



European University Institute

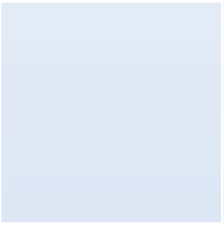
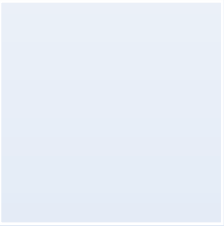
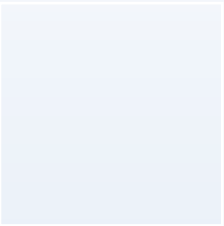
ROBERT SCHUMAN CENTRE FOR ADVANCED STUDIES



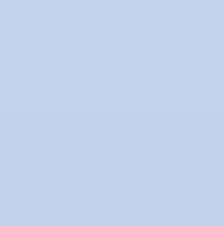
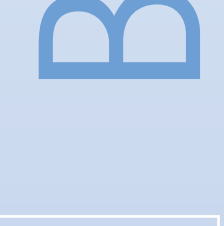
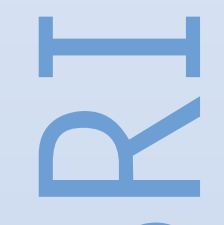
Issue 2021/13  
March 2021

EU-Asia project

POLICY



BRIEF



## U.S.-China Technological Hegemony and Japan's Economic Security

*Kazuto Suzuki, Professor Graduate School of Public Policy, The University of Tokyo*

### Abstract

The U.S. and China are said to be in hegemonic competition, and the main arena of that competition is technological superiority. Although 5G communications and space are considered to be the major domain, the real competition is taking place in emerging technologies. These technologies will define the socio-economic competitiveness and set standards for the shape of the international order, as well as military balance. While US President Joe Biden's administration will continue the current confrontational policy against China, there is a growing concern that this stance may intensify the anti-trust actions on mega-IT companies which are the central players for emerging technologies. China is building up its programme to strengthen control over strategic assets and technologies, which may bring the country closer to technological hegemony. Japan is expected to respond to the economic statecraft from the U.S. and China by bolstering existing strength in advanced materials, robotics and machinery while avoiding dependency on China in order to reduce vulnerability.



## Introduction

China's actions in pursuit of what is called 'technological hegemony'<sup>1</sup> in recent years are expected to significantly alter the international order. This paper attempts to analyse trends in the world order brought about by the confrontational relationship between the United States and China. Conflict over technological hegemony in midst of the integration of the global market and the establishment of global supply chains—an environment very different from that of the Cold War era—has not only led to friction and military action, but also has taken on an aspect of competition over superiority in the economic field. Because this conflict revolves around a complex relationship that is neither simply hostile nor simply cooperative<sup>1</sup> and exists in the context of deepening economic interdependence, it is poised to profoundly affect world order.

### 1. What Is 'Technological Hegemony'?

Before further discussion, the term technological hegemony needs to be defined. It is defined herein as the ability to having the power to overwhelm other countries and to shape the international order. Extending this concept, technological hegemony may be viewed as 'the ability to possess a specific technology, creating a state in which other countries cannot acquire said technology for a long period of time, and to use that technology to shape the international order.' Such technological hegemony cannot be achieved simply by means of scientific and technological innovation and technological development capabilities. To achieve such hegemony a country must protect developed technology as intellectual property in order to limit access by other countries. What is of prime importance is to create and implement those technologies into society - social systems, weapons systems, etc. - and to ascertain whether such technology ultimately has the ability to shape the international order.

From this point of view, it becomes doubtful whether the U.S. can achieve technological hegemony. Although America certainly has the ability to develop new technologies and to put them to practical use, it cannot be said with certainty that they could be socially imple-

1. Ashley J. Tellis, Alison Szalwinski, and Michael Wills (eds.) *U.S.-China Competition for Global Influence*, The National Bureau of Asian Research, 2019. [https://carnegieendowment.org/files/SA\\_20\\_Tellis.pdf](https://carnegieendowment.org/files/SA_20_Tellis.pdf).

