

Comments on
“Economic Security and New Industrial Policy” by Shiro
Armstrong, Mireya Solís, and Shujiro Urata

At Japan Economic Seminar 2025

Takeo Hoshi

University of Tokyo, ABFER, and TCER

Summary

- Studies recent development of Japan's economic national security strategy and the role of industrial policy
 1. Government rapidly institutionalized economic national security strategy (notably ESPA of 2022), but Japan continues to depend on China for critical products and export controls on advanced technologies do not seem to have visible effects.
 2. Private sector's efforts to address supply chain vulnerabilities and protect sensitive technologies vary a lot depending on the size of corporations.
 3. Japan is implementing new industrial policy to promote cutting-edge technologies, such as those in semiconductor manufacturing, that are critical to national security.
- Very good paper that summarizes recent development and also identifies policy challenges ahead.

Two Comments

1. Standard formula for credit risk may be useful in considering economic security strategies at national level and at corporate level.
2. Is new industrial policy to promote the technologies critical to national security really new in Japan? And will it be effective?

1. Standard Formula for Credit Risk

$$\textit{Credit Risk} = PD * LGD * EAD$$

*Credit Risk = Probability of Default * Loss Given Default * Exposure At Default*

Similarly

*Security Risk = Probability of Security Incident * Loss Given Incident * Exposure at the time of Incident*

- This may be useful when we try to measure the national security risk and how certain policy tools can be used to mitigate the risk
- Discussion on economic security, e.g. supply chain risk, mostly focuses on **Exposure** (and **Loss** sometimes)
- This may make sense at corporate level, but at the country level, reducing **Probability** of security incidents may also be a reasonable policy goal

1. Standard Formula for Credit Risk (Continued)

*Security **Risk** = **Probability** of Security Incident * **Loss** Given Incident * **Exposure** at the time of Incident*

- What do standard measures of supply chain vulnerability quantify? **Exposure**? **Loss**?
- Reducing **Exposure** and/or **Loss** may change the **Probability** at the country level
- Reducing **Exposure** for a type of incident may increase **Exposure** for a different type of incident
- For example, reshoring may reduce **Exposure** for trade disruption but may increase **Exposure** for natural disasters

2. New Industrial Policy

- Japan used (traditional) industrial policy in the catch-up phase of its economic development
- By the 1980s, Japanese government clearly recognized the importance of moving to new industrial policy
- “a turning point is coming, a move away from an industrial pattern of ‘reaping’ technologies developed in the seedbeds of the West, to a pattern of ‘sowing and cultivating’ that displays greater creativity. With the century of catch-up modernization at an end, from the 1980s onwards we will enter a new and unexplored phase.” (Ministry of International Trade and Industry, 1979, *Vision for Industrial Policy in the 1980s*)
- Japan has tried new industrial policy that targeted the advanced technologies since the 1980s
- Many resembled the current policy to invite TSMC to establish fabrication factories in Kumamoto and Rapidus to establish factories in Hokkaido.

2. New Industrial Policy (Continued)

- New industrial policy often combined promotion of new technologies with regional development of industrial clusters
- Early examples
 1. Technopolis Act (1983): Focused mostly on manufacturing. New plants/facilities in 26 Technopolis regions (identified 14 in 1984, 4 in 1985, 8 in 1986) received various benefits (special depreciation, exemption from property taxes, and zero interest loans).
 2. Intelligent Location Act (1988): Focused on “smart sector” (research, product development, information processing, software, design, etc.). Designated 23 locations (most of them adjacent to or overlap with Technopolis Region), where new facilities received benefits including tax breaks and loan guarantees from government financial institutions.

Evaluation of New Industrial Policy in the 1980s

Toshihiro Okubo and Eiichi Tomiura (2012). “Industrial Relocation Policy, Productivity and Heterogenous Plants: Evidence from Japan,” *Regional Science and Urban Economics*, 42, 230-239.

- Examined the impacts of Technopolis policy and Intelligent Location policy
- And found that the targeted areas got:
 1. Larger number of plants, but
 2. Lower average productivity (even after adjusting for endogeneity)
- Will the new industrial policy toward the semiconductor industry in the 2020s succeed?