, development and marketing of products with fundamentally new consumer properties. In order to ensure the coherence of actions of all departments involved in solving the problems of production diversification, significant changes were made to the organizational structure of the company's management, which allowed to build systems of project and program management, strategic marketing, and budgeting (as conditions for the ability to control and effectively -economic activities of specialized structural units). Therefore, a management structure has been formed that carries out targeted control actions at the interface of the program-target, project approaches and strategic management.

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