mented to shape the international order. The country is already deeply incorporated into the global economy; its resources are focused on high value-added R&D and service industries while its manufacturing industry, which enables mass production for social implementation, is in decline. Even if the U.S. was able to find a breakthrough on new technology, it would be difficult to introduce it to the social system on its own, due to the weakness of mass-production capabilities. To establish technological hegemony in certain domains and to sustain it overall, the country would require a network of free trade agreements for securing the supply chain. In this regard, the decision by former President Donald Trump to leave the TPP (Trans-Pacific Partnership) was inconsistent with the U.S. desire for technological hegemony

Conversely, China has expanded its share in the global market through its own production capacity. It is now becoming possible for China to influence the international order with new technologies. Although the country is also incorporated into the global supply chain - it cannot domestically produce semiconductors and advanced materials - the Chinese have a sufficient industrial base capable of developing new technologies, and of mass-producing and disseminating them as part of a social system. The debate over modern technological hegemony is strongly linked, not only to simple technological development capabilities, but also to the associated industrial base, industrial productivity and the ability to gain global market share.

### 2. Is the U.S.- China Space Race A Competition Over Technological Hegemony?

One example of an issue often raised in relation to technological hegemony is the 'U.S.-China Space Race', discussed below. The United States has pursued space development since the Cold War and succeeded in landing on the moon in the 1960s. For its part, China achieved manned space flight and recently made a successful soft landing on the 'other side' of the moon, which the U.S. and the Soviet Union do not have the capacity to do. In this respect, China is undoubtedly a major space power. It should be noted that the U.S. and China are not competing on the same playing field.

The current priority for China is to build a space station. Only recently a probe was launched for soft landing on



Mars. The U.S., meanwhile, has been constructing and operating the International Space Station since the 1990s and has already gained enough experience to suspend its operations in 2025. In terms of soft landing on Mars, the U.S. has operated an unmanned rover, called Opportunity, far beyond its design life and has collected a large amount of scientific data. In addition to that, the U.S. has recently landed Perseverance. From this point of view, China is still playing catchup with the U.S.

Notably state-led space development is promoted in China, while the U.S. entrusts the transportation of astronauts to the Space Station to private companies: the government is gradually retreating into the background of space development. In sum, the U.S. is far ahead of China, so the notion that there is a space race between the U.S. and China is not necessarily accurate<sup>2</sup>.

The U.S. and China are, however, engaged in a competitive relationship regarding the military *use* of space. Space infrastructure is becoming an essential component of modern military power; capabilities in space, such as missiles and drones guided by reconnaissance satellites and GPS and communication satellites for operating them are directly linked to military might. An important consideration in this competition is the difficulty of protecting space infrastructure. In the event of an armed conflict, it would be easily possible to decapitate the enemy's military by attacking the space infrastructure.

Therefore, the U.S. and China are building infrastructure in space on the one hand and competing to strengthen their counterspace capabilities to neutralise their opponents' infrastructure, on the other. Another important consideration is how to restore capabilities and maintain the functions of space infrastructure (mission assurance) in the event of such an attack.<sup>3</sup>

### 3. Is 5G the Main U.S.- China Battleground Over Technological Hegemony?

The rollout of the 5G network is another initiative often cited as an issue surrounding technological hegemony

2. Brian Weeden and Xiao He, "U.S.-China Strategic Relations in Space", *NBR Special Report* no. 57. The National Bureau of Asian Research, April 15, 2016. <https://www.nbr.org/publication/u-s-china-strategic-relations-in-space/>
3. Kevin Pollpeter, "Space, the New Domain: Space Operations and Chinese Military Reforms." *Journal of Strategic Studies*, vol.39, no.5-6, 2016, pp.709-727

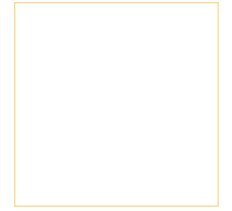
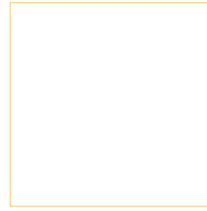
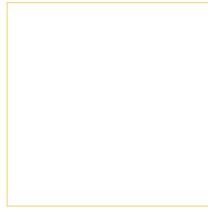
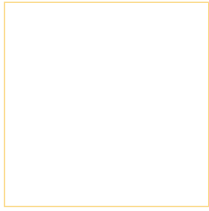
between the U.S. and China. We would argue it is also not the subject of a technological hegemony race<sup>4</sup>. From a technological point of view, 5G is already an established technology for Chinese corporations, for Nokia and Ericsson in Europe, as well as NEC and Fujitsu in Japan, companies capable of providing products similar to those of Huawei. There is no U.S.-based company which is competitive in the commercial market for 5G equipment. In this sense, the 5G initiative is not denying access of its product to foreign countries (rather, it is encouraging investment). Nor is 5G monopolising the technology to use it for hegemonic power.

