RIETI BBL Seminar Handout

Proposal for Japan-Korea Economic Partnership Framework

December 19, 2025

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Proposal for Japan-Korea + Economic and Security Partnership Framework

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My presentation is largely based on the policy report of **Institute for Future Strategy, Seoul National University**, entitled, "**Korea-Japan Plus Economy, Science, and Security Partnership Framework**", written by myself together with Dohkyung Ahn, Heesik, Choi, Seongchoon, Jung, Hyeogwook Kwon, Junghwan Lee, Kyungryul Park, Injoo Sohn published on Dec. 2024.

Link: https://ifs.snu.ac.kr/publication/report?mode=view&pubidx=51

Background and Necessity: Global Disorder

- **US-China Hegemonic Competition:** The fundamental structure driving **geopolitics**. Expected to be an uncertain and turbulent competition.
- **Strengthening Nationalistic Policies:** Combined with **domestic issues in the US and China**, raising concerns for the security and economy of other nations.
- **Ongoing Conflicts:** The Russia-Ukraine War, the Middle East War, etc.
- **Northeast Asian Security Threats from North Korea:**
  - It's pursuit of advanced nuclear capabilities.
  - Designation of South Korea as a hostile state and deepening alignment with Russia.

Necessity of Cooperation: Economic and Technological Shifts

- **Disruptions in the Global Supply Chain:** A **constant** threat, not a temporary phenomenon.
- **Reversal/Adjustment of Globalization:** A change in the long-dominant global economic trend.
- **Advanced Technology Competition:**
  - Profound impact on industry, economy, and security (AI, Quantum, Big Data).
  - The core of US-China competition is the race for **advanced technology dominance**.
- **Deterioration of Climate Environment:** Requires essential technology development and dissemination.

Why Korea-Japan Cooperation?

- **Goal:** Achieve a **Safe and Prosperous of the two countries** by effectively overcoming these challenges.
- **Effective Combination:** Combining resources and influence to transform global changes into an **opportunity for mutual development (co-development)**.
- **Global Contribution:** Contributing to world peace and stability.

Potential Advantages of Korea-Japan Cooperation

- **Joint Response to Security Threats:** Facing **common threats** as geographically close US allies.
- **Promotion of Economic Development:** Combining the following advantages:
  - **Korea's** production capacity/applied technology.
  - **Japan's** materials, components, equipment/original technology.
- **Overcoming Vulnerabilities:**
  - Addressing the severe vulnerability of both economies to supply chain cracks.
  - Combining resources to advance in key technological areas.
- **Global Stability & Prosperity:** Combining stable democracy, high economic/defense power, and soft power.

SNU IFS Economic Security Cluster

Supply Chain Dominance Rank

Explore global rankings in our Supply Chain Dominance Index, featuring in-depth analysis of countries based on their export power and import vulnerability. Navigate through interactive tables showcasing each nation's position in global trade, offering insights into their economic strengths and weaknesses.

Country	**2021 Power Rank**	2001 - 2021 Power Rank Shift	2021 Power Score	2001 Power Score	**2021 Vulnerability Rank**	2001 - 2021 Vulnerability Rank Shift	2021 Vulnerability Score	2001 Vulnerability Score
China	1	▲ 2	83210	11637	56	▼ 17	975	716
Germany	2	0	22235	18749	29	▲ 29	1135	581
USA	3	▼ 2	12749	26789	19	▲ 2	1220	842
Italy	4	No Value	5102	No Value	44	No Value	1029	No Value
India	5	▲ 3	4562	1771	8	▲ 39	1363	675
Japan	6	▼ 2	2067	5238	7	▼ 4	1371	1087
France	7	▼ 2	1857	4215	55	▼ 19	977	736
Netherlands	8	▲ 2	1545	1612	32	▼ 14	1113	858
Turkey	9	▲ 15	1503	218	2	▲ 38	1420	715
Switzerland	10	▲ 1	1467	1545	26	▼ 11	1183	872
Spain	11	▲ 2	1390	792	15	▲ 31	1253	680
United Kingdom	12	▼ 6	1360	3134	12	▲ 16	1278	806
Belgium	13	▼ 4	1165	1726	50	▼ 24	997	820
Rep. of Korea	14	▼ 2	852	1295	1	▲ 3	1492	1027
Russian Federation	15	0	670	552	17	▲ 35	1235	622
Austria	16	▲ 1	594	465	31	▼ 26	1129	956
Malaysia	17	▲ 3	494	309	10	▲ 38	1312	669

