

The Development of China's National Defense Industry in the Globalization Process

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Synopsis: As globalization accelerates, the defense industry in China is no doubt affected by the process. As the material foundation for the nation's military strength, China's defense industry will undergo a severe test in the globalization process after China's WTO entry. Globalization is like a "double-edged sword." Therefore, the development of China's defense industry during the process of globalization becomes a crucial and urgent issue. This article analyzes the present status of the world defense industry's globalization process and studies the prospects of the integration and globalization of China's defense industry. The article argues that China's defense industry should, on the one hand, increase strength and competitiveness based on self-development and self-reliance, but on the other hand, should also actively pursue cooperation and integration with the global military industry. The principle is "to seek to do some things and not others" as a way to develop through cooperation, and ensure national security through development.

The national defense industry is also called the military industry - it refers to the industry that is involved in the production of weapons, equipment, military devices and machinery, as well as the special raw materials that are needed for producing military products. It forms the material basis of a nation's military strength. Along with the acceleration of the world economic globalization, the defense industry worldwide has also shown signs of globalization. With China's entrance into the WTO, China's economy will inevitably become integrated into the world economy. This, in turn, will bring China's defense industry, an important component of the national economy, into the vast global network of defense industries. Globalization poses significant challenges for the domestic defense industry as it seeks to withstand the impact of increased competition while simultaneously seeking further development. These challenges will exist alongside opportunities; and cooperation will not cancel out competition. China's defense industry should become actively involved in the globalization process and pursue development through cooperation, which will eventually ensure national security.

1. The defense industry's globalization amid economic globalization

Economic globalization refers to the various degrees of international economic cooperation and adjustment aiming to achieve a coordinated direction in areas such as production, circulation, and distribution. There are mainly two reasons for the acceleration of the present worldwide economic globalization. First, the third revolution of science and technology has triggered a rapid increase in productivity worldwide, which has led to an adjustment in production relations and infrastructure. On the one hand, developed nations have made appropriate readjustments in their internal production

relations by increasing the degree of monopolization and strengthening the power to intervene in the economy. On the other hand, the developed nations have also pushed for closer cooperation and coordination between different countries worldwide. Secondly, by the end of the 1980s and the beginning of the 1990s, the political changes that took place in the world order further helped speed up economic globalization. After the tremendous political transformation that occurred in East European countries and the dismantling of the Soviet Union, socialist countries such as China and Vietnam initiated economic reforms to adopt a market economy, and began to participate in international economic activities. Because the conflict between socialist and capitalist systems is no longer the major conflict in international economic relations, the development of a world market economy has strongly pushed forward the world economic integration process.

The rapid growth of a globalized economy has deepened the degree of international cooperation and expanded the variety of methods of cooperation in the international arms production industry to such an extent that a globalization trend has also emerged in this field. The globalization of the national defense industry refers to the change from the traditional preference for autarky to that of a globally oriented market in terms of research, production, management, and sales. At present, there are mainly three ways in which globalization exhibits itself. The first is through the purchasing of weapons from other countries and taking part in the production of these weapons (including granting of special permits, joint cooperation and development ventures, and compensation trade). An example is the joint production of F-16 fighter jets by the United States, Holland, Denmark and Norway. The second method is through military cooperation packages covering weapons trade, production and maintenance, and joint military exercises between different countries, e.g. the signing of the ten-year military cooperation agreement package between India and Russia in 1999. The final means is through cross-border joint ventures, and joint research and development projects between nations (including international group companies, international integration and transnational amalgamation). The four-nation joint venture for the production of "Eurofighter-2000" by Britain, Germany, Italy and Spain is an example. This demonstrates that the globalization of the world defense industry has deepened and expanded as a result of a wide range of factors, and is fast becoming an important and special component of the globalized world economy. The trend of globalization has also created more concentrated production, more upgraded structures, and the incorporation of the military and civilian sectors in the defense industry of various countries.

A globalized world defense industry has developed as a result of cooperative competition between various countries focused on the development of composite national strength under relatively peaceful circumstances. Economic strength is the foundation of this composite national strength, with military strength as an important pillar. Scientific and technological advancement is the foremost catalyst for economic and military growth. Therefore, the development of the defense industry requires the strength of the economy and the thrust of science and technology.