So how should we view the race to roll out 5G? This is a technological area in which Chinese corporations are rapidly expanding their presence in the global market. Huawei alone is investing in 5G and beyond-5G technologies more than all Western companies combined. The strength of Chinese products is that they invest in low added value mass production, while Western, especially U.S. companies, hesitate to do so because they focus on high added value activities such as designing or developing software. Therefore, Chinese competitiveness now surpasses that of the West. If left up to market forces, Chinese products might acquire a dominant position and drive foreign corporations out.

In that case, a situation will arise in which the 5G communication infrastructure is dependent on Chinese corporations, raising the concern that information exchanged via this communication infrastructure may be easily leaked to the Chinese government. In the event of an intensification of classic hegemonic rivalry between the U.S. and China, there is also the fear that, in retaliation for a perceived Western offence, Chinese companies might stop providing products, or that codes embedded in Chinese products would be used to launch attacks on socio-economically essential infrastructure in the West<sup>5</sup>. Furthermore, if the 5G infrastructure is monopolised by Chinese corporations, there is the risk of needing to rely on telecommunication technology produced by opaque,

4. Nicol Turner Lee, *Navigating the US-China 5G competition*, Brookings Institution, April 2020. <https://www.brookings.edu/research/navigating-the-us-china-5g-competition/>

5. *Huawei Cyber Security Evaluation Centre Oversight Board Annual Report 2019: A report to the National Security Adviser of the United Kingdom*, United Kingdom, March 2019. [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/790270/HCSEC\\_OversightBoardReport-2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/790270/HCSEC_OversightBoardReport-2019.pdf)



and potentially intrusive, high-risk vendors. In other words, issues surrounding 5G create unprecedented problems of increased security due to Chinese corporations being in a superior position through the international competitiveness of their products.

In sum, national economic security may be jeopardised as vulnerability due to dependence on foreign products increases.

#### 4. Competition Over Emerging Technologies

The competition over technological hegemony is taking place in new fields created by emerging technologies that will greatly influence future socio-economic activities and that can also contribute to military capabilities<sup>6</sup>. These technologies can be categorised into fourteen fields specified by the United States in the Export Control Reform Act (ECRA), i.e.: (1) biotechnology, (2) artificial intelligence and machine learning technology, (3) navigation and positioning, (4) microprocessor technology, (5) advanced computing technology, (6) data analysis technology, (7) quantum information and sensing technology, (8) logistics technology, (9) 3D printing, (10) robotics, (11) brain-computer interfaces, (12) supersonic speeds, (13) advanced materials and (14) advanced surveillance technologies.

The U.S. and allies have technological superiority in some of these fields. China is rapidly developing its own technological capabilities, and there are several fields in which that country has gained the upper hand (e.g., quantum technologies and advanced surveillance technologies such as facial recognition). These fields of emerging technologies will undoubtedly have great influence on socio-economic activities, and if they are applied militarily, they would alter China's military capabilities, which could also impact the order of international security.

Of course, technological hegemony cannot be determined simply by the presence or absence of technology. Even if a new technology is developed through R&D, there is a gap (called the 'valley of death') before it can be put to practical use, and even after that, there are several

6. Xiangning Wu, "Technology, power, and uncontrolled great power strategic competition between China and the United States." *China International Strategy Review*, no.2, pp.99-119, June 2020. <https://link.springer.com/article/10.1007/s42533-020-00040-0>

more hurdles before it can be incorporated as a part of a social or military system. Emerging technologies are called 'emerging' because they have not yet reached the stage of practical application and social implementation. The salient question is which country can gain the upper hand technologically and then apply the technologies to social and military systems. There is no doubt that this is where the competition for technological hegemony is taking place.

#### 5. Changes in Policy Brought About By Emerging Technologies

As emerging technologies are socially implemented and established as parts of the social system, it is likely that major changes would also take place in the military and security fields. They may not necessarily become 'game changers' akin to the threat of developing nuclear weapons that could then be deployed, but, it is likely that the presence or absence of such technologies would bring about changes in the methods of combat and means for gaining military advantage, such as the ability to accelerate the decision-making speed by dramatically improving information gathering and processing capabilities<sup>7</sup>.