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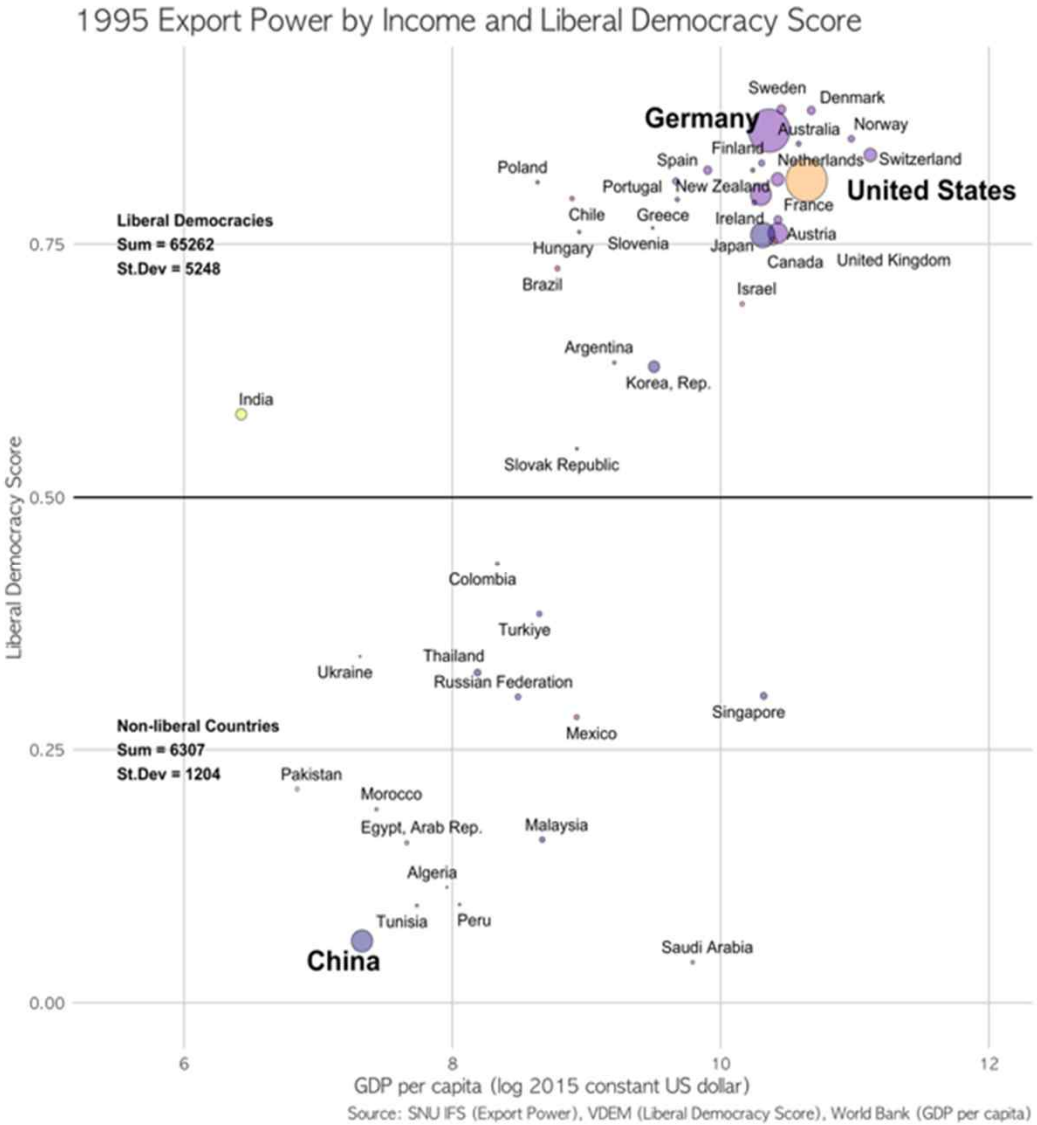
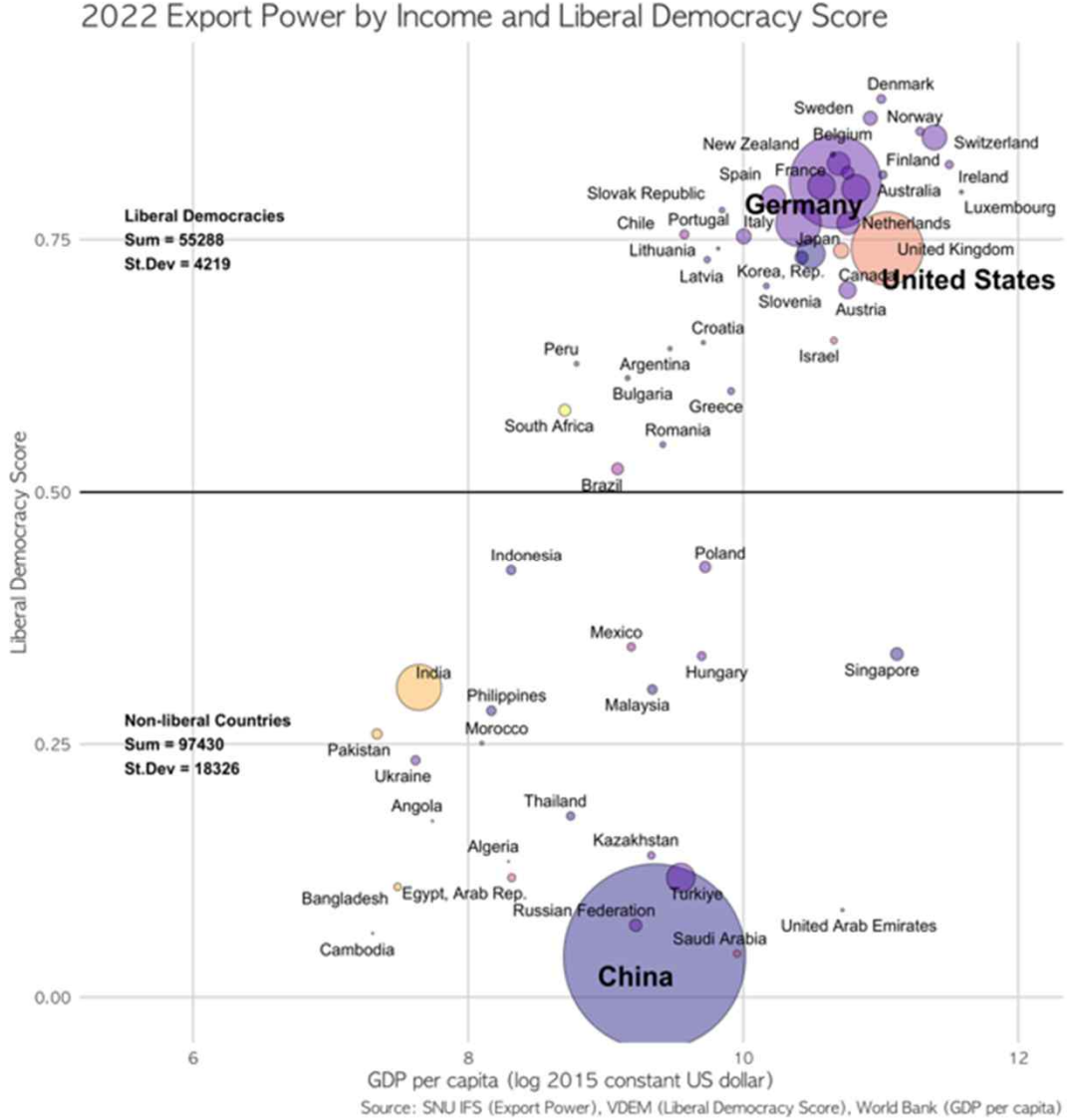
	2021 POWER RANK					2021 VULNERABILITY RANK				
Country	**Total**	Minerals and Materials	Energy	Public Health	ICT	**Total**	Minerals and Materials	Energy	Public Health	ICT
China	1	1	1	1	1	31	4	47	41	33
Germany	2	2	2	2	3	23	9	27	8	15
USA	3	3	3	3	2	19	2	23	9	19
India	4	4	5	4	10	9	9	15	3	14
France	5	10	6	5	6	47	22	62	34	44
United Kingdom	6	6	11	7	5	24	9	12	16	25
Netherlands	7	12	9	6	11	22	5	35	26	21
Japan	8	9	10	13	4	5	1	4	8	10
Italy	9	12	4	9	NA	36	21	57	30	37
Belgium	10	8	13	11	12	38	19	59	26	39
Spain	11	11	7	14	NA	21	7	18	12	26
Russian Federation	12	7	14	33	NA	24	11	32	17	24
Rep. of Korea	13	14	19	12	7	1	3	1	2	3
Switzerland	14	24	12	8	22	14	16	26	20	24
Turkey	15	27	8	22	NA	8	6	10	7	3


