RUDN Journal of Economics
Вестник Российского университета дружбы народов. Серия: Экономика
ISSN 2313-2329 (Print); ISSN 2408-8986 (Online)
2023 Vol. 31 No. 2 370–378
http://journals.rudn.ru/economics

DOI: 10.22363/2313-2329-2023-31-2-370-378
EDN: BILYIA
UDC 339.9

Research article / Научная статья

China's arms trade: trends and challenges

Marina S. Reshetnikova ✉, Sergey S. Shvets

RUDN University,
6, Miklukho-Maklaya St, Moscow, 117198, Russian Federation
✉ reshetnikova_ms@pfur.ru

Abstract. Over the past decade, China has made significant progress in the development of the defense industry; today, China is able to produce almost all the nomenclature items of weapons, military vehicles, and ammunition. The aim of the research is to analyze China's successes in the development of the defense sector; it is highlighted that the Chinese military-industrial complex has reached the point of technological self-sufficiency at this time. The essential features of the public-private partnership model ("the triple helix") are considered. The authors tracked the evolution of China's export regulations as they related to the selling of goods from the military-industrial complex. The share of Chinese military-industrial complex exports in the global arms market is revealed. The study shows the escalation of US-Chinese rivalry in the field of building up military capacities and establishing export ties. Trade in military-industrial complex products is a means for China to achieve its foreign policy goals. The authors discuss possible areas for improving the country's export strategies and vectors of geographical coverage of foreign trade, as well as barriers and difficulties in the development of foreign trade in military-industrial complex products.

Keywords: China, military-industrial complex, trade, defense industry

Article history: received January 12, 2023; revised February 18, 2023; accepted March 10, 2023.

For citation: Reshetnikova, M.S., & Shvets, S.S. (2023). China's arms trade: Trends and challenges. *RUDN Journal of Economics, 31*(2), 370–378. https://doi.org/10.22363/2313-2329-2023-31-2-370-378

Место Китая на мировом рынке ВПК

М.С. Решетникова ✉, С.С. Швец

Российский университет дружбы народов,
Россия, 117198, Москва, ул. Миклухо-Маклая, 6
✉ reshetnikova_ms@pfur.ru

Аннотация. За последние десять лет Китай добился значительного прогресса в развитии оборонной промышленности; сегодня Китай в состоянии производить практически все номенклатурные позиции вооружения, военной техники и боеприпасов. Цель исследования — проанализировать успехи Китая в развитии оборонной отрасли. В результате исследования выявлено, что китайский военно-промышленный комплекс в настоящее время достиг точки технологической самодостаточности. Рассмотрены сущностные черты модели государственно-частного партнерства («тройная спираль»). Авторами выявлена эволюция экспортного регулирования Китая в отношении продажи товаров военно-промышленного комплекса. Проанализировано изменение доли экспорта китайского ВПК на мировом рынке вооружений. Выявлено, что торговля продукцией ВПК является для Китая средством достижения внешнеполитических целей. Авторы обсуждают возможные направления совершенствования экспортной стратегии страны и векторы географического охвата внешней торговли, а также барьеры и трудности в развитии внешней торговли продукцией ВПК.

Ключевые слова: Китай, военно-промышленный комплекс, оборонная промышленность, торговля

История статьи: поступила в редакцию 12 января 2023 г., проверена 18 февраля 2023 г., принята к печати 10 марта 2023 г.

Для цитирования: *Reshetnikova M.S., Shvets S.S.* China's arms trade: trends and challenges // Вестник Российского университета дружбы народов. Серия: Экономика. 2023. Т. 31. № 2. С. 370–378. https://doi.org/10.22363/2313-2329-2023-31-2-370-378

Introduction

Issues of military security, military capacity building and export of military-industrial complex products are of urgent importance for China. These issues are particularly relevant in the light of the global geopolitical uncertainty, as well as periodic waves of escalation of tension in Northeast Asia (Gordienko, 2014).