Therefore, what becomes an issue is how to control the technologies and prevent knowledge of how they are created, in order to establish technological hegemony. From the point of view of the non-proliferation of weapons of mass destruction, technology transfer has been regulated through export control regimes. Sensitive technologies in specific have been monitored through frameworks such as COCOM and the Wassenaar Arrangement. Such technology has been controlled based on the specifications. High-spec dual-use products and technologies that can be directly applied to weapons manufacture are the subject of control, while those with lower specifications have been, in principle, marketed as general-purpose products to enable both global business and security goals.

On the other hand, emerging technologies are developed in the private sector as versatile technologies in the first instance. It is, therefore, difficult to clearly separate military and civilian applications based on specifications, as has been done in the past. In addition, there

7. Kelley M. Saylor, *Emerging Military Technologies: Background and Issues for Congress*, Congressional Research Service Report, November 10, 2020. <https://fas.org/sgp/crs/natsec/R46458.pdf>



are technologies developed and evolved as civilian technologies that have much higher specifications than those developed for the military. Thus, civilian knowledge and practice is incorporated into military technologies. For companies seeking to invest, the commercial market is much bigger than the military market, and the proceeds they can obtain from financial market are much greater than what strictly military investments offer. Certain technologies such as artificial intelligence and machine learning process require big data, which commercial and civilian activities provide more than military activities. Furthermore, development of such emerging technologies is not achieved by researchers in a single country but is often created through joint research with international students and researchers from abroad. In addition, these technologies are positioned within the global supply chain and are developed and manufactured using parts and components produced in various countries. In sum, the control of products distributed through the global market, via a global supply chain, not to mention the need for control of research development from various countries calls for a complex system.

We must also consider that it is not yet clear in what way these technologies will contribute to national security. There is no clear distinction between sensitive technologies like weapons of mass destruction and general-purpose products, as we have noted. It is also difficult to properly control technology for the purpose of national security without hindering business.

It was once possible to clearly distinguish between military and civilian technologies. The state could develop high-spec technology and control it under the rubric of 'military technology'. This applied to technologies related to weapons of mass destruction. Today it has become difficult to do this in countries with democratic and open economic systems, such as the United States and allies, because it is certain that private industry would resist to comply with additional regulations. In China, which has a state-led economic system, controlling technology, it is relatively easy.

## 6. Technological Hegemony Under the Biden Administration

The competition over technological hegemony between the U.S. and China accelerated during the Trump administration; in some circles it is still thought that the U.S.

has no choice but to compete against emergence of China as a technological superpower. Yet at the same time, there were some elements unique to the Trump administration, such as President Trump's personal understanding of the nature of the competition and his political (re-election) strategy. Thus, it is difficult to clearly determine whether the U.S.-China conflict will continue to have a 'Trumpian characteristic', during a period of transition in the international order.

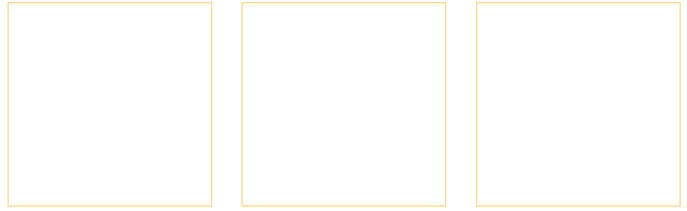
Awareness of China's threat continues to grow within the U.S. and there is a bipartisan call for stricter measures against China in Congress<sup>8</sup>. The aforementioned ECRA is also a law designed to strengthen control of emerging technologies, enacted as a result of a congressional initiative. This trend is not likely to change in the near term.

Under these circumstances, it is thought that there will not only be continued concerns over technology leaking to China, but also an increase in national security risks due to an influx of Chinese products, even in the Biden administration. More importantly, it is also thought that there will be heightened concern regarding increased vulnerability due to an influx of Chinese products as a result of the decline in U.S. manufacturing industry. In other words, the Biden administration would be required to foster and strengthen the capacity of U.S. industries that bear the burden of technological hegemony, in association with the issue of unemployment.

