

A Study on the Pattern of China-U.S. Diplomatic Interaction Driven by Technological Competition

—A Case Study of U.S. Export Controls on High-End Chips to China

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Abstract

Against the backdrop of the digital age, technological competition has become an important factor shaping great-power relations. U.S. export controls on high-end chips to China have pushed technology issues from the economic domain into the domain of strategic competition, thereby transforming the mode of China-U.S. diplomatic interaction. This paper argues that current China-U.S. diplomatic interaction exhibits the coexistence of strategic competition, policy contestation, risk management, and limited cooperation, while simultaneously facing problems such as insufficient strategic trust, the securitization of technology issues, and competition spillover. Going forward, it is necessary to strengthen strategic communication, improve rule coordination, and maintain necessary cooperation, so as to promote a more stable pattern of competitive interaction in China-U.S. relations.

Keywords

Technological Competition, China-U.S. Relations, Diplomatic Interaction, Export Controls

1. Introduction

With the rapid development of digital technology, artificial intelligence, and advanced manufacturing technology, technological capability has increasingly become an important factor in measuring a country's comprehensive national strength and international competitiveness. In recent years, technological competition has gradually expanded from the economic domain into the strategic domain, becoming an important variable affecting great-power relations. As the world's two lead-

ing technological powers, China and the United States have witnessed intensifying competition over advanced technologies, supply chain security, and international technology rules, and technology issues have become an important agenda item in the two countries' diplomatic interaction (Liu & Chen, 2026). U.S. export controls on high-end chips to China are an important manifestation of this trend. In this paper, "high-end chips" primarily refers to advanced-node logic chips and related computing chips used for artificial intelligence training and inference, high-performance computing, and similar applications. It should be noted that U.S. technology restrictions against China in fact encompass several distinct categories of measures: first, export restrictions on finished chips themselves; second, export restrictions on semiconductor manufacturing equipment such as lithography machines; third, export restrictions on chip design software (EDA tools); and fourth, investment screening and supply-chain access restrictions related to China (The definition of "high-end chips" and related export controls used in this paper is based primarily on the following official documents: for controls on finished chips and semiconductor manufacturing equipment, see U.S. Department of Commerce, Bureau of Industry and Security, "Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items...", Federal Register, 87 FR 62186 (Oct. 13, 2022); for controls on chip design software (EDA tools), see the same document and its October 2023 update (88 FR 73424); for investment screening, see The White House, Executive Order 14105 (Aug. 9, 2023), and the corresponding implementing regulations of the U.S. Department of the Treasury.). This paper takes chip- and equipment-related controls as its primary object of observation.

Since 2018, the United States has begun implementing restrictive measures against Chinese technology enterprises, and the number of Chinese firms placed on the U.S. Entity List has continued to rise (Zhang et al., 2024); in 2022, the United States further expanded the scope of export controls on advanced computing chips and semiconductor manufacturing equipment; subsequently, the United States pushed allies such as Japan and Netherlands to participate in related restrictive measures—for instance, Netherlands and Japan successively cooperated with the United States in tightening export controls on semiconductor equipment to China—giving technological competition an increasingly coalition-based character (Miller, 2022). These policies indicate that U.S. technology restrictions against China are no longer confined to traditional trade policy but are now intertwined with national security, industrial competition, and international strategic positioning. At the same time, China has also expressed its opposition to these technology restriction measures through diplomatic channels, while promoting the development of indigenous innovation capacity in order to reduce external dependence in key technology areas (Ministry of Commerce of the People's Republic of China, 2025). As a result, chip competition has not only affected the economic relationship between the two countries but has also transformed the content, methods, and features of China-U.S. diplomatic interaction. For a long period in the past, China-U.S. relations were mainly built on the foundation of economic interde-

pendence; although competition existed between the two sides, cooperation remained an important basis of the bilateral relationship. However, against the backdrop of intensifying technological competition, China-U.S. diplomatic interaction has gradually taken on new features characterized by heightened competitiveness, strengthened risk management, and the coexistence of limited cooperation. Against this backdrop, it is of great significance to examine the impact of technological competition on the pattern of China-U.S. diplomatic interaction, as well as to explore the challenges facing this pattern of interaction and possible solutions. Taking U.S. export controls on high-end chips to China as an observational case, this paper analyzes the changes in the pattern of China-U.S. diplomatic interaction against the backdrop of technological competition, along with its future development trends.