The key instruments for ensuring China's military security are: (1) The Armed Forces, which include the People's Liberation Army of China (PLA), the People's Armed Militia and the Militia of China; (2) the military-industrial complex, the functioning of which provides the above-mentioned defense cadres with technology and weapons, and also allows China to export products abroad, create trade partnership and even geopolitical clusters on the basis of import-export relations.

The evolution of China's defense industry is truly impressive. Today PRC can produce almost all the nomenclature types of weapons, ammunition, aviation and

ground equipment. At the same time, a few decades ago, the military-industrial complex was mostly engaged in copying Soviet and Russian technologies, while today the PLA is equipped with local-built systems. Let us agree with A.V. Barkov: "the stereotype of the Chinese tradition of ensuring defense capability by copying weapons samples of foreign states today does not correspond to the real state of affairs"; on the contrary, the Chinese military-industrial complex has long been at the stage of self-sufficient technological development (Barkov, 2020). As V.T. Galochkin notes, China still lags somewhat behind Russia in a number of areas: in the field of production technologies for aircraft and rocket engines, submarines and cruise missiles; however, this gap is likely to be overcome in the next decade (Galochkin, 2017).

China's socio-economic development takes place within the framework of the government's five-year plans; the latest strategies also place the development of the military-industrial complex and industrial innovations among the priority goals of the government's activities. As a result of this policy, China has made numerous achievements in creating impressive scientific and technical projects, successfully organizing space flights, exploring the moon, putting into operation a new generation of Beidou navigation technologies, and conducting military and civil research of unmanned aerial vehicles (UAV) (Gordienko, 2014).

China's military strategy is based on a balanced development of the military-industrial complex, paying attention not only to the quality and manufacturability of the systems put into service, but also to their quantity. For example, the PLA's fighter aircraft fleet already outnumbers that of the Russian Federation as well as not being technologically inferior. At the official level, a qualitative, rather than quantitative increase in the capabilities of the armed forces is declared (Fravel, 2008). The largest Chinese military companies operate as huge holdings that include production facilities, research laboratories, testing centers, and design bureaus (Mori, 2019).

The specifics of the Chinese military-industrial complex lie in the inextricable link between the civil and defense spheres. For example, based on the high-tech zone Zhongguancun, referred to as the Chinese Silicon Valley, covers the development, with a dual purpose. Huawei has strong documented ties to the Chinese military sector, making significant progress in quantum communications, 5G deployment, and other innovations that are being applied by both the military and public service (Kumar, 2021). The model of public-private partnership aimed at the development of the military and defense industry in China has been called the "triple helix", and its components are, respectively, government, business, and academia.

Results

According to the annual report of the US Congress (Military and Security Developments Involving the People's Republic of China), China over the past few years has managed to significantly improve the quality indicators in the production of armored, personnel carriers, assault vehicles, artillery air defense systems, and

combat tanks (US Department of Defense, 2020). At the beginning of 2023, according to the Global Fire Power report, China was the third in the world in terms of the total volume of weapons accumulated inside the country.[1]

A sharp jump in China's volume of arms exports occurred in 2007–2009. In 2009–2013, the country already ranked fourth among the largest arms exporters.[2] According to statistical reports of the Stockholm Institute for Peace Studies, in the period from 2011 to 2015, the leaders of arms exports in the world were the United States (33 % of the total volume of deliveries), Russia (25 %), China (5.9 %, with the total amount of exports of $ 12.2 billion), France (5.6 %) and Germany (4.7 %). These countries exported a total of 74 % of the world's weapons.

The peak year in terms of Chinese arms exports was 2016, then China, following the reasons for accumulating domestic defense capacities, sharply reduced export supplies, which is clearly shown in Figure 1.

