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## 東北アジア半導体産業のテクノナショナリズム： 韓国、日本、台湾、中国についてのケーススタディ

代表研究者

朴ソヒアシュリー

東北大学 博士課程学生



### Technonationalism in the Semiconductor Global Value Chain in Northeast Asia: Case studies of South Korea, Japan, Taiwan and China

Principal Researcher

Seohee Ashley Park,

Tohoku University Doctoral student

この研究は、テクノナショナリズム (TN) に関する理論的議論の理解を深めることを目的とする。従来の研究をレビューすることは、ハイテク産業に対する保護貿易、イノベーションおよび戦略的産業アプローチを提案する。結論として TN が地政学的な関心と国家とビジネスの関係を含む包括的な概念であることを示す。産業の特徴はグローバルバリューチェーン (GVC) に大きく依存し、ハイテク産業の技術革新は民間部門が導いている。また、TN は国家安全保障問題に関する国家とハイテクビジネスによる狭義の概念である。このフレームワークを適用して、本研究では北東アジア諸国、すなわち韓国、日本、台湾の半導体産業を分析する。研究はまだ進行中だが、暫定的な結論では、北東アジアの半導体産業における TN の発露は産業政策に限らず、外交政策においても目撃されていることである。

The research aims at improving understanding in the theoretical discussion on technonationalism. Reviewing conventional works of the literature proposes protectionist, innovationist, and strategic industry approaches high-tech industries. The findings show that technonationalism is an inclusive concept embracing geopolitical interest and state-business relations. The nature of industry highly relies on the global value chain (GVC), and technological innovation in the high-tech industries occurs mainly in the private sector. Also, technonationalism is a narrowly defined concept with state actors involved in national security affairs and the high-tech business actors. Applying this framework, the researcher analyses the semiconductor industry in Northeast Asian countries, namely South Korea, Japan, and Taiwan. Although the research is still ongoing, the tentative conclusion shows that the manifestation of technonationalism in Northeast Asia's semiconductor industry is witnessed not only in their industrial policy but also in their foreign policy.

#### 1. 研究内容

With the rising tension between the United States and China surrounding security, trade, industry, and many other global issues since 2018, the

government's engagement in technology affairs and industries has increased. President Xi Jinping of China declared the 'Made in China 2025' (MIC 2025) plan in 2015, challenging the current global

technological leadership of the United States and its Western and Northeast Asian allies, namely the European Union, Japan, South Korea, and Taiwan. Washington has certainly taken note of it, and the Trump administration inexplicitly designated China as a strategic competitor. Myriad sanctions and measurements ban American firms from doing business with certain Chinese high-tech companies, most notably Huawei and ZTE. Even a hawkish posture towards China has been supported bipartisanly under the Biden administration.

As China is defined as a "national security threat" to the United States, measurements taken by the U.S. government have resulted in geopolitical competition. The Trump administration's stance on U.S. commerce with China involves its military allies and partners. Its political economy is difficult to distinguish to what extent domestic or international political domain, and whether it is security or commerce matters. The situation of growing trade tensions and increasing technology rivalries between Washington and Beijing is the resurgence of technonationalism, which Richard Samuels first coined in 1987 to describe the Reagan administration's intervention in Fujitsu's acquisition Fairchild Semiconductor Corporation and ceased the deal for national security reasons. Since then, it has been the fundamental organizing principle of the rise of Japan as a superpower in the 20th century. Also, it has become an academic concept describing the state's interventionist policies in hi-tech industries.

The literature review part shows how technonationalism arises as an antithesis of economic globalization. The author started the

literature review by studying the liberal peace theories. Liberal theories are rooted in Kantian liberal internationalism, Schumpeterian liberal pacifism, and Machiavellian liberal imperialism. Schumpeterian liberal pacifist theory analyzes that capitalism and democracy are forces for international peace. As the development of capitalism brought economic rationalism to individuals, they demanded a democratic government for industrial stability. Thus, wars and occupation are accepted as high-cost activities, and international trade is widened to access resources and materials. From this argument, the democratic peace theory is developed. It is a well-known theory that democracies do not engage in war with each other. The independent variable of this theory is a democratic system or democratic norm, and the dependent variable is international peace. Democracy has been considered a single variable for international peace. However, later such an idea was expanded: democratic countries share the political system and norms, and their interdependency plays a significant role in maintaining peace among them. The interdependency is the international cooperative division of labor and free trade among them. However, such a hypothesis instead points out that the major factor of international peace is not democracy itself but capitalism, so-called capitalist peace. The capitalistic economic system and common interests of states prevent the outbreak of war.

