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THE ROLE OF INDUSTRIAL POLICY IN THE DEVELOPMENT OF THE STATE'S DEFENCE INDUSTRY: INTERNATIONAL LEGAL AND ECONOMIC REGULATION

ABSTRACT

Industrial policy is a critical element that determines the development of economic sectors, including the defence industry. In today's context of growing geopolitical tensions, technological progress and globalisation, effective functioning and development of the defence industry is highly relevant. The purpose of the work is to investigate the role of industrial policy in the formation of the most effective strategies and approaches to the development of the defence-industrial complex and the possibility of their adaptation in Ukraine.

The study was conducted using comparative, systemic and SWOT analyses. The results showed that each country under consideration – the United States, France and China – has unique opportunities for developing the defence industry but also faces specific threats. The defence industry of these countries is a complex system that encompasses big corporations, research institutions, and government agencies. All of them receive considerable funding from the state budget, invest in research and development, and collaborate with international partners, which allows their products to be of high quality and innovativeness.

The USA has the largest defence budget and significant technological capabilities but depends on political decisions and high costs. France has a solid technical base but faces limited budgetary resources and dependence on European politics. China is showing a significant increase in its defence budget, but limited international cooperation is hindering the stable development of its defence industry. The findings show that a balanced industrial policy that combines economic and international legal aspects is the key to creating a sustainable and competitive defence industry.

Further research in this area will help find more effective strategies for developing the defence industry and enhancing national security and economic stability.

Keywords: industrial policy, defence industry, economic regulation, international legal regulation, national security, sectoral development strategy, high-tech products

JEL Classification: F52, H56, L5, L51, L52

INTRODUCTION

The defence industry is a significant part of the global economy's modern research and production sector. Multidisciplinary and multi-level structures represent the largest companies in this sector. They include specialised divisions to develop and manufacture high-tech products for military and civilian use.

Industrial policy plays a vital role in developing a state's defence industry, influencing the country's ability to ensure its national security and defence capability. Effective industrial policy is critical in the context of globalisation and growing geopolitical threats (Dunne & Sköns, 2020). A balanced economic and international legal regulation is necessary to create a sustainable and competitive defence industry (Azam, 2020).

The development of the defence industry is a strategic direction for many countries (Lee & Park, 2020; Reis et al., 2022). Each country has its positive cases in this area, taking

into account its economic, technological, and security characteristics. Analysing the practices of advanced countries in the defence industry, such as the USA, France, and China, can be valuable for developing countries. This is especially true for countries with a threat or ongoing military conflict. This includes Ukraine, where a full-scale war has been going on since 24 February 2022. Moreover, the effective industrial policy will play a decisive role not only during the war, but also in the post-war recovery and the achievement of a high level of competitiveness of the country in the international arena (Kulikov et al., 2022). An analysis of international experience can help to adapt the most effective strategies and approaches for developing Ukraine's defence industry.

LITERATURE REVIEW

Numerous studies have been conducted on industrial policy and the defence industry in many countries worldwide. Some scholars (Dunne & Sköns, 2021b) emphasise the importance of state support for the defence industry, including subsidies, tax breaks, and investments in research and development (R&D). At the same time, other researchers (Reis, 2021; Luithari, 2023) are sceptical about excessive state intervention.

Another area of research focuses on international cooperation and integration of the defence industry. In some works, the global exchange of experience is seen exclusively as a positive factor influencing the development of the defence industry (Pasternak et al., 2023). At the same time, some researchers warn about possible problems that countries may face in building cooperation and reducing the effectiveness of joint programmes (Harutyunyan & Davtyan, 2019).

Some studies have confirmed that innovation and technological development are critical factors in the competitiveness of the defence industry (López & Garcia, 2020). At the same time, factors that may affect the efficiency of investment activities due to the lack of appropriate control and inadequate management (Fursina, 2021; Lelyk et al., 2022) must also be considered.

Technology transfer between the civilian sector and the defence industry is essential to industrial policy. It encompasses domestic technology transfer and international cooperation (Mölling & Schütz, 2021). At the same time, technology transfer between the civilian and defence industries is inherent in certain risks, primarily related to information security (Sezal Icon & Giumelli, 2022). This requires strict government control and regulation.

Globalisation brings new opportunities and challenges for the defence industry (Powell-Turner & Murgatroyd, 2021). It provides access to new markets and technologies while increasing competition. States need to adapt their industrial policies to global trends to remain competitive.

International organisations, such as NATO and the EU, significantly influence policy-making in the defence industry (Newlove-Eriksson & Eriksson, 2023). They provide financial support, facilitate technological exchange, and set standards.

Industrial policy plays a crucial role in developing a country's defence industry (Dunne & Sköns, 2021a). It includes various measures to finance, stimulate innovation, transfer technology, and adapt to global conditions. The effectiveness of this policy largely depends on institutional quality, international cooperation and the ability of the state to adjust to new challenges. Further research in this area could help to find more effective strategies for the development of the defence industry, including the following areas: the impact of institutional quality on the effectiveness of industrial policy in the defence sector, the effectiveness of technology transfer and mechanisms to stimulate innovative projects in the defence sector, adaptation to global challenges to compete in the worldwide defence market; international cooperation and integration for synergy in joint development and production of defence equipment; socio-economic impacts.