A major obstacle to this renewed U.S. policy to counter the threat of China's competitive position is, however, criticism from within the Democratic party of the situation where the mega-IT industry, referred to as GAFAM (Google, Amazon, Facebook, Apple, Microsoft), occupies a monopolistic position and in which economic disparity continues to expand. The left wing of the Democratic party, which has emerged as a major force in the 2020 elections, is highly concerned with economic disparity, and is highly critical of GAFAM<sup>9</sup>. Even under the Trump administration, the Antitrust Subcommittee of the Democrat-led House of Representatives submitted

8. Mel Gurtov and Mark Selden, "The Dangerous New US Consensus on China and the Future of US-China Relations", *The Asia-Pacific Journal*, vol.17 Issue 15, no.5, Aug 01, 2019. <https://apjif.org/-Mel-Gurtov--Mark-Selden/5299/article.pdf>

9. Nick Dyer-Witford, "Left Populism and Platform Capitalism," *tripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society*, no.18, pp.116-131. [https://www.researchgate.net/publication/338565595\\_Left\\_Populism\\_and\\_Platform\\_Capitalism](https://www.researchgate.net/publication/338565595_Left_Populism_and_Platform_Capitalism)



a report alleging that GAFAM was abusing its monopolistic position to distort the market<sup>10</sup>. The Department of Justice has sued GAFAM for violating antitrust laws. This trend may accelerate under the Biden administration.

Measures such as legal sanctions against and corporate breakup of GAFAM based on antitrust laws are expected to have a major impact on the future of emerging technologies if they are executed. This is because this mega-IT industry is the central player for the development of AI, advanced sensing, services using big data, quantum technology, and the like. If GAFAM were to be broken up into smaller companies, it could hinder the collection and analysis of large amounts of data as well as large-scale investment in R&D. As a result, the U.S. would lag behind China in the field of emerging technologies, which would be disadvantageous in the technological hegemony race. As noted earlier, unlike the unified state-led technology development regime in China, the U.S. is disadvantaged by a technology development regime that prioritises innovation by private companies.

## 7. Will China Attain Technological Hegemony?

China has been playing technological catchup with the West and has operated its economy following a model of importing foreign capital and know-how to achieve this economic development. It is, however, becoming difficult for China to achieve economic development utilising its low production cost, which is referred to as the ‘middle-income trap’<sup>11</sup>. Instead, the Chinese are focusing on technological development in a situation in which there is a call for a shift to high value-added industries<sup>12</sup>. Moreover, in order to solve the increasingly more serious problem of declining birth rates and an aging society, the country has focused on fields such as robotics and AI to promote full automation and labour-saving. In short, as the working population decreases, the Chinese are

promoting R&D centred on technological development to augment total factor productivity through machines rather than exploiting labour or capital.

With the advent of competing for technological hegemony it is becoming difficult for China to continue to reap the benefits of the global supply chain, that is, to depend on the U.S. and Western countries for cutting-edge technology, know-how and materials, in particular, semiconductor manufacturing equipment. As a result, the Chinese confront a situation in which they need to promote development and manufacture of high value-added products, which are on the upstream of the production process.

Under these circumstances, China has begun to recognise the importance of economic security and to cultivate an awareness that its technology is positioning the country as a world leader. This was reflected in President Xi Jinping’s speech delivered in April 2020, in which he spoke of goals to foster ‘killer technologies’ and thereby create a situation in which other countries would become ‘dependent on Chinese technology.’<sup>13</sup> Furthermore, it is thought that China has now enacted the National Intelligence Law and the Export Control Law to address the risk of its technologies being transferred to foreign countries. At the same time, this law enables China to take countermeasures if the U.S. and other Western countries end up restricting exports by means of some kind of technology control. In addition, China has amended its national defence law to define cyberspace and outer space as war zones, with the aim of enhancing military capabilities in these areas. The country is ready to mobilise the People’s Liberation Army (PLA) against cyber-attacks and attacks on space infrastructure<sup>14</sup>.

In this manner, China is shifting its position to establish economic security by advancing its own technology control and seizing technological hegemony. Moreover, China is considered to have stepped up competition for technological hegemony with the U.S., by making it clear that offensive measures may be taken against countries using, and possibly appropriating, the said technologies.

10. *Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations*, Subcommittee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary, October 2020. [https://judiciary.house.gov/uploadedfiles/competition\\_in\\_digital\\_markets.pdf](https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf)

11. Antonio Andreoni, Fiona Tregenna, "Escaping the middle-income technology trap: A comparative analysis of industrial policies in China, Brazil and South Africa", *Structural Change and Economic Dynamics*, Volume 54, 2020, Pages 324-340.