During times of peace, the military needs of the state shrink considerably, the scale of military production dwindles, and the development of a defense industry becomes a

heavy financial burden for the government. Faced with increasing competition on the international arms market, various governments have tried to improve their composite national strength by further integrating national defense industries through cooperative production and the signing of agreements and joint development projects. The sharing of both costs and risks in joint research and production has made it more efficient and economical to produce and develop weapons, and the division of production internationally has helped improve profitability and lower production costs. International cooperation has also made it possible for various countries to share the results of technological improvement, which will trigger more technological advancement. This technological advancement has not only expanded imports of military products on the international market, it has also brought about more imports of non-military products. In addition, because military strength is widely considered as the reinforcement of political activities, using military cooperation to achieve political goals has become an effective strategy for all countries. For instance, the "Euclid" scheme in Western Europe has done much to integrate the political and economic situation of Western European countries. The joint project between the United States and Japan to research and produce FSX/F-2 fighter jets has sealed closer political and military ties between the two nations. Various joint arms development schemes and joint military exercises among NATO members have served as important links to cement political alliances between the nations.

However, at present, transnational cooperation projects on arms research and manufacturing are largely taking place among the developed countries, which has extended the gap in military technologies between the developed and developing nations. Their resulting increased military capabilities have given them even more power and ability to intervene in other countries' internal affairs, thus weakening the mechanism of international security that was built on the equality of force between different nations. In addition, the spread of some of the most sophisticated arms production technology will pose serious challenges to the control of international arms proliferation. However, if the globalization of the world defense industry can include more countries, it will create a global, multipolar equilibrium among the military powers, which in turn will form a restraining and stabilizing mechanism of checks and balances, thus improving international security.

3. Thoughts on the integration of China's defense industry into the globalization process

- 1) China's defense industry can only grow continuously and strongly when it is fully integrated into the globalization process, and only in this way can China's defense industry better serve China's national interest and ensure the nation's security. After more than 50 years of development since modern China was founded, the national defense industry has grown significantly to cover a wide range of military product sectors such as nuclear, aerospace, aviation, electronics, weaponry, chemicals, ship building, and the accessory industries including the production of special metals and non-metal materials. China has independently developed the ability to produce atomic bombs, hydrogen bombs, intercontinental missiles, man-made satellites, and nuclear submarines. China has also reached world-class levels in laser technology and return-

to-earth satellite technology. The defense industry has been providing vast quantities of advanced weapons to the troops, thus completely fortifying the nation from any invasion. However, generally speaking, the level of scientific and technological development in China's defense industry is still not that high, and China lags behind developed countries in many areas. There is a danger that this gap will become greater in the new round of the arms race. At present, China faces many unresolved security issues such as a lack of protection in the South China Sea, the problem of Taiwan, and certain countries that have been threatening China militarily. Therefore, growth is the only way to proceed. China's defense industry needs to grow urgently and drastically. This kind of growth apparently cannot be achieved by internal means alone. The development of the defense industry demands that it open up to the outside world.

- 3) A "self-isolation approach" cannot bring national security. Cooperation is the only way to proceed in today's world. Globalization is an irreversible trend in world development. Against the background of globalization, the approach to defending national interests should also be changed. To give up certain economic interests, actively or passively, and share those interests at a higher level, can generate more economic gains in the long term. A lack of diplomacy and flexibility, and an insistence on closed-door policies as an attempt to protect the national interest will only serve the opposite purpose. Of course, cooperation comes at a price and with certain conditions. China needs to make certain concessions, if necessary, when working on military cooperation with developed countries. China can consider yielding certain economic interests as long as national security is not jeopardized and a net gain is produced. To "endure certain humiliation to carry out a high mission," "to hide capacities and bide one's time," and "to take a small loss for a bigger gain" are the true motivations behind China's cooperation. In addition, since the defense industry is an area of high-tech concentration, with scientific and technological advancements happening each day, enormous injections of investment are required. With China's limited defense budget, it is more practical to share both the costs and the risks with others through cooperation and trade for advanced technology. Furthermore, although China's defense industry lags behind that of developed countries, it does have a substantial foundation, allowing China to participate in international cooperation under the principles of equality and mutual benefit.
- 4) The strategy for liberalizing the defense industry should be comprehensive and omnidirectional. Inevitably, liberalization will strongly impact the operation and development of the industry. However, China's defense industry serves the dual function of military production and normal non-military production. To make sure that all weaponry needs are met for a future, high-tech regional war, the defense industry has to be able to survive and grow in a market economy. At the micro-economic level, the defense industry must first be able to adapt to changes in the domestic economy. While balancing the benefits of a globalized defense industry against the pressure of domestic economic reforms, China's defense industry must make every effort to carefully, yet quickly, expand into all possible areas.

