

Grasping industrial policy in the age of economic security

Yoshiyuki Sagara

Japan and the United States are committed to working together to promote and protect key emerging technologies — a deepening cooperation underpinned by growing competition between the U.S. and China. “We intend to sharpen our innovative edge and strengthen our economic security,” reads a joint statement issued during the summit between Prime Minister Fumio Kishida and U.S. President Joe Biden in Washington on April 10.

How the tables have turned. During the height of trade wars between the U.S. and Japan in the 1980s, Tokyo’s industrial policy was a regular target of American criticism. So for Japanese policymakers, Washington’s newfound focus on its own industrial policy comes as a surprise. For example, to promote strategic industries such as electric vehicles, batteries and semiconductors, the Biden administration has set aside \$369 billion for green transformation under the Inflation Reduction Act of 2022 and another \$52.7 billion under the CHIPS and Science Act.

On the other hand, China and Europe have been the forerunners in funding their strategic technologies. To prop up its semiconductor industry, Beijing created the National Integrated Circuit Industry Investment Fund in 2014. Known as the “Big Fund” for its scale, around 140 billion yuan (\$19 billion) was raised by the central and local governments. And in response to the COVID-19 pandemic, the European Union created the Next Generation EU recovery fund, an industrial policy to promote green

transformation worth €648 billion (\$705 billion).

Traditionally, subsidies have been regulated by international trade rules such as those of the World Trade Organization and its forerunner, the General Agreement on Tariffs and Trade, to prevent industries from receiving too much protection and distorting free trade. But government spending has become the new norm in economic security policies since the COVID-19 pandemic — with countries engaged in a veritable battle of subsidies.

The pandemic underscored the vulnerability of global supply chains and unleashed a fierce international struggle for face masks and vaccines. Furthermore, support for the pharmaceutical industry became a matter of national, even existential concern. As a result, economic security has become a focal point. This policy area, like climate change, cannot be addressed through market mechanisms alone. This is why industrial policies, including social implementation and industry formation in key emerging technologies such as semiconductors and EVs, are required.

This class of policies is centered around three “P’s”: promoting strategic industries and the commercialization of critical and emerging technologies; protecting strategic industries through export controls and firewalls for critical technologies; and partnering with like-minded countries for joint technological development and regulatory harmonization. How much these P’s are emphasized and how many resources

governments invest in each are contested areas. Furthermore, Japan, the U.S. and other Western countries should focus on three guiding principles: democratic, venture capital-style and agile industrial policy.

First, a democratic approach entails giving the private sector open or not-too-restricted access to dialoguing with policymakers, having accountability for government policies and instituting open coordination between allies and like-minded countries. Although industrial policy is often thought of as being government-led, it should be based on a democratic system, as the private sector is playing an ever-greater role in critical and emerging technologies that affect national security.

For example, a breakdown of the 14 critical technology areas identified by the U.S. Department of Defense in 2022 shows that the private sector is leading in research and development in microelectronics, quantum science, trusted AI, biotechnology, future generation wireless technology, advanced materials and renewable energy. Only three areas are specifically related to the military: directed energy, hypersonics and integrated sensing.

The private sector — both business and academia — is the main player in economic security. Unlike in the heavy and chemical industries of the past, governments can no longer identify strategic industries and emerging technologies of national importance on their own.

Governments should, instead, exercise their convening power and encourage strategic dialogue between politics, government, business

and academia while targeting strategic industries. The goal is to move products from R&D to commercialization, refine them through market competition and, finally, develop them into fully-fledged industries.

Also, cross-border R&D should be carried out transparently between trusted parties. A security clearance system, which Japan is now operationalizing, is thus essential as new commercial opportunities in emerging technologies open up for Japanese companies in the U.S. and other like-minded countries.

Second, venture capital-like investments should be adopted. This is a style of investing in large portfolios with many startups that aims to earn huge profits from some investments while allowing most others to yield low returns or even fail. As governments develop industrial policies, they must also maintain fiscal discipline. They should not gamble with state funds and should avoid cooking the books without knowing policies' outcome.

Key technologies should be targeted through strategic dialogue and detailed investment plans according to the technology readiness level (TRL). For technology to reach implementation, it must cross the “devil river” of product development, overcome the “valley of death” as it moves toward commercialization and survive the “Darwinian sea” in competitive markets.

To implement and commercialize disruptive innovations, governments must play the role of venture capital and set milestones for each level of technological maturity, with long-term follow-on investments as these targets are achieved.

An illustrative example of the "government as a venture capitalist" approach was the procurement of COVID-19 vaccines in the United Kingdom, whose Vaccine Task Force was led by a person with venture capital experience. In addition, many senior executives in funding agencies such as the Defense Advanced Research Projects Agency in the U.S. have venture capital experience.

Third, policies should be implemented in an agile manner. The Japanese government's competitive research funding and subsidies are selective and focused but do not necessarily take technological and industrial developments — i.e., TRL — into account. Such funding is reviewed once a year at best or is based on previously determined contributions.

A lot of this funding is in the form of multiyear budgets paid in annual installments to previously chosen recipients. However, as competition in emerging technologies such as AI and quantum technologies intensifies, annual budgets are, increasingly, not enough. Agility in capital injection, cuts in losses and pivots are also needed.

In the U.S., the CHIPS and Science Act was adopted in August 2022 to boost semiconductor development, but the first public call for applications came in February last year and the first grant recipients were selected in December.

On the other hand, China's growing sense of crisis has fueled its semiconductor production, with Huawei last September launching the Mate 60 Pro smartphone using domestically manufactured 7-nanometer chips. In addition, Beijing is raising the Big Fund's third round, worth about 300 billion yuan (\$42 billion). It is no good to lose out on policy implementation while escalating industrial competition.

The private sector is now at the forefront of geoeconomic conflicts and the first to be "attacked" in case of export controls or economic coercion. Therefore, on top of subsidies, public-private dialogue is crucial — making democratic, venture capital-style and agile industrial policy increasingly important. Considering Japan's long history of public-private cooperation, the country has a major role to play as a "global partner" to the U.S., a message that Kishida stressed in Washington.



Profile



Senior Research Fellow

Yoshiyuki Sagara

Expertise

Economic security / Sanctions / Health security policy / International conflicts
/ Japan's foreign policy

<https://apinitiative.org/en/experts/sagara-yoshiyuki/>

Disclaimer: The views expressed in this API Geoeconomic Briefing do not necessarily reflect those

of the API, the Institute of Goeconomics (IOG) or any other organizations to which the author belongs.