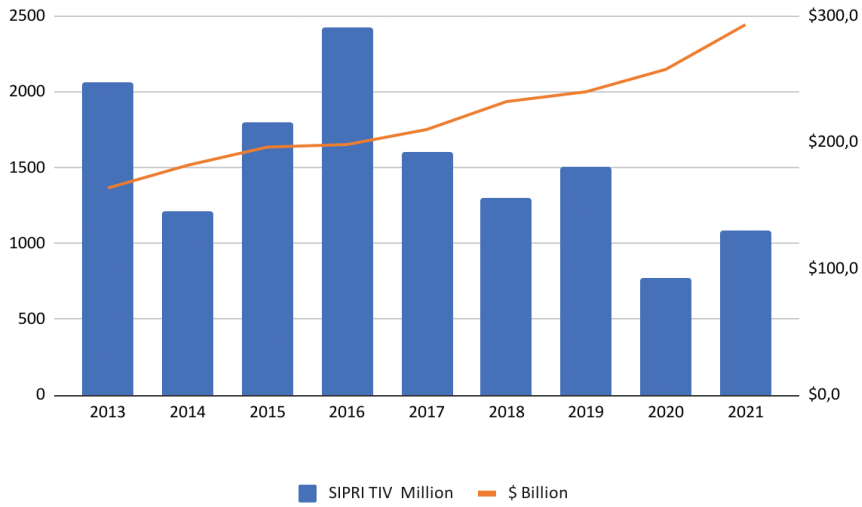

Figure 1. Arms exports from China, 2013–2021, US billion

Source: compiled by the authors based on SIPRI (2023).

Note. Unit of measurement: SIPRI TIV Million-arms exports are measured as the value of a trend indicator based on the known cost of producing a unit of armament; this indicator is intended to represent the value of exported military resources, and not the value of the total volume of concluded transactions with importers.

In total, from 2010 to 2020, Asian countries became the largest importers of Chinese weapons (77.3 %); 19.1 % were sent to Africa, 3.6 % — to other regions of the world[3] (Figure 2).

Stockholm International Peace Research Institute (SIPRI) mentioned above accumulates statistics on exports carried out by leading companies that produce defense-industrial production. Based on the volume of exports, SIPRI provides a list of 100 leading companies in the export of military products. According to the latest data

[1] The SIPRI top 100 arms producing and military services companies, 2021. Retrieved February 9, 2023, from https://www.sipri.org/sites/default/files/2022-12/fs_2212_top_100_2021.pdf

[2] Ibid.

[3] Kumar, D. (2022). Understanding China's Growing Military Outreach in Central Asia.

for 2021, arms exports carried out by listed companies ("Top-100 SIPRI") amounted to $ 592 billion. Chinese companies have been included in the list since 2015. By 2021, eight Chinese military-industrial companies were included in the list, with total sales reaching $109 billion (6.3 % more than in 2020).[4]

SIPRI classifies companies based on the country in which they are located when determining the shares of corporations. Sales of a foreign subsidiaries are included in the total amount of exports of the parent company's country (Figure 3).

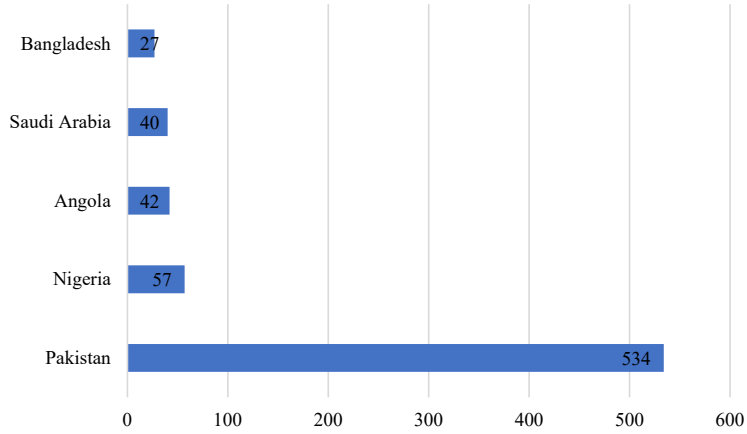

Figure 2. Largest importers of Chinese weapons, 2020
Source: compiled by the authors, based on the Military Balance (2022).
Note. Unit of measurement: SIPRI TIV Million