Studying these aspects will help develop a more holistic and effective industrial policy that will contribute to developing the defence industry, national security, and economic stability. First, the analysis can help choose the optimal industrial policy instruments that best suit the conditions of a particular country. For example, some countries can most effectively use subsidies and grants to stimulate research and development in the defence industry. In contrast, others can provide adequate state support through government orders and contracts.

AIMS AND OBJECTIVES

The study aims to investigate the role of industrial policy in the formation of the most effective strategies and approaches to the development of the defence-industrial complex and the possibility of their adaptation in Ukraine.

Research objectives:

1. To study international legal mechanisms for regulating the defence industry.
2. Analyse the economic aspects of the defence industry development.
3. To reveal the role of industrial policy in the development of the defence industry of the analyzed countries.

METHODS

The Research Procedure

The main stages of the study are shown schematically in Figure 1.

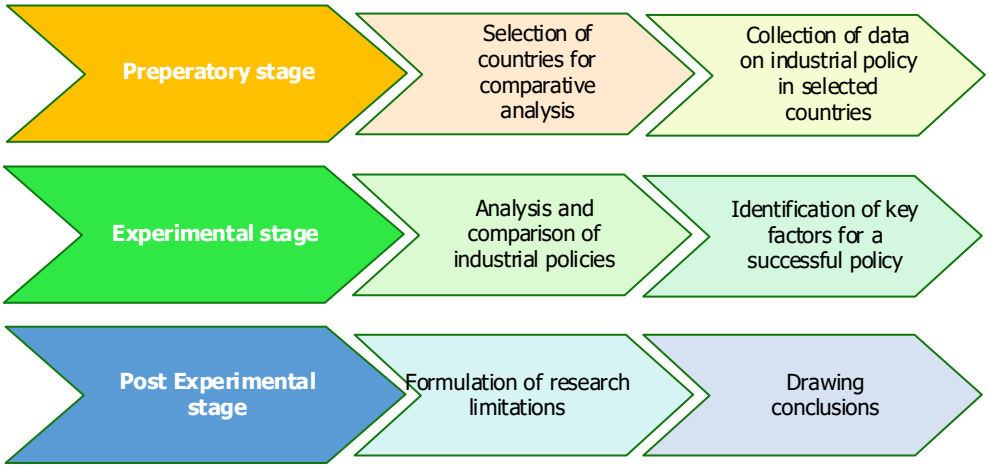

Figure 1. Visualised research design.

The chosen procedure ensures a systematic and comprehensive approach to studying the role of industrial policy in developing the defence industry, allowing it to consider international experience and formulate sound recommendations.

Sampling

Three countries with different approaches to defence industrial policy were selected for the study. The sample includes the USA, China and France. The USA is known for its high-tech and innovative capabilities, China actively integrates military and civilian technologies, and France focuses on European cooperation and national support for innovation. An analysis of these countries using the selected indicators will help compare the effectiveness of different industrial policy strategies and reveal all the factors that influence the development of the defence industry. Each country was analysed for 2020-2024 by applying the main industrial policy instruments, such as subsidies and financial incentives, public procurement, innovation and research, and international cooperation. The documents used included official government strategies, policy documents, defence budgets, defence industry development programmes, and records of international organisations such as NATO, the EU and the UN.

Methods

The following research methods were used in writing this paper:

1. A comparative analysis method is used to study the practices of countries in defence industry development. The comparative analysis allowed for a detailed study of different approaches to industrial policy in the defence industry and their results. The identified effective practices can be adapted and used to improve the industrial policy of other countries, taking into account their specific conditions and needs.
2. System analysis method to determine the interaction between the elements of the defence industry (manufacturing enterprises, research institutions, government agencies) and their impact on the overall effectiveness of industrial policy.
3. SWOT analysis to identify the strengths, weaknesses, opportunities and threats related to industrial policy and its impact on the defence sector.

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RESULTS

The US defence industry is one of the most powerful and developed in the world. It is based on two main strategic directions: i) restructuring enterprises through mergers and consolidation and ii) diversification of production with access to non-defence markets. The US defence industry consists of diversified corporations with numerous divisions specialising in various aspects of defence production (Figure 2). This structure allows for efficient resource allocation and specialisation in developing high-tech products.