Specifically, this paper seeks to answer the following question: through what mechanisms have U.S. export controls on high-end chips to China altered the manner and structure of China-U.S. diplomatic interaction? The “change in the pattern of diplomatic interaction” referred to in this paper denotes change along three observable dimensions: first, the nature of interaction, namely the relative weight of cooperation-oriented versus competition-oriented issues within bilateral interaction; second, the channels of interaction, namely the relative rise and decline of economic-and-trade dialogue mechanisms versus securitized dialogue mechanisms; and third, the scope of participation in interaction, namely the changing proportion of bilateral coordination relative to coalition-based multilateral coordination. With regard to research method, this paper selects U.S. chip export controls against China as its observational case for two principal reasons. First, the chip industry possesses both economic value and national security attributes, making it a representative entry point for observing the securitization of technology issues and its spillover into the diplomatic domain. Second, the relevant control measures have been introduced in quick succession since 2018 with clearly identifiable time points, which facilitates tracing the sequential relationship and transmission pathway between policy measures and changes in diplomatic interaction. The period of analysis in this paper spans 2018 to 2024. The evidence relied upon primarily includes export control announcements issued by agencies such as the U.S. Department of Commerce’s Bureau of Industry and Security (BIS), official statements and policy documents from China’s Ministry of Foreign Affairs and Ministry of Commerce, and relevant academic research from China and abroad. The paper develops its argument using qualitative text analysis and process tracing.

2. The Formation of the China-U.S. Diplomatic Interaction Pattern against the Backdrop of Technological Competition

2.1. Technology Issues Have Become an Important Component of China-U.S. Diplomatic Interaction

Technological competition has, first of all, changed the focus of the China-U.S.

diplomatic agenda. In the past, the principal contradictions in China-U.S. relations were concentrated on economic issues such as trade imbalances and market access, whereas at present, competition over advanced technology has gradually become an important factor affecting the bilateral relationship. U.S. export controls on high-end chips to China reflect the developmental trend toward the strategization of technology issues. In fact, even before implementing specific technology restriction measures, the U.S. government had already begun to re-examine key technology industries from the perspective of supply chain security. The Executive Order on America's Supply Chains, issued by the Biden administration in 2021, stated that the United States needs to build "resilient, diverse, and secure supply chains", and held that geopolitical and economic competition could undermine the capacity of critical industries and the stability of supply chains (*The White House, 2021*). Under this policy logic, key technology industries such as semiconductors have gradually been incorporated into the national security framework, and the chip issue has thus shifted from a trade issue into a strategic issue of concern to the U.S. national security bureaucracy. Subsequently, the United States further incorporated advanced chips, semiconductor manufacturing equipment, and other technologies into its export control system, strengthening its own technological advantage through technology restrictions, supply chain adjustments, and coordination with allies. In terms of the transmission pathway, specific control measures first trigger public statements of opposition and reciprocal counter-measure lists at the level of China's Ministry of Foreign Affairs and Ministry of Commerce; second, the United States further coordinates export standards with its allies through the control-review process, pushing bilateral issues toward multilateral coordination mechanisms; and finally, the communication channels between the two sides, which were originally dominated by economic and trade dialogue, gradually give way to securitized dialogue channels centered on national security review and export-control consultations.

At the same time, the United States has also pushed its allies to adopt similar measures in an attempt to build a broader system of technology restrictions—for example, coordinating allies' export control and investment-screening policies through mechanisms such as the U.S.-EU Trade and Technology Council, the "Indo-Pacific Economic Framework for Prosperity," and the "Chip 4 Alliance" (*Shen & Chen, 2023*). This shift has transformed technology issues from firm-level commercial competition into a state-level diplomatic agenda. The United States has not only used diplomatic channels to coordinate allied policies, but China has also expressed its position through diplomatic means, emphasizing the right to technological development and the principle of fair competition. Technology issues have thus become an important component of high-level China-U.S. diplomatic interaction.