1995 Export Power by Income and Liberal Democracy Score
Liberal Democracies
Sum = 65262
St.Dev = 5248
Non-liberal Countries
Sum = 6307
St.Dev = 1204
Germany
United States
China
Sweden
Denmark
Norway
Australia
Finland
Netherlands
Switzerland
Poland
Spain
Portugal
New Zealand
France
Chile
Greece
Ireland
Austria
Hungary
Slovenia
Japan
Canada
United Kingdom
Brazil
Israel
Argentina
Korea, Rep.
India
Slovak Republic
Colombia
Turkiye
Thailand
Ukraine
Russian Federation
Singapore
Mexico
Pakistan
Morocco
Egypt, Arab Rep.
Malaysia
Algeria
Tunisia
Peru
Saudi Arabia
Liberal Democracy Score
0.00
0.25
0.50
0.75
6
8
10
12
GDP per capita (log 2015 constant US dollar)
Source: SNU IFS (Export Power), VDEM (Liberal Democracy Score), World Bank (GDP per capita)


2022 Export Power by Income and Liberal Democracy Score
Liberal Democracies
Sum = 55288
St.Dev = 4219
Non-liberal Countries
Sum = 97430
St.Dev = 18326
Germany
United States
China
Denmark
Sweden
Norway
Belgium
Switzerland
New Zealand
Finland
Spain
France
Ireland
Slovak Republic
Australia
Luxembourg
Chile
Portugal
Italy
Netherlands
Lithuania
Japan
United Kingdom
Latvia
Korea, Rep.
Canada
Slovenia
Austria
Croatia
Peru
Israel
Argentina
Bulgaria
Greece
South Africa
Romania
Brazil
Indonesia
Poland
Mexico
Hungary
Singapore
India
Philippines
Malaysia
Morocco
Pakistan
Ukraine
Angola
Thailand
Algeria
Kazakhstan
Bangladesh
Egypt, Arab Rep.
Turkiye
Russian Federation
United Arab Emirates
Cambodia
Saudi Arabia
Liberal Democracy Score
0.00
0.25
0.50
0.75
6
8
10
12
GDP per capita (log 2015 constant US dollar)
Source: SNU IFS (Export Power), VDEM (Liberal Democracy Score), World Bank (GDP per capita)

Four Major Objectives of Cooperation (1/2)

1.Co-hedging (Mitigating Common Threats):

1. Encompassing risks from geopolitical changes (North Korea, China, Russia).
2. Preparing for impacts on the global supply chain from local wars, climate change, and pandemics.

2.Co-opetition (Cooperative Competition):

1. Pursuing mutual benefits through **complementarity** instead of zero-sum competition.
2. *Examples:* Joint purchase of raw materials, joint R&D, utilizing idle facilities.

Four Major Objectives of Cooperation (2/2)

3.Co-development (Joint Development):

1. Technological: Jointly developing Quantum, Renewable Energy, and AI technologies.

2. Economic: Joint support for startups and vitalizing the corporate ecosystem.

3. Institutional: Promoting institutional development in other nations as models for democracy/market economy.

4.Co-responsibility (Joint Responsibility):