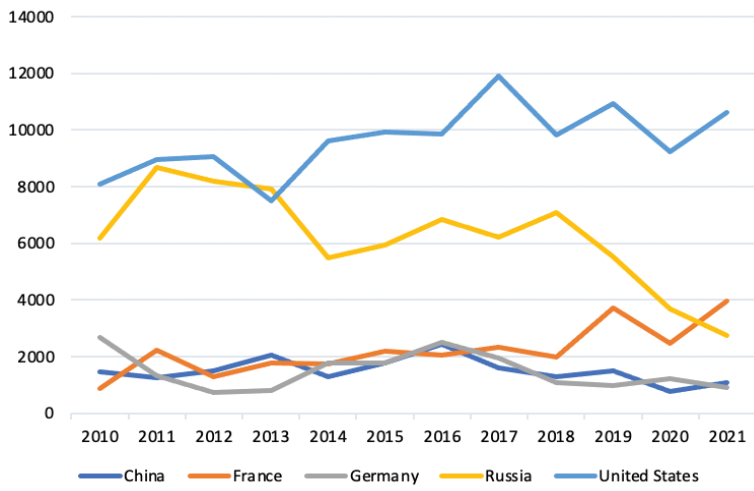

Figure 3. Export volumes of the largest arms exporting countries, 2010–2021[5]
Source: compiled by the authors.
Note. Unit of measurement: SIPRI TIV Million

[4] The Military Balance. IISS. Facts. Analysis. Influence. 2023. Retrieved February 9, 2023, from https://www.iiss.org/publications/the-military-balance/

[5] How Dominant is China in the Global Arms Trade? // Center for Strategic & International Studies — 2023. Retrieved February 9, 2023, from https://www.csis.org/analysis/how-dominant-china-global-ar ms-trade

Seven of the eight Chinese companies included in the list increased their arms exports in 2021. NORINCO (7th place), a company specializing in ground-based systems, is the largest Chinese arms company included in the top 100. The company's export performance showed an increase of 11 % to $ 21.6 billion in 2021. AVIC (8th place), CASC (9th place) and CASIC (11th place) are the three main Chinese military-industrial complex companies operating in the military-space sector. CASIC's exports grew more strongly, increasing by 13 % to $ 14.5 billion in 2021. CETC (10th place), the electronics and IT company, reduced its exports by 5.6 % to $ 15 billion.

One important trend that distinguishes the Chinese military-industrial complex should be noted. The industry is increasingly striving for clustering and combining individual companies into a single holding company. In 2021, for example, two of China's largest shipbuilders, CSIC and CSSC, completed a merger to create a new company-CSSC (14th place in the list). In 2021, CSSC, with $1 billion in exports, became the largest manufacturer and exporter of warships in the world.

One of the most promising export destinations for China's defense industry is the production and sale of unmanned aerial vehicles (UAV). For the first time, China began exporting medium-altitude strike-reconnaissance UAVs in 2011, and the UAE became the first importer of this type of weapon.[6] Later, Saudi Arabia, Pakistan, Serbia, Egypt, Nigeria, and Sudan joined the list of buyers.[7] In addition, we can expect that the number of buyers of this type of weapon will increase. The demand for UAVs of all classes will only grow. Modern war conflicts show that the key role in intelligence is now being played by unmanned aerial vehicles of various classes, and the effectiveness of attack UAVs and loitering munition allows to solve tasks on the battlefield more efficiently, and, importantly, much cheaper than using aviation or cruise missiles.

For China, the arms trade is not only a means of obtaining cash flows to the state treasury, but also a tool for achieving foreign policy goals. Arms exports to Africa, for example, are driven by China's interest in fossil fuels and other resources available in many African countries. The African continent is also important to China because of the Belt and Road initiative, which aims to connect Beijing with Africa and Europe through networks and ports, railways, power plants, and special economic zones. Thus, China establishes partner countries and creates a kind of geopolitical cluster that opposes the countries of the West (Zou et al., 2022).