12. Linda Glawe and Helmut Wagner, *The People’s Republic of China in the Middle-Income Trap?*, ADBI Working Paper, No. 749, June 2017. <https://www.adb.org/sites/default/files/publication/322961/adbi-wp749.pdf>

13. "China must develop ‘killer technologies’ to survive foreign blockades: Xi", *Apple Daily*, November 1, 2020. <https://hk.appledaily.com/news/20201101/ZXKTHTL04RAPPFCBH3KN7UVFI/>

14. "China’s military takes charge of war powers with new defence law," *South China Morning Post*, 3 January, 2021. <https://www.scmp.com/news/china/military/article/3115988/chinas-military-takes-charge-war-powers-new-defence-law>



Traditionally China's strength lies in the downstream of the production process, i.e., in producing mass-produced products. High value-added sectors in upstream of that process, such as semiconductor manufacturing equipment are not yet competitive in strategically important technological fields: China is still in the stage of playing catchup. As a result of the U.S. initiating a competition for technological hegemony and restricting technology transfer, China is being forced into a situation where it needs to enhance its autonomous technological capabilities. Under these circumstances, China will rapidly catch up by means of state-led mobilisation of resources. In the case of such a 'sanctions dilemma'<sup>15</sup> China would be forced to enhance capabilities through indigenous innovation.

So long as technological hegemony is a 'hegemony', China's present technological capability is insufficient to put the country at the top. The Chinese model requires certain attractiveness to encourage other countries to use such technology. Unless China implements this technology in its socio-economic system in a manner that appeals to other countries, there will be little incentive to adopt it. This has happened before. France once developed a value-added information service called Minitel, which many feels could have been the predecessor to the Internet. The lack of a user-friendly interface and unattractive contents (not to mention technical problems) deterred international investment and led to collapse. Furthermore, Japanese feature phones met with a similar fate. Condemned as 'Galapagos mobile phones', they were highly advanced and among the first to introduce internet surfing and email messaging, however, they were tailored for only the Japanese socio-economic environment. In fact, the Japanese phones that did become internationally popular were the simpler mobile phones produced by Nokia, and the like. By the same token, in order for Chinese technology to gain international support, it must appeal to the society that uses it. If China employs the technology to monitor and manipulate the activities of its citizens or to suppress criticism of the government, it may be attractive to some dictatorships, but would be less likely to be adopted in many democratic countries.

## 8. Japan's Economic Security

Finally, let us consider Japan's position in the competition over technological hegemony between the United States and China. Japan is simultaneously in a confrontational relationship with China and in cooperation with the U.S. At the same time, Japan has a profound economic relationship with China; it is not desirable to hinder business with China, or for that matter, for China to strengthen its technology control to make it difficult for the two countries to continue benefitting from this rapport.

Japan should focus on becoming more autonomous in response to the U.S.-China technological hegemony race, thereby gaining capabilities that can be leveraged against both the U.S. and China. Specifically, Japan should concentrate on refining technologies on the upstream side of the production process, such as cutting-edge materials, robotics, and machining equipment, technology in which the country already excels. As stated, technologies related to the upstream of the production process tend to be oligopolised and to increase the degree to which other countries rely on Japan. When Japan strengthened export controls against South Korea in July 2019, South Korea objected strongly to the move from comprehensive licensing to individual licensing for three products, including hydrogen fluoride. This is because South Korea greatly depends on Japan for those three items; without them on the upstream of the production process, manufacture of semiconductors, South Korea's main industry, becomes difficult. In response, South Korea enhanced its export control system as required by Japan. Thus, the measures taken by Japan acted as leverage and changed South Korea's behaviour<sup>16</sup>. By anticipating results other than an enhanced export control system from South Korea, the Japanese government has not actually shifted back to comprehensive from individual licensing, as requested by South Korea.