5) At the present stage of development, cooperation with the international defense industry should "seek to do some things and not others." In other words, China's international cooperation in the defense industry cannot be carried out in all high-tech areas. It needs to be done in two stages. The first step is to take advantage of the opportunities presented by China's entry into the WTO by bringing in advanced technology through special permit production, and limited participation in joint research and production. This approach creates momentum on the basis of trade, and optimizes and upgrades the structure of the defense industry. The second step, based on the first, is to keep track of international developments in high-tech fields and initiate moves to take part in joint international development of high-tech projects in order to develop a stronger position in the high-tech arena. It is important that the trade of technology be guided by the principle of comparative advantage, i.e. to bring in the kind of mature technology that best suits and enhances the advantages of China's existing resources. What is imported must also be very advanced. On the other hand, only concentrating on catching up with the high-tech world, regardless of China's conditions, will only restrain growth. China should identify the areas of technology that are crucial to the development of its defense industry, place them in order of their competitiveness and contribution, and then focus resources on these key areas. Of course, the order of priority in technological development should be readjusted constantly according to China's changing needs and the technological advancement. In addition, the choice of partners should not be too narrow. China should not only strengthen cooperation with its traditional partners such as Russia, but it should also pursue partnerships with developed countries such as the United States and France, as well as with other developing nations. Only then can China's technological development be free from the restraints of certain developed countries' export controls. Only in this way can China manage to obtain more cooperation internationally, and China's defense industry can pursue the development track that is highly efficient and suited to China's needs.

1. Measures that should be taken in the development of the defense industry

In light of the necessary conditions required for participating in the new globalized economy, China's defense industry should not blindly go into cooperation with the outside world. The globalization of the defense industry is a "double-edged sword," and is not without its risks. One source of such risks is external, i.e. risks at ceasing cooperation as a result of changed relations between countries (e.g. ending of contracts). The other source is internal, i.e. the perils of cooperation resulting from the imbalance of technological strength and operating efficiency between the defense industries of different nations (e.g. becoming dependent on other countries). China is a major developing country with significant clout in international affairs, and has always followed a foreign policy of independence, self-reliance, and peace. This flexible and pragmatic foreign policy has led to much cooperation and many "win-win" opportunities. However, the gap between China's composite military strength and that of developed countries cannot be closed in only a year or two. Therefore, at present, the priority in the defense industry's international cooperation should be to build up more strength internally, improve operating efficiency, and increase competitiveness.

First of all, the role of the government and central planning should be strengthened. Since the defense industry is not governed by the rules of the market, it is necessary for the central government to intervene. As public products, defense resources are also distributed and allocated by the government. The special features of a high-tech-oriented defense industry - large investment, long cycles, and high risks - also require intervention and support from the national government. Therefore, the government should push for faster and stronger asset regrouping and amalgamation, and support the growth of large military conglomerates that can compete more strongly in international markets. The government's central planning strategy should focus on three decisive elements (strategic planning, development planning, and project planning); six elements to control expenditure (budget for basic research, budget for application research, budget for development, budget for import of technology, budget for industrial development, and budget for marketing); and nine policy control elements (investment priority, revenue privileges, financial credit, technological improvement in enterprises, the use of foreign investment, the development of special development zones, distribution according to the amount of work done, reward systems, and personnel training). In addition, the government should set up risk funds to encourage and support the development of high-tech ventures in the defense industry. As for the large group of companies involved in military production, the government should pay attention to the collection of both military and civilian products, and decide on the minimum size of the reserves of military products. Based on that assessment, the government can determine the size of civilian product reserves, the selection of high-tech civilian products, and the usability of military products for civilian purposes. The government should firmly grasp the globalization trend in the world defense industry. It should take the development of high technology as the leading force, incorporate the defense industry into the national economic development program, and thus bring the development of the defense industry in line with the requirements of national security.