It is necessary to consider an important aspect that affects the geography of Chinese exports of military-industrial complex products. According to many Western experts, the quality of Chinese weapons supplied for export is questionable (Robertson, 2022). During numerous exercises and military operations, Chinese

[6] 2023 China Military Strength. Global Fire Power. Retrieved January 1, 2023, from https://www.globalfirepower.com/country-military-strength-detail.php?country_id=china

[7] Nanda, P. Cheaper, But Not Reliable: Why Chinese Weapons Are Fast Losing 'Edge' In Global Arms Export Market Despite Tall Claims. Eurasian Times. Retrieved January 1, 2023, from https://eurasiantimes.com/chinese-weapons-are-losing-edge-in-global-arms-market/

weapons are not as effective as those exported by the United States.[8] A similar thesis is presented in the above-mentioned Report of the US Congress: "China is capable of producing ground-based weapons systems that meet or are close to world standards; however, the quality of some exported equipment remains unsatisfactory, which hinders the expansion of export niches by China''.[9]

On the other hand, Chinese manufacturers of high-quality weapons face a lack of confidence, which is primarily due to the lack of large-scale field testing of Chinese products in armed conflict. American, European, Russian, and even Turkish weapons systems have already been repeatedly tested in real practice, so even with lower performance indicators, many countries prefer to import their products. In this regard, China is making attempts to expand its geographical export influence on the territories of the Middle East (Zhurenkov, 2019).

According to current forecasts, soon, China will try to expand exports to the Arab states of the Persian Gulf — in particular to Saudi Arabia, the UAE and Qatar, since these countries have financial resources and seek to diversify weapons. However, attempts by Arab countries to switch to importing Chinese military-industrial products may face a number of restrictions. These include barriers such as (1) the United States CAATSA "Countering America's Adversaries through Sanctions Act" (CAATSA), (2) the need to retrain troops when using Chinese weapons, and (3) the opportunity, through the purchase of weapons in the United States, to gain "influence in Washington, strengthen defense ties with the United States in countering Iran" (Zhurenkov, 2019).

Of course, the United States is putting pressure on its Middle Eastern partners to reduce the intensity of their cooperation with China in the military-industrial sector. It can be said that the arms race — the US-China rivalry in building up military capacity and establishing export ties is causing increasing concern to the world community. To date, China has demonstrated very convincingly its potential to become a "superpower". The reform of the military-industrial complex, which began in 2015, has already brought many results. In addition, by 2035, according to China's strategic plans, the country should achieve full modernization of the armed forces, and by 2050 become the strongest army in the world (Kamennov, 2017).

Conclusion

Over the past decade, China has made significant progress in the development of the defense industry; today, China is able to produce almost all the nomenclature items of weapons, military vehicles and ammunition. Previously, the Chinese military-

[8] Military and Security Developments Involving the People's Republic of China 2020. Annual Report to Congress // Ministry of Defense of the US. Retrieved January 1, 2023, from https://media.defense.gov / 2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF

[9] Mankikar, K. China's defence industry: China will weaponise its thriving arms trade / K.A. Mankikar, K. Bommakanti // Observer Research Foundation. Retrieved January 1, 2023, from https://www.orfonline.org/expert-speak/chinas-defence-industry-china-will-weaponise-its-thriving-arms-trade/

industrial complex was focused on copying both Soviet, Russian and American technologies, while today the Chinese military-industrial complex is at the stage of self-sufficient technological development. To a large extent, the development of the Chinese military-industrial complex is due to the implementation of public-private partnership ("triple helix"), the essence of which is the close interaction between the state, business and academia.

For the first time, China declared itself as an exporter of military-industrial products in 2007. By 2009, the country already ranked fourth among the largest arms exporters. Over the past decade, Asian countries have become the largest importers of Chinese weapons (77.3 %), 19.1 % of products were sent to Africa, and 3.6 % to other regions of the world.