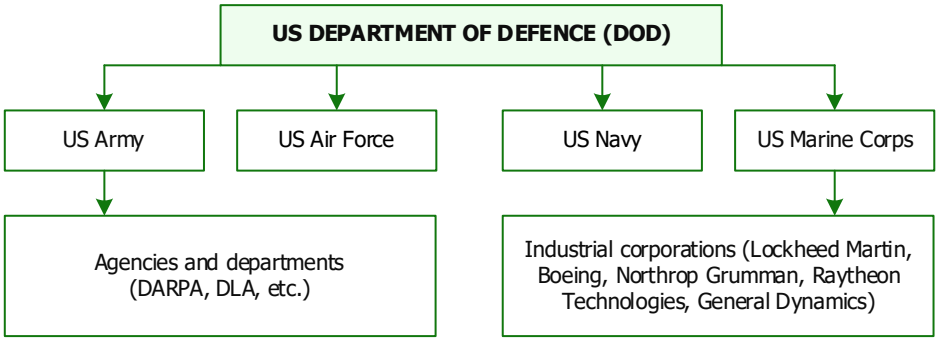

Figure 2. The structure of the US defence industry.

The government actively monitors mergers, as most of these transactions are subject to antitrust laws, which may affect the competitiveness of the US industry in global markets. The merger of Raytheon and United Technologies (2019) is one of the largest mergers in the history of the US defence industry. The USD 74 billion deal was thoroughly reviewed by the US Department of Justice and the Department of Defence. As a result, measures were taken to ensure market competitiveness and protect national security, including selling some divisions of the merged company.

The French defence industry (Figure 3) is essential to national security and the economy. The leading players in the French defence industry are large corporations such as Dassault Aviation, Thales Group, Airbus, Naval Group and Safran. These companies develop and manufacture various military equipment and systems, including aviation, space technology, warships, electronics and defence systems.

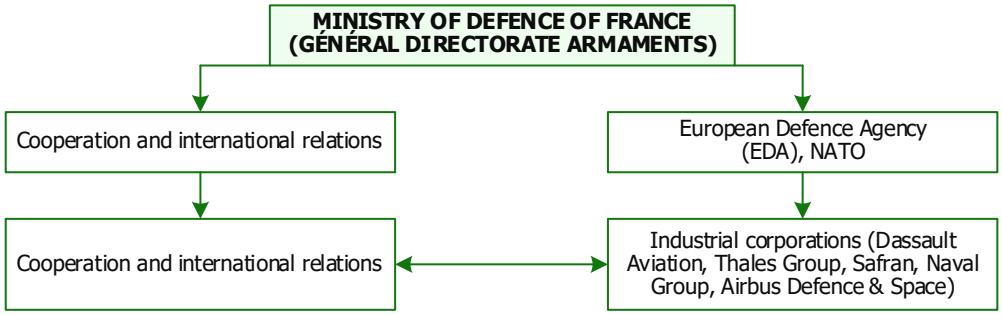

Figure 3. Structure of the French Defence Industry.

The Chinese defence industry is under strict state control. All activities of defence enterprises are coordinated through central bodies such as the Central Military Commission of the People's Republic of China and the State Administration of Defence Science, Technology and Industry. This centralised structure allows for efficient management of resources, coordination of development strategies, and control over technological innovations (Figure 4).

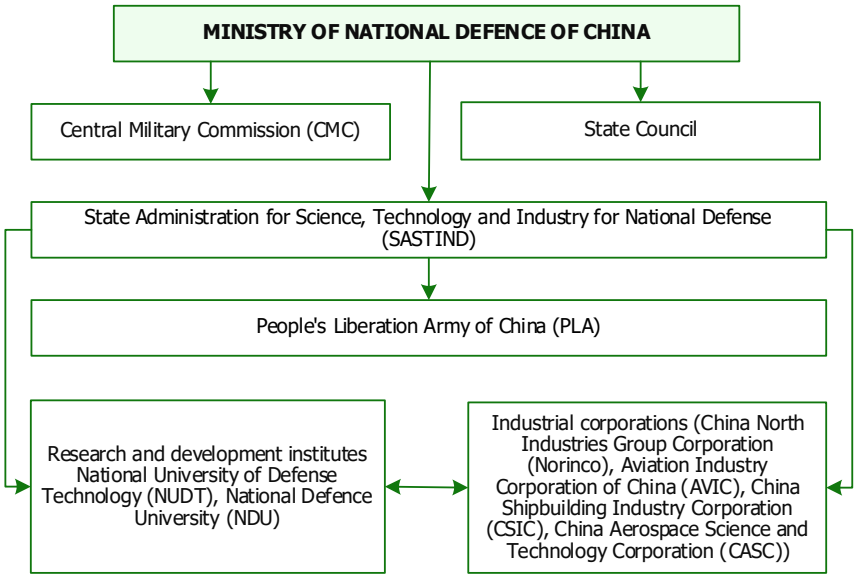

Figure 4. Structure of China's defence industry.

In turn, the organizational structure of Ukraine's defence industry at the time of the full-scale invasion was characterized by the lack of a clear management structure, insufficient coordination of non-state enterprises, duplicative structures and unfinished reforms. In general, the structure of the defence industry of Ukraine can be presented as follows (Figure 5).

