# 國際客全研究

## Journal of International Security Studies

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2023.4

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### **Abstract**

## 3 How Does the AUKUS Nuclear Submarine Cooperation Change the International Nuclear Non-proliferation Norms?

LI Bin and LI Xiang

[Abstract] Nuclear submarine cooperation is a core element of AUKUS, a trilateral security partnership between Australia, the UK and the US. The international community has conducted a thorough debate on whether the cooperation program is consistent with the nuclear non-proliferation norms. Most of the existing studies focus on the incompliance of the AUKUS submarine program with international nonproliferation laws and regulations while ignoring its impacts on the developing international non-proliferation norms. From the perspective of norm evolution, a norm is subject to more damages and is more likely to degenerate if it is violated by many more states with great influence; if a norm is less officially recognized and less generally accepted in the international community, it is more vulnerable to violations. A major problem faced by the AUKUS submarine program is that the three countries are exploiting their influences to undermine the evolving non-proliferation norms. Over the years, none of the existing nuclear submarine cooperation activities has intentionally taken advantage of the loopholes concerning the military nuclear propulsion devices. However, the AUKUS submarine cooperation involves the transfer of a huge amount of weapons-grade uranium and blatantly exploits the loopholes regarding military nuclear propulsion devices, inflicting heavy damages on the three emerging nuclear non-proliferation norms with regard to military nuclear propulsion device transfers, dual-use item control, and nuclear breakout time.

[Keywords] AUKUS, nuclear submarine cooperation, nuclear proliferation, evolving international norms, *Treaty on the Non-Proliferation of Nuclear Weapons* 

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## 29 The War Effects of Economic Risks: A Study on the Mechanism of Security Cross-Sector Spillovers

HU Yuguang and ZHENG Xianwu

[Abstract] Barry Buzan's comprehensive security analysis framework provides an

analytical approach to cross-sector spillovers, thus overcoming the limitations of fragmented security research in different fields. This article analyzes the war effects of economic risks from the perspective of comprehensive security and proposes a theoretical framework featuring a "two-stage argument," which divides the process of economic risks giving rise to war into economic security stage and military security stage. The first stage is usually characterized by linear logic, where economic risks deteriorate into economic threats. The second stage is in line with complex multi-threaded logic, where economic threats exert influence on military security through "two mechanisms," create or aggravate "four dilemmas," and ultimately lead to the outbreak of war. The two-stage argument has five kinds of operational logic, namely, the direct relationship with military security, the contradiction between efficiency and security, the decline of monetary hegemony, economic dependency, and (international) financial crisis. These five kinds of logic are fully supported by historical evidence. Overall, the two-stage argument can be understood as a supplement and improvement of Barry Buzan's comprehensive security analysis framework at the meso level.

[Keywords] comprehensive security analysis, economic risks, warfare, cross-sector spillovers, two-stage argument

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## 57 Research on the Disciplinary Establishment of National Security and Safety Complexity Science

WANG Bing, SHI Zhiyong and WANG Yuanjie

[Abstract] In the era of complexity, it is imperative that the research and practice of national security and safety should solicit help from complexity science. National Security and Safety Complexity Science (NSSCS) is an indispensable paradigm of the research of national security and safety and an important theoretical support for the practice of national security and safety. It is of great significance to carry out the research on the establishment of NSSCS. This paper aims to expound on the foundation of NSSCS from three perspectives regarding epistemology, methodology and practice theory. On this basis, this article discusses seven fundamental discipline issues of NSSCS, namely, the necessity and legitimacy of the discipline, discipline definition, discipline attributes, discipline functions, research objects, research contents, and research methods. From the perspective of epistemology, the essence of national security and safety lies in the security and safety of a complex giant system. From the perspective of methodology, the research methodology of national security and safety requires a complexity paradigm. From the perspective of practice theory, the practical path of national security and safety research calls for complex systems

engineering. NSSCS is a branch of national security and safety science which must be built in the cross field of the science of national security and safety and the science of complexity. The establishment basis and the identification of the basic discipline issues of NSSCS have laid a theoretical foundation for NSSCS and provided an overall framework for the research and future development of NSSCS. From the perspective of the construction and development of the science of national security and safety, the establishment of NSSCS can not only promote the convergence of the science of national security and safety and the science of complexity, but also enrich and improve the system of national security and safety science.

[Keywords] national security and safety, national security and safety science, complexity science, national security and safety complexity science

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## 82 Reshaping the World? AI and New Features of National Security under the Rise of ChatGPT

**HUANG Rihan and YAO Haolong** 

[Abstract] ChatGPT, as a new milestone in the development of artificial intelligence (AI), has outstanding performance in many aspects, including language expression and self-reinforcement, which indicates a broad application prospect of generative AI. Generative AI (GenAI), as represented by ChatGPT, will predictably affect national security. As regards the international public opinion, GenAI will cause a wide chasm in countries' capacity to influence public opinion, making the public opinion ecology further complicated. In terms of ideological security, the malicious use of GenAI enables greater and more diversified ideological infiltration. As for the national strength comparison, due to different AI R&D capacities, the gap in national power of different countries is becoming increasingly prominent, which will intensify changes in the international power distribution. GenAI can also be applied to the military field to enhance the efficiency in collecting information and commanding on the battlefield, giving more significance to countries' capabilities in information warfare and cognitive warfare. From the perspective of legal regulation, the current responsibility subjects of GenAI are not clear enough, and the existing laws and regulations lag behind the need to constrain AI-based criminal acts. Besides, GenAI can exert an impact on society by reshaping the labor market and the talent development model. Faced with the fast-changing security situation under the dominance of new technologies, it's necessary to establish a collaborative and diversified system for AI application and innovation. Internationally, technological development should be shared fairly around the world to oppose technological hegemony. Domestically, new governance tools and updated laws and regulations should be carried forward to enable AI to serve both national interests and the construction of a community with a shared future for mankind.