Secondly, the size of industrial enterprises should be modified and their structures should be upgraded. Generally speaking, international cooperation in arms manufacturing tends to be concentrated in high-tech areas. The defense industries of some countries have come to dominate almost all new, technology-intensive industries. China must formulate and enforce the correct industrial policies in order to stimulate structural transformation and upgrade the defense industry. For instance, there should be an appropriate development of various industries covering the leading sector, the pillar sector, the foreign currency generating sector, and new industries combined with traditional industries. On the one hand, the government must seek new talent to raise the ratio of scientists, engineers, technicians, and management staff within military production enterprise employment. On the other hand, certain adjustments should be made so that industrial defense enterprises will concentrate on manufacturing the most sophisticated weapons and equipment, conventional weapons and equipment with high technology content, and civilian products.

In terms of the type of technology, emphasis should be placed on the development and application of key technologies that can be used for both military and civilian purposes,

e.g. micro-electronics, biological technology, computer technology, new materials production, and new energy and nuclear technologies. The purpose is not only to make important technological breakthroughs in the modern defense industry, but also to create a mechanism to allow for new technological innovations in the defense industry to spill over into all other sectors of the economy. As a leader in the national economy, the defense industry can start to transform from "consumption-oriented" to an "increment-oriented" industry. Advanced manufacturing technology is the new methodology for the manufacturing industry, and it can closely link the advanced technology with the manufacturing techniques and quickly translate technology into productivity. Therefore, manufacturing technology should be given the foremost priority in the defense industry. The advanced manufacturing technologies mainly include flexible manufacturing systems (FMS), computer integrated manufacturing and manufacturing systems (CIM, CIMS), computer auxiliary design and computer auxiliary manufacturing (CAD, CAM), and computer auxiliary logistic support systems. These are the keys to turning defense enterprises into a high-tech-oriented industry. They will also provide a good solution for dealing with the massive problem of high design standards but poor manufacturing results in the defense industry. Only by making the defense industry the foundation for new high technology, and carrying out real structural optimization and upgrades can the industry be adequately prepared for winning a future high-tech war.

Finally, the operating system of the defense industry needs to be improved and upgraded. Special historical circumstances have created a situation where most of China's defense enterprises are state-owned and state-run. The establishment of a more mature market economy in China dictates that the survival and development of defense enterprises fit into the broad environment of a market economy. The management of defense enterprises must be guided along the lines of both government administration and market requirements. The government needs to further streamline the relations between the Committee of Science and Technology of the Defense Ministry, the defense industrial group companies, and defense enterprises. The Committee of Science and Technology of the Defense Ministry should be the macro-governing body. The group companies should be the true corporations legally responsible for the enterprises and should exercise true management roles. Within the group companies there should be sub-divisions of parent and subsidiary companies. The enterprises themselves should become regular limited-liability companies or limited companies. The production contract system for researching and developing weapons and military equipment should also be improved to strictly enforce the checking and assessment of the qualifications of the producers, as well as to enforce reasonable pricing policies. The concept of competitiveness should be introduced into the industry by setting up a bidding system for different areas of production, e.g. the research and manufacturing of large-sized whole machinery and a small number of key parts. The key defense enterprises and institutions with strong scientific and technological research backgrounds will have priority in bidding for projects, while the production of other products and parts will take bidders from among selected qualified enterprises nationwide. Efforts should be made to seek multipolarization of the main investors in the defense industry and upgrade the system, e.g. to offer IPOs for certain companies, allow share exchanges and ownership by civilian and defense enterprises, and attract foreign investment. The defense industrial group companies are the leading forces of the defense

industry, while the core group companies have been authorized by the state to be legal investment institutions with legislative powers as state-asset owners over the enterprises within the group companies. However, low operating efficiency and confusion in management widely exist in these enterprises. Therefore, the first task is to strengthen the auditing and monitoring actions of the group companies, and the second task is to streamline the management and cut down on the layers of bureaucracy.

In summary, China's defense industry can only maintain its vigor and vitality by simultaneously immersing itself in the smaller domestic economy and the more integrated world economy, and thus assure national security.

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