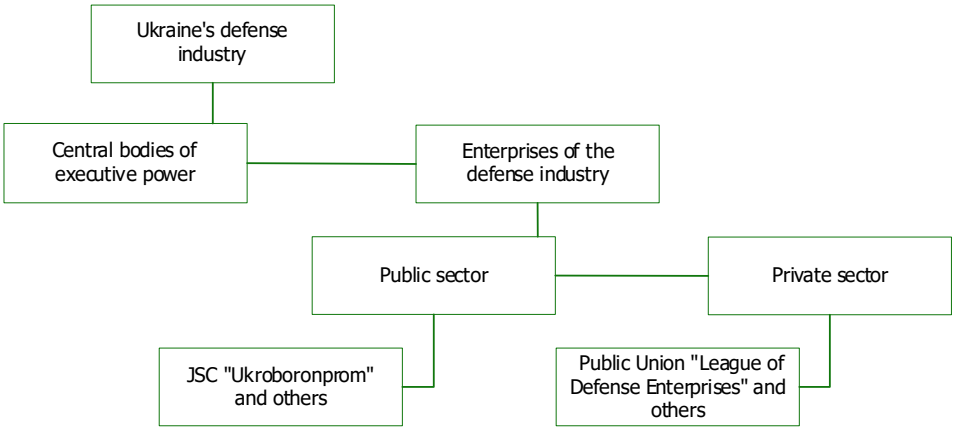

Figure 5. Structure of the defence industry of Ukraine.

The ministries of defence of the above countries receive significant annual budgets for developing, producing and modernising military systems. This is one of the most important funding sources for defence companies (Table 1).

Table 1. Areas of budget utilisation by the Ministries of Defence in 2020-2024. *(Source: compiled by the author based on U.S. Department of Defense (2024), Ministère des Armées (2024), Ministry of National Defense of Republic of China (2024), SIPRI (2024), IISS (2024))*

Year	Approved budget of the Ministry of Defence, USD billion							
	USA		France		China		Ukraine	
	Budget (USD billion)	Share of GDP (%)	Budget (USD billion)	Share of GDP (%)	Budget (USD billion)	Share of GDP (%)	Budget (USD billion)	Share of GDP (%)
2020	738	21.37	37.5	2.63	145.0	14.86	4.6986	3%
2021	740.5	22.99	39.2	2.93	169.3	16.86	3.9954	2%
2022	768	25.46	41.0	3.10	175.1	18.34	30.495	19%
2023	773	26.86	43.9	3.28	186.7	19.79	32.1768	18%
2024	813	28.53	46.0	3.45	191.2	21.36	-	-

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The US Department of Defence budget steadily increased from 2020 to 2024, from USD 738 billion in 2020 to USD 813 billion in 2024. This growth demonstrates a consistent strategy of modernisation and innovation. The increase in funding demonstrates the US intention to maintain a high level of readiness and technological superiority in the face of growing global threats. The main areas of the budget reflect the focus on the development of the latest technologies, cybersecurity, modernisation of military forces and infrastructure, and adaptation to new geopolitical realities.

Much of the budget is allocated to R&D through agencies such as DARPA, the Office of Naval Research (ONR) and the Air Force Research Laboratory (AFRL). This ensures the creation of advanced technologies and support for innovation. The US Department of Defence is the largest customer for defence products, providing a steady funding stream through multi-billion dollar contracts. Companies receive contracts for the development, production and maintenance of military systems. In particular, the F-35 programme is one of the most extensive defence programmes in US history. In 2019, Lockheed Martin received a USD 34 billion contract from the Pentagon to produce 478 F-35 fighter jets for the United States and its allies. This programme provides for long-term funding and is an example of the Ministry of Defence's large-scale investment in developing high-tech weapons systems.

The contract for Columbia-class nuclear-powered submarines is another example of how the US Department of Defence provides a steady stream of funding for developing and supporting the defence industry through large contracts. In 2020, the US Navy signed a USD 9.5 billion deal with General Dynamics Electric Boat to build the first two submarines of the new Columbia class. This project is strategically important for the US nuclear deterrent and involves significant long-term funding.

France plays a significant role in the defence industry through its Ministry of Defence and other government agencies. It is actively involved in the planning, financing, and regulation of defence programmes, as well as in supporting strategic enterprises. Between 2020 and 2024, the French Ministry of Defence budget underwent significant changes (Table 1). Despite the increase in defence spending, France faced economic challenges that affected overall budget allocations. The financial forecast for 2024 was revised to 1% growth, prompting the government to consider spending cuts to manage the national deficit. This fiscal constraint may affect future defence budgets, but strategic priorities such as supporting operations in Ukraine and meeting NATO commitments remain on the agenda.

In 2024, China increased its defence budget by 6.6% as part of a strategy to maintain stable and consistent growth in military spending. Despite this, China's defence spending remains relatively low compared to that of other major military powers such as the United States. In 2020-2024, China's defence budget grew steadily despite the challenges posed by the COVID-19 pandemic and economic difficulties. In 2023, the official defence budget totalled USD 186.7 billion (1.268 trillion yuan), an increase of 6.6% compared to 2022. However, actual defence spending, including additional items such as paramilitary spending, defence research, and civil-military integration, could have reached as high as USD 258.7 billion (RMB 1.757 trillion).