2.2. Strategic Competition Has Become an Important Feature of China-U.S. Diplomatic Interaction

Technological competition has gradually changed the basic form of China-U.S.

diplomatic interaction. In the past, China and the United States mostly achieved an exchange of interests through economic and trade cooperation; even where competition existed, it was mainly conducted around market interests. Current technological competition, by contrast, is more reflective of strategic-level risk prevention—that is, the hegemonic state relies on its structural advantage over critical nodes in technology networks, employing two types of means, “panopticon”-style information gathering and “chokepoint”-style node control, to contain its competitors (Farrell & Newman, 2019).

On the one hand, the United States is paying closer attention to the strategic implications that China’s development in fields such as artificial intelligence and semiconductors may bring, and has therefore adopted restrictive measures to safeguard its own technological advantage. On the other hand, China attaches greater importance to building indigenous capacity in key technologies in order to reduce the risks brought about by external technology restrictions. Against this backdrop, China-U.S. diplomatic interaction has gradually shifted from traditional interest coordination toward competition management. In other words, the perception of technological risk triggered by specific control measures has prompted both sides to elevate issues that originally fell within the scope of industrial policy to the level of high-level strategic agendas, thereby driving diplomatic interaction to shift from interest-exchange-oriented dialogue toward risk-prevention-oriented contestation. The two sides not only contend over specific policy measures but also compete over international technology rules, the layout of industrial and supply chains, and the direction of technological development.

In addition, technological competition has also pushed China-U.S. competition to expand from the bilateral level to the multilateral level. By coordinating its allies’ participation in technology restrictions, the United States has incorporated technology issues into a broader system of international cooperation, while China has actively promoted international technological exchange and cooperation in global technology governance. It can thus be seen that technological competition has become an important factor shaping the landscape of international relations.

2.3. The Coexistence of Competition and Cooperation Has Become the New Normal of Interaction

Despite the continuous intensification of technological competition, China-U.S. relations have not moved toward complete decoupling. In general-purpose economic sectors, the global technology industrial chain remains highly complex, and the chip industry in particular depends on the global division of labor; in mature-node chips, consumer electronics, and similar fields, extensive trade and investment ties still exist between China, the United States, and other countries across research and development, manufacturing, and market application alike (General Administration of Customs of China, 2026). In strategically sensitive technology fields, however—such as advanced chips, core AI computing power, and semiconductor equipment—the two sides have already exhibited pronounced selective re-

strictions and even a “small yard, high fence” style of decoupling, leaving very limited room for cooperation. In other words, the claim that decoupling “has not been completed” holds mainly at the level of the general-purpose economy rather than at the level of strategically sensitive technology. At the same time, the two sides continue to share common interests in non-technology-sensitive areas such as climate change, global economic governance, and public health, and therefore still need to maintain a certain degree of communication and cooperation.

Accordingly, current China-U.S. diplomatic interaction exhibits the coexistence of competition and cooperation: the two sides engage in strategic competition over core technologies while, at the same time, using diplomatic communication and limited cooperation to prevent further escalation of that competition. This pattern of interaction is neither a cooperative relationship in the traditional sense nor a wholly adversarial one, but rather a complex form of relationship that seeks risk control against the backdrop of competition.