In any case, Japan could have an influence over other countries through refining technologies, upstream of the production process; by leveraging this position, Japan could avoid being caught up in the intensifying competition over technological hegemony between the U.S. and China. At the same time, it will become important for

15. John Patterson "The Sanctions Dilemma," *Middle East Report* no.187-188, March/April 1994. <https://merip.org/1994/03/the-sanctions-dilemma/>

16. Kazuto Suzuki, "Weaponising trade in the Japan-South Korea dispute", East Asia Forum, 28 December, 2019. <https://www.eastasiaforum.org/2019/12/28/weaponising-trade-in-the-japan-south-korea-dispute/>



Japan to reduce dependence on China, thus decrease its vulnerability. It might shift the current “subsidy for supply chain diversification” valued at 2.3 billion US dollars by de-investing in China and transferring the production site to a third country, a move currently promoted by the Ministry of Economy, Trade and Industry.

Furthermore, in order to avoid being embroiled in the competition over technological hegemony between the U.S. and China, Japan must enhance economic security on its own, and work with other countries. Cooperation with Europe and in U.S.-Europe relations, which cooled during the Trump administration, should recover under the Biden administration. However, as the confrontation between the U.S. and China continues to intensify, Europe will not be able to fully realign with the U.S.. China is an important trading partner; the EU and China reached an agreement on Comprehensive Agreement on Investment in December 2020. Europe already maintains an alliance with the United States while honouring an economic relationship with China. Thus it is in a similar position to that of Japan.

Of particular importance in any cooperative relationship with Europe is sensitivity when taking a lead role in competition for technological standardisation so as to avoid being entangled in the competition over technological hegemony between the U.S. and China. European countries have established a large presence in the setting of product standards and processes, through organisations such as the International Organization for Standardization (ISO), well-versed in this practice in the global market. Because they are new, emerging technologies often present opportunities to set technological standards. If Europe could set standards that can be globally applied, it would conceivably render Chinese and American technologies less internationally viable, before these countries become too dominant in the arena. It is extremely important for Japan and Europe to work together to create a situation favourable to Japanese products, by leading discussions on the development of technological standards, with the common goal of preventing China's technological hegemony and, in some cases, by winning over the United States.

The competition over technological hegemony between the U.S. and China has only recently begun. Japan's future economic security will be determined by its position and behaviour in that protracted competition. Needless to

say, cooperation with the United States, Japan's ally, as well as with Europe, which shares the same values and has achieved a similar technological level, offer effective ways to leverage Japanese technologies and to use them as a form of geopolitical power. Wisdom, together with such a broad strategic perspective, is needed to negotiate the era of the U.S.-China technological hegemony race.





Global Governance Programme  
Robert Schuman Centre  
for Advanced Studies

European University Institute  
Via Boccaccio, 121  
50133 Florence  
Italy

Contact GGP:  
[GlobalGovernance.Programme@EUI.eu](mailto:GlobalGovernance.Programme@EUI.eu)

## Robert Schuman Centre for Advanced Studies

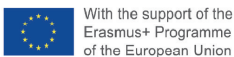
*The Robert Schuman Centre for Advanced Studies (RSCAS), created in 1992 and directed by Professor Brigid Laffan, aims to develop inter-disciplinary and comparative research on the major issues facing the process of European integration, European societies and Europe's place in 21<sup>st</sup> century global politics. The Centre is home to a large post-doctoral programme and hosts major research programmes, projects and data sets, in addition to a range of working groups and ad hoc initiatives. The research agenda is organised around a set of core themes and is continuously evolving, reflecting the changing agenda of European integration, the expanding membership of the European Union, developments in Europe's neighbourhood and the wider world.*

## The Global Governance Programme

*The Global Governance Programme (GGP) is research turned into action. It provides a European setting to conduct research at the highest level and promote synergies between the worlds of research and policy-making, to generate ideas and identify creative innovative solutions to global challenges. The Programme is part of the Robert Schuman Centre for Advanced Studies of the European University Institute, a world-renowned academic institution. It receives financial support from the European Commission through the European Union budget. Complete information on our activities can be found online at: [globalgovernanceprogramme.eui.eu](http://globalgovernanceprogramme.eui.eu)*

## EU-Asia Project

*The EU-Asia project is a research and educational initiative within the Global Governance Programme. It is designed to contribute to mutual understanding and exchange between Asia and Europe at a time of unprecedented change in international politics and global governance. The project also aims at an ambitious academic programme on EU and Asia, with a particular focus on Japan.*



Views expressed in this publication reflect the opinion of individual authors and not those of the European University Institute or the European Commission.  
© European University Institute, 2021

Content © Kazuto Suzuki.

doi:10.2870/53704  
ISBN:978-92-9084-968-1  
ISSN:2467-4540