China's defence industry focuses on innovation and the development of modern technologies. In particular, artificial intelligence, quantum technologies, space exploration and hypersonic weapons are being actively developed. The Chinese government invests significant resources in research and development, which allows it to maintain a high level of technological competitiveness. However, the country is still dependent on imports of critical technologies such as integrated circuits and high-precision measurement instruments, which creates vulnerability in the face of geopolitical tensions.

The budget of the Ministry of Defense of Ukraine was only 2-3% of GDP until 2022. This indicator is significantly lower than the indicators of other studied countries. After the full-scale invasion, there was a significant increase in the defence budget to 18-19% of GDP. However, the absolute values remain relatively low.

Based on a comparison of the budgets of the US, French, Chinese and Ukrainian Ministries of Defence with their respective GDPs for 2020-2024, the following conclusions can be drawn:

1. The US Ministry of Defence's budget remains the highest among the countries under consideration, both in absolute terms and as a percentage of GDP. However, the budget's share of GDP is declining from 3.45% in 2020 to 2.85% in 2024. This shows that while the defence budget grows, GDP is growing faster.
2. The French Ministry of Defence budget is relatively stable as a percentage of GDP, fluctuating between 1.32% and 1.43% over the period under review.
3. Despite the increase in the absolute value of the budget, the share of the budget in GDP has not changed significantly, indicating that the budget and GDP are growing proportionally.

4. The Chinese Ministry of Defence budget as a percentage of GDP is declining from 0.98% in 2020 to 0.89% in 2024. China's absolute defence budget is growing, but the GDP growth rate exceeds the defence budget growth rate, leading to a decline in the share of the defence budget in GDP.
5. The United States is a leading exporter of defence products. The government actively supports exports through military aid programmes and loans for arms purchases.
6. Limited own resources lead to the fact that Ukraine relies heavily on external support during the war.

Analysis of public investment in the defence industry allows us to assess the level of support and development of this strategic sector of the economy in different countries. Considering the share of innovative projects in total investment is particularly important, reflecting the focus on technological progress and enhancing states' defence capability. Table 2 shows the level of public investment in the defence industry in the United States, France, and China in 2020-2023 and the share of innovative projects in these investments.

Table 2. Level of state investment in the defence industry in 2020-2023. *(Source: compiled by the author based on U. S. Department of Defense (2024), Ministère des Armées (2024), Ministry of National Defense of Republic of China (2024), SIPRI (2024), IISS (2024))*

Year	Level of state investment in the defence industry, USD billion					
	USA		France		China	
	Investments (USD billion)	Share of innovative projects in total investment (%)	Investments (USD billion)	Share of innovative projects in total investment (%)	Investments (USD billion)	Share of innovative projects in total investment (%)
2020	78.3	14.3	4.6	12.3	22.5	20.5
2021	80.9	15.5	4.9	14.1	25.4	22.3
2022	85.2	18.2	5.1	14.9	27.0	23.5
2023	88.1	19.5	5.3	15.3	29.0	25.3

The USA is the leader in absolute investment in the defence industry, continuing to invest heavily in innovative projects, underscoring its focus on technical superiority. In 2020-2023, investments in the US defence industry grew steadily from USD 78.3 billion to USD 88.1 billion. This indicates a constant priority for the modernisation and development of military capabilities. France's investments in the defence industry grew moderately, from USD 4.6 billion in 2020 to USD 5.3 billion in 2023. Although the level of investment is significantly lower than in the US, France also shows steady growth in this area. China shows the fastest growth rate in defence investment (from USD 22.5 billion in 2020 to USD 29.0 billion in 2023) and pays significant attention to innovative projects, which indicates its intention to rapidly modernise its armed forces and increase its role in the international arena.

Given the protracted war in Ukraine, it continues to require significant investment, not only from the state but also from abroad. Among the positive trends, it is worth noting the acceleration of the development of the scientific and technical sphere of Ukraine in the field of defence, which can contribute to the attraction of new investments.

The above data underlines countries' different approaches to developing their defence sector and shows how innovation is essential to their strategies. As a result, US defence exports continue to grow significantly (Figure 6). In 2023, they increased by more than 50% compared to 2020, reaching USD 81 billion in new sales under the Foreign Military Sales programme. This growth is primarily driven by the war in Ukraine and the threat from Russia, which pushes European countries to increase their purchases of US weapons.