3. Problems Facing the Current Pattern of China-U.S. Diplomatic Interaction

3.1. The Securitization of Technology Issues Compresses the Space for Diplomatic Coordination

One important reason for the intensification of technological competition is that technology issues have increasingly acquired security attributes. Once core technologies such as high-end chips and artificial intelligence are regarded as important resources affecting national security, related policies are no longer adjusted purely on the basis of economic interests. Although the securitization of technology issues has heightened all parties’ attention to technological risk, it has also compressed the space for diplomatic coordination, making it easier for both sides to interpret each other’s behavior through the lens of competition and precaution. The United States regards technology restrictions as an important measure for reducing strategic risk and views Chinese technology firms such as Huawei as the crux of China-U.S. technological competition, while China regards these restrictions as a major challenge affecting its technological development and industrial security. If both sides understand technological competition through a security logic, technology issues will become increasingly intractable and may even become impossible to resolve through traditional economic and trade negotiations.

3.2. Insufficient Strategic Trust Undermines the Stability of Interaction

Insufficient strategic trust is an important problem currently facing China-U.S. diplomatic interaction, as the two sides hold differing judgments regarding each other’s policy intentions. In the absence of an effective communication mechanism, technological competition may continue to expand, increasing the risk of strategic miscalculation. The United States regards technology restrictions against China as a necessary measure for safeguarding its own security and preventing the

proliferation of risks associated with key technologies, whereas China regards the relevant U.S. policies as displaying a clear tendency toward competition and containment. Nevertheless, when one examines the specific list of U.S. technology restrictions against China alongside the technology fields that China prioritizes for support, the two show overlap in certain areas, and the two sides' policy orientations in these areas display a degree of mutual responsiveness rather than a wholly "tit-for-tat" relationship.

3.3. Technological Competition May Spread to Other Domains

At present, China-U.S. technological competition has already extended beyond the chip sector and is gradually expanding into fields such as artificial intelligence, quantum technology, biotechnology, and data governance. These technologies possess both economic and strategic value, and future technological competition may further affect multiple domains, including the economy, security, and international rules. If competition lacks effective constraints, technology issues could become an important source of pressure undermining the stability of China-U.S. relations.

4. Promoting the Stable Development of the China-U.S. Diplomatic Interaction Pattern

4.1. Strengthening Strategic Communication to Reduce the Risk of Miscalculation in Competition

Against the backdrop of the long-term persistence of technological competition, China and the United States need to maintain necessary strategic communication. Communication does not imply the elimination of competition, but rather the reduction of the risk of miscalculation through the exchange of information. In the future, high-level strategic communication mechanisms can be further improved, while professional exchanges among government departments, research institutions, and enterprises can be strengthened, so as to keep technological competition within a manageable range.

4.2. Strengthening Rule Coordination to Control the Spillover of Competition

Technological competition requires rule-based constraints. The current international technology governance system is still in a period of adjustment, and countries hold differing interest demands regarding technical standards, export controls, and supply chain security. China and the United States should strengthen rule coordination in areas where this is possible, prevent the unlimited expansion of technological competition, and promote the formation of a more open and stable international technology environment.

4.3. Maintaining Necessary Cooperation to Achieve Limited Stability

Competition does not imply comprehensive decoupling. Extensive economic and

technological ties between China and the United States remain in place, and in the short term, the interdependent international economic and trade system continues to constrain both sides' willingness to "decouple". Maintaining necessary cooperation serves the long-term interests of both sides. In the future, China and the United States can strengthen cooperation in non-sensitive areas, enhance risk management in areas of disagreement, and maintain the stability of the relationship through limited cooperation amid competition.

5. Conclusion

Technological competition is profoundly reshaping the pattern of China-U.S. diplomatic interaction. U.S. export controls on high-end chips to China represent not merely a technology policy but also embody the broader trend of technology issues expanding into the domain of strategic competition. Against this backdrop, China-U.S. diplomatic interaction has gradually formed new features characterized by the coexistence of intensified competition, risk management, and limited cooperation. However, the securitization of technological competition, insufficient strategic trust, and the spillover of competition into other domains have also exposed the bilateral relationship to new challenges. Going forward, the key to China-U.S. relations lies not in eliminating competition, but in preventing technological competition from spiraling out of control—through strengthened communication, improved rules, and the maintenance of necessary cooperation—under conditions in which competition persists over the long term, so as to promote a more stable and predictable pattern of interaction.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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