[Keywords] artificial intelligence, national security, ChatGPT, generative artificial intelligence, technology revolution

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## 107 Cyber Deterrence and Hegemonic Reinvention: An Exploration of the Evolution of U.S. Cyber Deterrence Strategy and Its Motivations

JIANG Jiamin and SHI Bin

[Abstract] Cyberspace is becoming one of the major areas of U.S. global strategic competition in the information age. To adapt to the rapidly expanding and uncertain network environment, the United States has introduced the concept of traditional deterrence into the field of cyber security strategy, using cyber deterrence as an important means to pursue its security interests, expand its competitive edge, and reshape its international hegemony. The U.S. cyber deterrence strategy has been continuously adjusted and has gone through four stages featuring passive response, active defense, offensive dominance, and three-dimensional deterrence. Driven by the pursuit of cyber hegemony, the deterrence posture of the U.S. is becoming more aggressive with its deterrence system constantly reinforced. There is a trend of combining both offense and defense and laying particular emphasis on actual combat. The strategic reinforcement of the U.S. is under the influence of a variety of internal and external factors, and is the result of the superimposed effects of such variables as security-interest considerations, power-political appeals, ideology-cultural roots and social-economic relationships. The U.S. is attempting to move beyond the traditional logic of strategy. The formulation and implementation of the U.S. cyber deterrence does not remain purely at the level of "security", it is driven by a series of radical goals. The hegemonic essence behind its security thinking forms a strategic paradox, which not only creates an inherent logical dilemma for the U.S., but may also create a fragile security environment in which offense and defense are at odds with each other and shake the strategic balance between states.

[Keywords] cyber deterrence, strategic evolution, U.S. cybersecurity strategy, network hegemony

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University; SHI Bin, Professor, The Johns Hopkins University-Nanjing University Center for Chinese and American Studies, and School of International Studies, Nanjing University (Nanjing, 210023).

#### 130 The Biden Administration's Biosecurity Policy and Its "Out-Competing" Biosecurity Strategy towards China

JIN Jiyong and WU Jinxuan

[Abstract] Shortly after President Biden assumed office, the American government issued a series of documents and initiatives focusing on biosecurity. These initiatives signify that biosecurity has become an important item on the policy agenda for the American government. The unprecedented biosecurity crisis caused by the COVID-19 pandemic, the dysfunctional biosecurity governance mechanisms during the Trump administration, and the waning international leadership of the United States on the field of biosecurity governance serve as the primary background for the implementation of the Biden administration's biosecurity strategy. The Biden administration implements its biosecurity strategy through three paths: adjusting domestic biosecurity governance mechanisms, increasing investment in biosecurity research and development, and conducting health diplomacy. The biosecurity governance strategy of the Biden administration exhibits such characteristics as "whole-of-society," "pseudo-multilateralism," and "geopoliticization." It aims to strengthen the overall U.S. national security by promoting U.S. biosecurity, reshape international leadership through biosecurity, and consolidate biotechnological hegemony through the development of the biotech industry. Against the backdrop of the United States having established a comprehensive "Out-Competing" strategy towards China, there would be more competition between the United States and China in terms of biosecurity governance. The competition is mainly manifested in two aspects: competition in the international biosecurity regime and competition in the bio-technology economy. The Biden administration's biosecurity strategy, based on geopolitical considerations and an "Out-Competing" approach, has dimmed the prospects for Sino-US biosecurity cooperation.

[Keywords] Biden administration, biosecurity policy, "out-competing" strategy, bioeconomy, biotechnology

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(本期英文编辑:张国帅 高静)

## 國際安全研究

2023年第4期 (第41卷 · 总第193期) 1983年创刊 (双月刊)

#### JOURNAL OF INTERNATIONAL SECURITY STUDIES

Vol. 41, No. 4( July / August 2023)

Bimonthly, since 1983

Edited & Published by the Editorial Department of the

Journal of International Security Studies

Chief Editor: TAN Xiuying

Address: No. 12, Poshangcun, Haidian District, Beijing, P. R. China

Zip Code: 100091

E-mail: gjaqyj@uir.edu.cn Tel / Fax: 86-10-62861174 Printed by Futai Printing Co., Ltd

Overseas Distributor: China International Book Trading Corporation

(P. O. Box 399, Beijing, China) Date of Publication: July 20, 2023

国际标准刊号: ISSN 2095-574X 国内统一刊号: CN 10-1132/D

国外代号: BM 1165

定价: 50.00元