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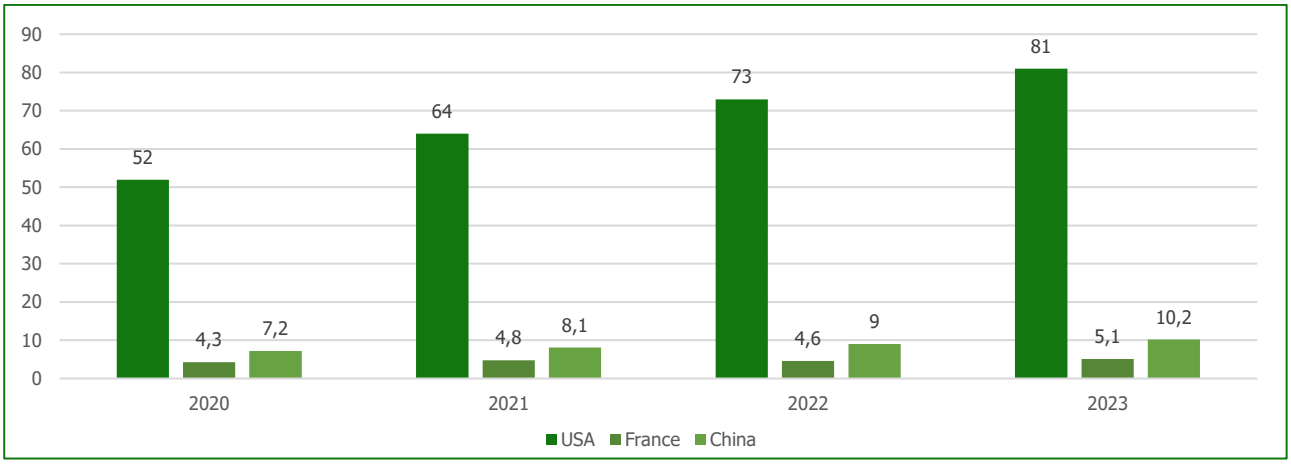

Figure 6. Exports of defence products, USD billion, 2020-2023. *(Source: compiled by the author based on U.S. Department of Defense (2024), Ministère des Armées (2024), Ministry of National Defense of Republic of China (2024), SIPRI (2024), IISS (2024))*

France is one of the world's leading exporters of defence products (Figure 6). According to official data, the country ranks third among the world's arms exporters after the United States and Russia. The main markets are the Middle East, Asia and Latin America. Arms exports are an essential source of income for the French economy and contribute to the development of the defence industry. From 2020 to 2023, France maintained a significant presence in the global arms export market. During the analysed period, the main exported products included aircraft (including the Rafale jet), warships, missiles, and electronics for military use. France has a solid competitive advantage in aerospace products, which accounts for a significant portion of its defence exports.

China actively cooperates with other countries in the defence industry, including Russia, Pakistan, Iran, and other states. This cooperation includes purchasing technology and weapons, joint research programmes, and military training. China is one of the largest arms exporters in the world. Asia, Africa, and the Middle East are the main markets for Chinese military products. Arms exports are essential to China's strategy to strengthen its geopolitical position and economic influence.

In turn, Ukraine does not plan to open arms exports, although, since the beginning of the war, the number of manufacturers of defence products has approximately doubled. At the same time, the country's government cannot finance the order of all manufactured defence products, so the issue of permission to export is causing more and more discussions.

Each country adapts its approach to defence industry development to its national interests, strategic goals, and available resources. Balancing domestic development, international cooperation, and innovation is essential to respond to current security challenges effectively. Table 3 presents a SWOT analysis of the role of industrial policy in developing the defence industry in the analysed countries.

Table 3. SWOT analysis of the role of industrial policy in the development of the defence industry in the USA, France, Germany, and China.

Strengths	Weaknesses
The USA: ▪ The most significant defence budget in the world. ▪ High level of technological development and innovation. ▪ A strong network of military allies and international partners. ▪ A large number of research centres and institutes. France: ▪ High level of technical expertise and innovation. ▪ Active participation in international defence programmes and cooperation. ▪ Strong defence industry with leading companies such as Dassault, Thales and Airbus. China: ▪ Significant defence budget. ▪ Rapid technological progress and innovation. ▪ Robust state control and coordination of defence industry development.	The USA: ▪ High defence spending may weigh on the budget. ▪ Dependence on political decisions and leadership changes. ▪ High levels of bureaucracy and complexity in procurement processes. France: ▪ Relatively small defence budget compared to the USA. ▪ Dependence on European defence initiatives and policies. ▪ Limited resources for large projects. China: ▪ Dependence on government funding and political decisions. ▪ Relatively low level of international cooperation compared to other major powers. ▪ High level of secrecy, which can limit cooperation with international partners.

(continued on next page)

Table 3. Continued

Opportunities	Threats
The USA: ▪ Development of new technologies such as artificial intelligence, cybersecurity and space systems. ▪ Increase international cooperation and partnerships. ▪ Support for innovative start-ups and the private sector. France: ▪ Expanding cooperation within the European Union. ▪ Investments in new technologies and innovative projects. ▪ Increase in exports of defence products. China: ▪ Investing in new technologies and artificial intelligence. ▪ Expanding international influence through the export of defence products. ▪ Development of space programmes and cybersecurity.	The USA: ▪ Geopolitical instability and growing tensions with other major powers. ▪ Cyber attacks and threats from new technologies. ▪ Competition from other countries that are rapidly developing their defence industries. France: ▪ Economic crises and budgetary constraints. ▪ Increasing competition from other European and international defence companies. ▪ Political instability and changes in government policy. China: ▪ Geopolitical instability and conflicts with other major powers. ▪ Cyber attacks and technological competition. ▪ Economic problems that may limit defence industry funding.