In other words, states tend to have compatible foreign policy preferences as they seek economic development and capital market integration. However, such interdependence has been weaponized and has become a source of conflicts among states. Interdependence is deployed as a tool to exert

state power over other states. The global economic and production network carries security consequences as such network became a site of state power competition. Economic statecraft is based on asymmetric dependence among states, and it resulted in the rise of technonationalism, emphasizing technological autonomy for national security. In the era of the globalized economy, the “balance of dependence” is what decides the “balance of power” among states. State power is derived from controlling international markets and financial and economic cooperation instruments. Emerging technologies are crucial to geoeconomics as they are the basis of strategic industries that create dependencies converted into political capital.

However, technonationalism to create a technological imbalance with strategic industries tend to be overused not only by the media but also by academia. Thus, this research intends to set up a new framework of technonationalism to analyze states’ economic statecraft. By reviewing and sorting the existing arguments on technonationalism, the author adopts a working definition to structure the overall research. Other scholars’ findings from revisiting works on technonationalism show that the core of technonationalism is not the technology itself but the industries applying those technologies. As the nature of the global production network shifted from cooperation to competition, states intervened in the market to secure their domestic firms’ advantageous status there. Also, the tendency of state competition is shifted from geopolitics involving military hardware and territorial factors to geoeconomics deploying economic means. Thus, the author raises these research questions: first, to what

extent does technonationalism concern national security? There are various definitions for “national security”; however, this research uses Joseph Nye’s definition of security using a three-dimensional chessboard; second, what are the features of the economic statecraft in the global value chain? As the global commerce nowadays is mainly led by private sectors, it should be clearly defined that the state’s policies under the banner of technonationalism are state’s guidance of the business as it originally means or the business sectors’ manipulation of the state; third, how the asymmetric dependence influences the international politics? The balance of power is decided by balance of dependence, technonationalism is to create such imbalances.

In order to build the analytical framework of technonationalism, this research employs the concept of state-business relations (SBRs) to capture the manifestation of technonationalism involving business actors, who are the actual innovators and leaders of high-tech sectors. Through the framework building, the author conceptualizes technonationalism as a narrowly defined concept with limited state and business actors for national security matters, both in national defense and economy aspects. The iron triangle model is applied to explain how state actors and private actors interact in the dynamic of their negotiation. Also, weaponized interdependence (WI) is introduced to illustrate how the global economy network symbolized as the global value chain (GVC) fundamentally changes the nature and influence of economic interdependence among states.

Based on the assumption that the state-business

relations are symmetric, the case studies of South Korean, Japanese, and Taiwanese domestic semiconductor industry is still ongoing. The author selects Samsung Electronics of South Korea cases, TSMC of Taiwan, Elpida Memory, Renesas Electronics, and Kioxia of Japan. Tentatively concluded, Japan and Taiwan's cases show that technonationalism is manifested in their industrial and foreign policies. In the case of Japan, the state actors have put effort into reviving its domestic "chip-making" industry by merging memory chip and system chip departments from each conglomerate. As a result, Elpida Memory and Renesas Electronics were established. Although the Japanese government's aid in 2009, Elpida went into a bankruptcy in 2013. However, Renesas became one of the major automobile semiconductor producers in the global market. Kioxia is the case showing the Japanese government's effort to protect its chip industry from foreigners' M&A. South Korea and Taiwan's cases are how states use their domestic semiconductor industry for foreign policy reasons. So-called the Silicon shield, TSMC has been a powerful tool to create Taiwan's leverage vis-à-vis China and the United States. On the other hand, South Korea's case with Samsung is hard to conclude as technonationalism. From the establishment of Samsung's semiconductor business until the early 2020s, Samsung and the South Korean government have had different interests in the chip business. The unique relationship between the government and conglomerates in Korean society is one factor, and the government's recognition of the semiconductor industry is the other. Although it is yet to deduce that the Korean case is precisely the logic of technonationalism, as the new government of South Korea from May 2022 declares the

state-business partnership in the semiconductor industry, the policy direction is beholden to the new phase.

## 2. 発表(研究成果の発表)

国内外の学会誌、学会講演会等における発表があれば5件程度記載。

記載内容：氏名、題目、誌名、巻、号、頁(年次)、学会名(場所、年次)

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