The volume of exports of military-industrial complex products of Chinese companies from the list of "Top-100 SIPRI" for 2015–2021 amounted to $592 billion. Chinese companies have been included in the list since 2015. In 2021, their combined sales reached $ 109 billion.

A promising export destination for China's defense industry products is the production and sale of unmanned aerial vehicles. Trade in military-industrial complex products is a means for China to achieve its foreign policy goals. According to current forecasts, in the near future, China will try to expand exports to the Arab states of the Persian Gulf. Even now, it is possible to note the escalation of US-Chinese rivalry in the field of building up military capacities and establishing export ties. There is an opinion that the quality of Chinese weapons supplied for export is questionable, which is largely due to the lack of accumulated practice of exploiting Chinese military-industrial complex products.

References

Barkov, A.V. (2020). Features of public-private partnership in the defense-industrial complex of China as part of the strategy of innovative development of civil-military integration. *Journal of applied research*, *4*, 38–46. (In Russ.). https://doi.org/10.475776/2712-7516_2020_4_2_38

Fravel, M.T. (2008). China's search for military power. *Washington Quarterly*, *31*(3), 125–141.

Galochkin, V.T. (2017). U.S. — China military confrontation. *Chronoeconomics, 5*(7), 21–23.

Global Data. (2023). China Defense Market Size and Trends, Budget Allocation, Regulations, Key Acquisitions, Competitive Landscape and Forecast, 2022–2027. *Global Data.* — 2023 Retrieved January 9, 2023, from https://www.globaldata.com/store/report/china-defense-market-analysis/

Gordienko, D.V. (2014). Protection of China from military threats and comparative assessment of the levels of military security in Central and northeastern Asia. *China in world and regional politics. History and modernity*, *19,* 163–182 (In Russ.).

Kamennov, P.B. (2017). PRC's military-industrial complex under Xi Jingping. *Outlines of global transformations: politics, economics, law, 10*(5)*,* 135–151. (In Russ.). https://doi.org/10.23932/2542-0240-2017-10-5-135-151

Kumar, D. (2022). *Understanding China's Growing Military Outreach in Central Asia.* 40.

Mori, S. (2019). US technological competition with China: The military, industrial and digital network dimensions. *Asia-Pacific Review*, *26*(1), 77–120. https://doi.org/10.1080/13439006.2019.1622871

Robertson, P.E. (2022). The real military balance: International comparisons of defense spending. *Review of Income and Wealth*, *68*(3), 797–818. https://doi.org/10.1111/roiw.12536

US Department of Defense. (2020). Military and security developments involving the People's Republic of China. In *Annual Report to Congress*. Washington, DC: US Department of Defense.

Zhurenkov, D.A. (2019). Diversification of the military-industrial complex of Russia and China: Similarities and differences. *Greater Eurasia: Development, Security, Cooperation, 2*(1), *2*44–246. (In Russ.).

Zou, L., Shen, J.H., Zhang, J., & Lee, C.C. (2022). What is the rationale behind China's infrastructure investment under the Belt and Road Initiative. *Journal of Economic Surveys*, *36*(3), 605–633. https://doi.org/10.1111/joes.12427

Bio notes / Сведения об авторах

Marina S. Reshetnikova, PhD, Assistant Professor of Department of Economic and Mathe-matical Modeling, RUDN University. ORCID: 0000-0003-2779-5838. E-mail: reshetnikova-ms@rudn.ru

Решетникова Марина Сергеевна, кандидат экономических наук, доцент кафедры экономико-математического моделирования, Российский университет дружбы народов. ORCID: 0000-0003-2779-5838. E-mail: reshetnikova-ms@rudn.ru

Sergey S. Shvets, 1st year Master student, Institute of World Economy and Business, RUDN University. ORCID: 0000-0002-3468-2180. E-mail: sergey.99.official@gmail.com

Швец Сергей Сергеевич, магистрант 1-го года обучения, Институт мировой экономики и бизнеса, Российский университет дружбы народов. ORCID: 0000-0002-3468-2180. E-mail: sergey.99.official@gmail.com