Each country in question - the USA, France, and China - has unique strengths and opportunities for defence industry development and faces specific weaknesses and threats. The USA enjoys the largest defence budget, significant technological capabilities and global influence, but dependence on political decisions and high costs can be problematic. France and Germany have a solid technical base and active participation in international defence programmes but face limited budgetary resources and dependence on European politics. China has seen significant growth in its defence budget and technological progress, but limited international cooperation and state control may pose challenges.

Effective management of these factors and adaptation to changes in global security is critical to ensuring the sustainable development of the defence industry. The balance between domestic development, international cooperation and innovation allows countries to respond effectively to current security challenges and support their strategic interests. Table 4 summarises the analysis results of different countries' approaches to defence industry development.

Table 4. Approaches of different countries to the development of the defence industry.

Approaches	Characteristics
The United States of America	
Innovation and research	▪ Significant investments in research and development (R&D). ▪ Cooperation with the private sector, universities and research institutes. ▪ The Defence Advanced Research Projects Agency (DARPA) focuses on the development of revolutionary technologies for national security.
International cooperation and exports	▪ Active participation in international defence projects and alliances (e.g. NATO). ▪ Support for defence exports through government programmes.
China	
Synergistic approach	▪ The synergy between the civilian and military sectors for technology development (civil-military integration policy). ▪ Significant investments in technologies such as artificial intelligence, cybersecurity and space systems.
Public administration and planning	▪ Strategic planning through state programmes and five-year plans. ▪ Supporting leading state-owned enterprises and encouraging the private sector to participate in defence projects.
France	
European cooperation	▪ Active participation in European defence projects and initiatives (e.g., the European Defence Fund). ▪ Joint programmes with other EU countries to develop new weapons systems.
National support for innovation	▪ State support for research and innovation through subsidy and grant programmes. ▪ Integration of research institutions with the defence industry.

The information presented in Table 4 will allow us to characterise the main directions of improving the effectiveness of the defence industry in the practice of advanced countries. On this basis, it is possible to formulate recommendations for other countries under threat or already in war, including Ukraine.

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DISCUSSION

A study of the role of industrial policy in developing a country's defence industry has shown that active government support, strategic planning and investment in research and development are critical success factors. An analysis has shown that countries with developed defence industry support mechanisms, such as the USA, France and China, demonstrate higher technological readiness and innovation.

Liwång (2022) argues that without the active involvement of the state, most national defence companies would not be able to achieve a high level of technological maturity and innovation. However, Reis (2021) and Luisari (2023) warn of the possible negative consequences of excessive government intervention, which can lead to inefficient resource allocation and reduced incentives for innovation. This study also considers this aspect, emphasising the need for a balanced public policy that avoids excessive intervention but ensures support for critical projects.

Pasternak et al. (2023) emphasise that international alliances and joint programmes facilitate the exchange of technology and knowledge, which significantly increases the efficiency of the defence industry. The results obtained in the current study support this thesis, demonstrating that cooperation between NATO and the EU provides opportunities for joint development and lower research and production costs. However, Harutyunyan and Davtyan (2019) note that international programmes often face coordination and benefit-sharing issues, which can reduce their effectiveness. The current study also identified these problems, highlighting the need for clear international legal regulations to ensure effective coordination and benefit sharing among participants.

López and Garcia (2020) note that countries with high R&D investments demonstrate a higher level of technological readiness and the ability to adapt quickly to changing market conditions. The results of the author's work confirm this thesis, as investment in R&D is a critical factor in the competitiveness of the defence industry. However, Fursina (2021) thinks such investments can be ineffective without proper management and control, which is often the case in countries with high levels of corruption and low institutional capacity. The author's study also focuses on this aspect, emphasising the importance of institutional quality for effectively using R&D investments.

Mölling and Schütz (2021) note that cooperation between different countries in the field of defence technology contributes not only to their accelerated development but also to strengthening international security. The author of this study shares this view, citing examples of successful international projects, such as the joint development of military aircraft and missile defence systems. However, Ikon and Jumeli (2022) focus on technology transfer challenges and risks between the civilian and defence industries. They note the risk of sensitive information and technology leakage to unfriendly states or terrorist organisations. This study also identified these risks, emphasising governments' need for strict control and regulation.

Powell-Turner and Murgatroyd (2021) emphasise the importance of integration into global supply chains to improve the efficiency of the defence industry. The results support this thesis, highlighting that globalisation provides access to new markets and technologies while increasing competition. Newlove-Eriksson and Eriksson (2023) claim that cooperation with international organisations such as NATO and the EU can significantly improve the efficiency of national defence industries. The current study confirms this thesis, showing that international organisations provide financial support, facilitate technological exchange and set standards.

The results of the study showed that the main objectives were successfully achieved. The analysis demonstrated the significant role of industrial policy in ensuring the sustainable development of the defence industry through the introduction of effective economic and legal mechanisms. It was also determined that international legal regulation, in particular arms control agreements and international cooperation, play a key role in shaping a stable and predictable system of defence industry development.

