What Matters for Supply Chain Resilience on Geopolitical Risks?

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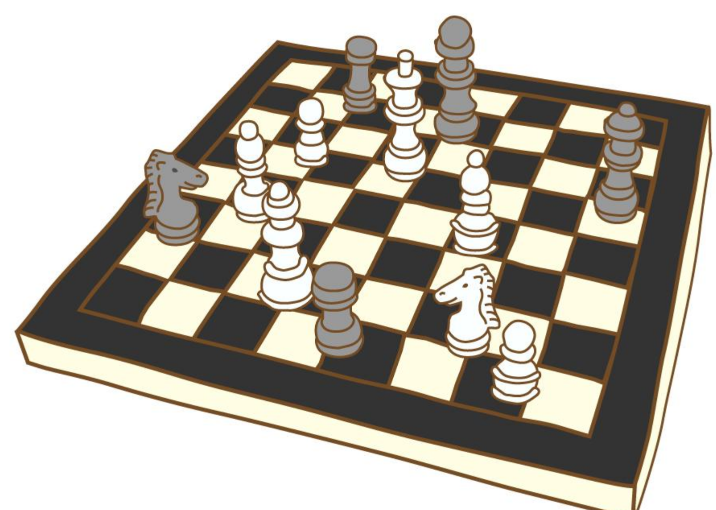
Conventional approach (natural hazards, pandemic):
- Diversification of suppliers and production bases,
- Expansion of inventory,
- Development of substitutes,
- Promotion of recycling technologies.

↓ Application to geopolitical risks

"Game-like" nature of risk management
→ Importance of **strategic thinking**



Deterrence by punishment

e.g. "Mutually Assured Destruction"

Deterrence by denial

e.g. Air-defence missile systems

In the context of economic security …

✓ Control of supply chain core competence

…Production of advanced semiconductors / critical minerals,

"strategic indispensability"

✓ Economic partnerships among like-minded nations, such as "friend-shoring".

…IPEF supply chain agreement, EU's Single Market Emergency Instrument

Japan’s immediate challenges

1. Development of cybersecurity.
2. Promotion of risk-awareness among small/medium-sized enterprises.
3. International cooperation for institutional development.

Pass-through frequency (PTF)

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OECD › Data › Datasets › Trade in value-added: Pass-through frequency indicator

Identifying hot spots in global supply chains using frequency measurement

The pass-through frequency (PTF) indicator captures the degree of supply chain exposure to geographic concentration risk in global production networks. It measures the frequency that a supply chain involves transactions with suppliers of a particular country throughout the production processes.

Dataset

About

The quest for optimal resource allocation across borders has often led to the clustering and concentration of critical production capacities within specific countries. However, in an increasingly uncertain global economy, these production hubs can swiftly transform into "choke points", disrupting the entire economic system.

The OECD's Trade in Value-Added (TiVA) indicators reveal the origins of value added in gross exports and final demand, but what about the stages in

<Source literature>

Inomata, S. and Hanaka, T.
"Measuring exposure to network concentration risk in global supply chains: Volume versus frequency“, *Structural Change and Economic Dynamics:* 68, March 2024

https://www.oecd.org/en/data/datasets/pass-through-frequency.html

Risk exposure map (REM)

based on FactSet Revere Database

Firm-level production networks covering more than **42,000 firms** for **770,000 transactions** all over the world. New metric on supply chain vulnerability.

Economic Security

Global Forum Weeks

IDE-JETRO

International Symposium:

Surviving the Age of Weaponized Global Networks

9:30～12:00 Tuesday, December 16, 2025,

Imperial Hotel（帝国ホテル）Tokyo

Speakers:

Abraham Newman (Co-author of *Underground Empire*)

Mireya Solis (Author of *Japan's Quiet Leadership*)

Satoshi Inomata (Author of *Geopolitics of Global Value Chains*)