The results confirm the importance of state support, international cooperation and R&D investments for developing the defence industry. At the same time, they point to the need for a balanced approach to public policy, precise international legal regulation and control over technology transfer. Thus, this study adds to the existing knowledge and provides new perspectives for further research. On the other hand, its findings can be used to develop recommendations to strengthen Ukraine's defence industry and increase its international competitiveness. Taking into account the approaches of different countries of the world to the field of defence industry presented in Table 4 and the analysis of theoretical and empirical data, it is possible to make the following recommendations:

- introduce preferential taxation and other economic incentives for companies investing in the latest technologies and innovative developments in the defence industry (for example, subsidy and grant programs taking into account the French experience);

- establish joint ventures and consortia with foreign partners to implement major projects in the defence industry following the example of the USA;
- develop programmes to finance research and development in the defence industry, involving universities, research institutes and the private sector (using the French experience);
- create innovation clusters and technology parks for the development of start-ups and small enterprises working in the field of defence technology (US example);
- regularly analyse and evaluate the effectiveness of the implemented measures, adjusting the strategy to align with changes in the external and internal environment (using China's planning experience).

CONCLUSIONS

The defence industry is essential to the global economy's research and production sector and is critical in ensuring national security and defence capability. Developing the defence industry is a strategic priority for many countries, including the United States, China, and France, each of which has its own approaches to industrial policy.

The defence industry of the countries studied is a complex and multilevel system that includes large corporations, research institutions, and government agencies. These companies receive substantial funding from the state budget, actively invest in research and development, cooperate with international partners, and maintain their products' high quality and innovation. As a result, they remain world leaders in defence technology and production. A significant amount of research is carried out in cooperation with private companies and universities, which allows them to pool resources and knowledge to achieve high results.

These countries are leaders in defence technology and production, ensuring their products' high quality and innovation and strengthening their national security and economic strength. The USA has the highest indicators' values for the analysed period. Defence spending in 2023 amounted to USD 813 billion, 28.53% of the country's GDP. The budgets of the Ministries of Defence of France and China also showed growing results, ranging from USD 200 billion to USD 300 billion.

Summarising the study's results, particularly the approaches advanced countries use to improve the efficiency of the defence industry, allows us to formulate some recommendations for Ukraine. The main directions for improving the efficiency of Ukraine's defence industry can be as follows:

- strengthening state support by funding innovation and R&D in the defence sector;
- stimulating innovation by encouraging cooperation between universities and research centres;
- developing international cooperation through participation in international defence-related projects;
- ensuring efficient resource management by implementing long-term defence industry development programmes and supporting the country's strategically important enterprises.

To summarise the analysis, a balanced industrial policy that combines economic and international legal aspects is the key to creating a sustainable and competitive defence industry. Further research in this area will help develop more effective strategies for developing the defence industry and enhancing national security and economic stability.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

All authors have contributed equally.

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CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

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РОЛЬ ПРОМИСЛОВОЇ ПОЛІТИКИ В РОЗВИТКУ ОБОРОННО-ПРОМИСЛОВОГО КОМПЛЕКСУ ДЕРЖАВИ: МІЖНАРОДНО-ПРАВОВЕ ТА ЕКОНОМІЧНЕ РЕГУЛЮВАННЯ

Промислова політика є ключовим елементом, що визначає розвиток економічних секторів, зокрема оборонно-промислового комплексу. В сучасних умовах зростання геополітичної напруженості, технологічного прогресу та глобалізації питання ефективного функціонування й розвитку оборонно-промислового комплексу стає надзвичайно актуальним. Мета дослідження – визначити й проаналізувати найбільш ефективні стратегії та підходи до розвитку оборонно-промислового комплексу, які можуть бути адаптовані для України. Дослідження проводили з використанням методів порівняльного, системного та SWOT-аналізу. Результати дослідження показали, що кожна з розглянутих країн – США, Франція та Китай – має унікальні можливості для розвитку оборонно-промислового комплексу, але також зіштовхується з певними загрозами. США володіє найбільшим оборонним бюджетом, значними технологічними можливостями, але загрози створюють залежність від політичних рішень і високі витрати. Франція має сильну технічну базу, але стикається з обмеженими бюджетними ресурсами та залежністю від європейської політики. Китай демонструє суттєве зростання оборонного бюджету, але обмежена міжнародна співпраця стає на заваді стабільному розвиткові оборонно-промислового комплексу. Отримані результати засвідчують, що збалансована промислова політика, яка поєднує економічні та міжнародно-правові аспекти, є ключем до створення стійкої й конкурентоспроможної оборонної промисловості. Подальші дослідження в цій царині допоможуть розробити більш ефективні стратегії для розвитку оборонно-промислового комплексу, підвищення національної безпеки та економічної стабільності.

Ключові слова: промислова політика, оборонно-промисловий комплекс, економічне регулювання, міжнародно-правове регулювання, національна безпека, галузева стратегія розвитку, високотехнологічна продукція

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