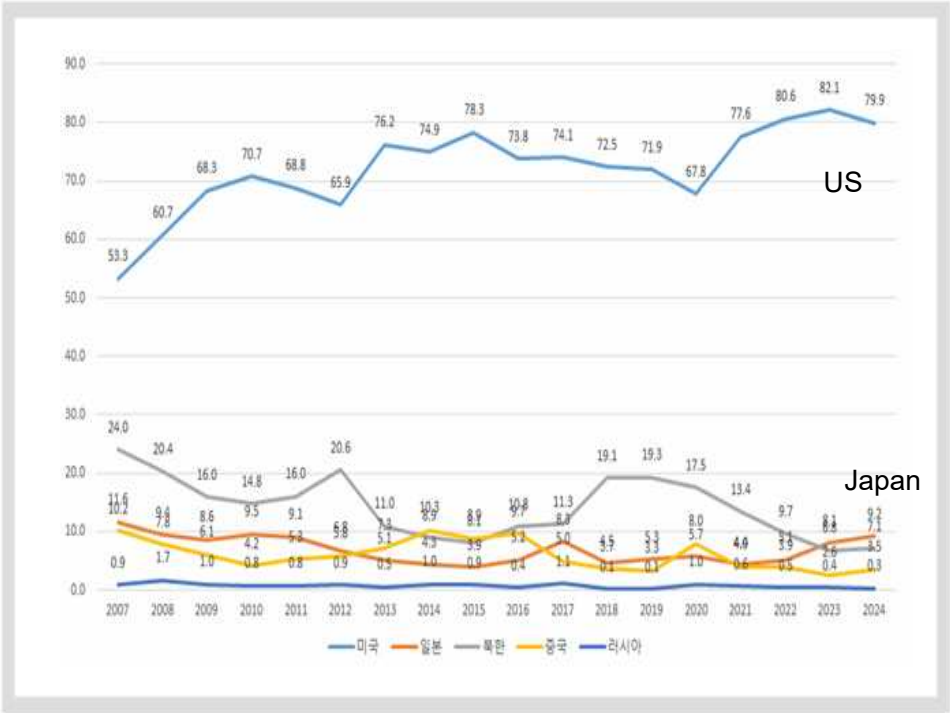
1. Leveraging global status (economy/military/soft power/institutions).
2. Responsibility to contribute to **regional safety, peace, and human rights** in Asia.

Strategy for Korea-Japan Cooperation (1) - Irreversibility & Virtuous Cycle of National Power and Identity

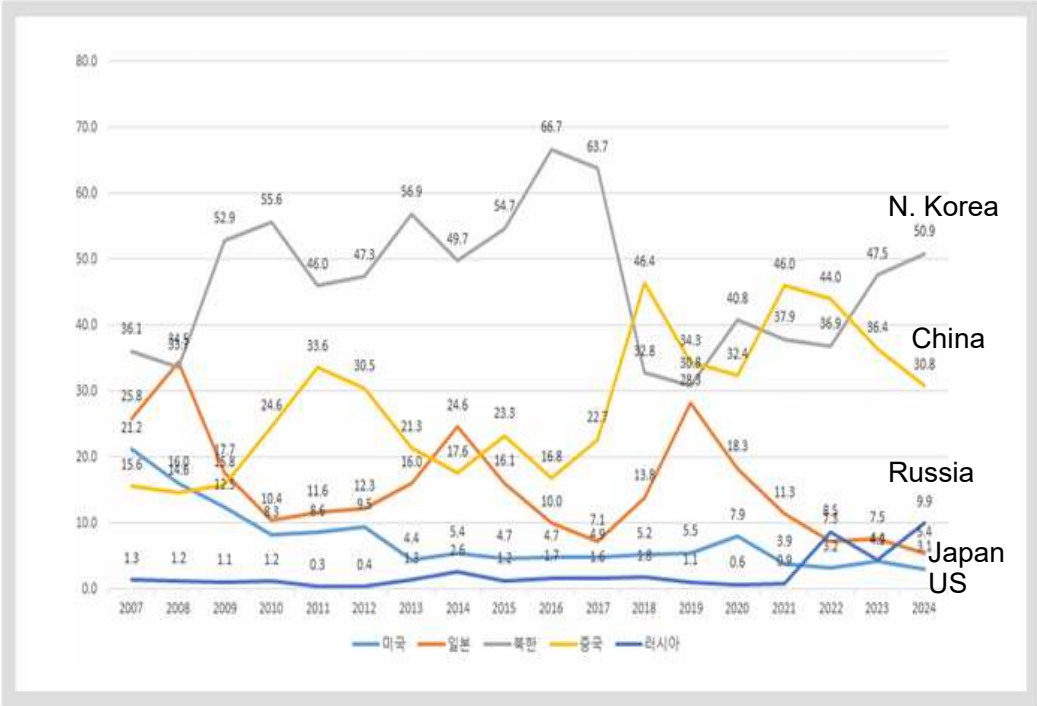
- **Irreversibility Enhancement Strategy:**
  - Increasing awareness among the people of both nations regarding the importance of cooperation and allowing them to directly feel the benefits.
  - Utilizing the current Korea-Japan relationship as an **'opportunity for strategic investment'** to irreversibly advance cooperation.
- **Virtuous Cycle Strategy of National Power and Identity:**
  - Importance of alignment of **values and interests**. National power and identity constitute and mutually reinforce national interests.
  - Korea, the US, and Japan have a high convergence of national identities and are important partners from the perspective of national interest.
  - Avoiding zero-sum, maximizing common interests.

Perceptions of Koreans about neighboring countries

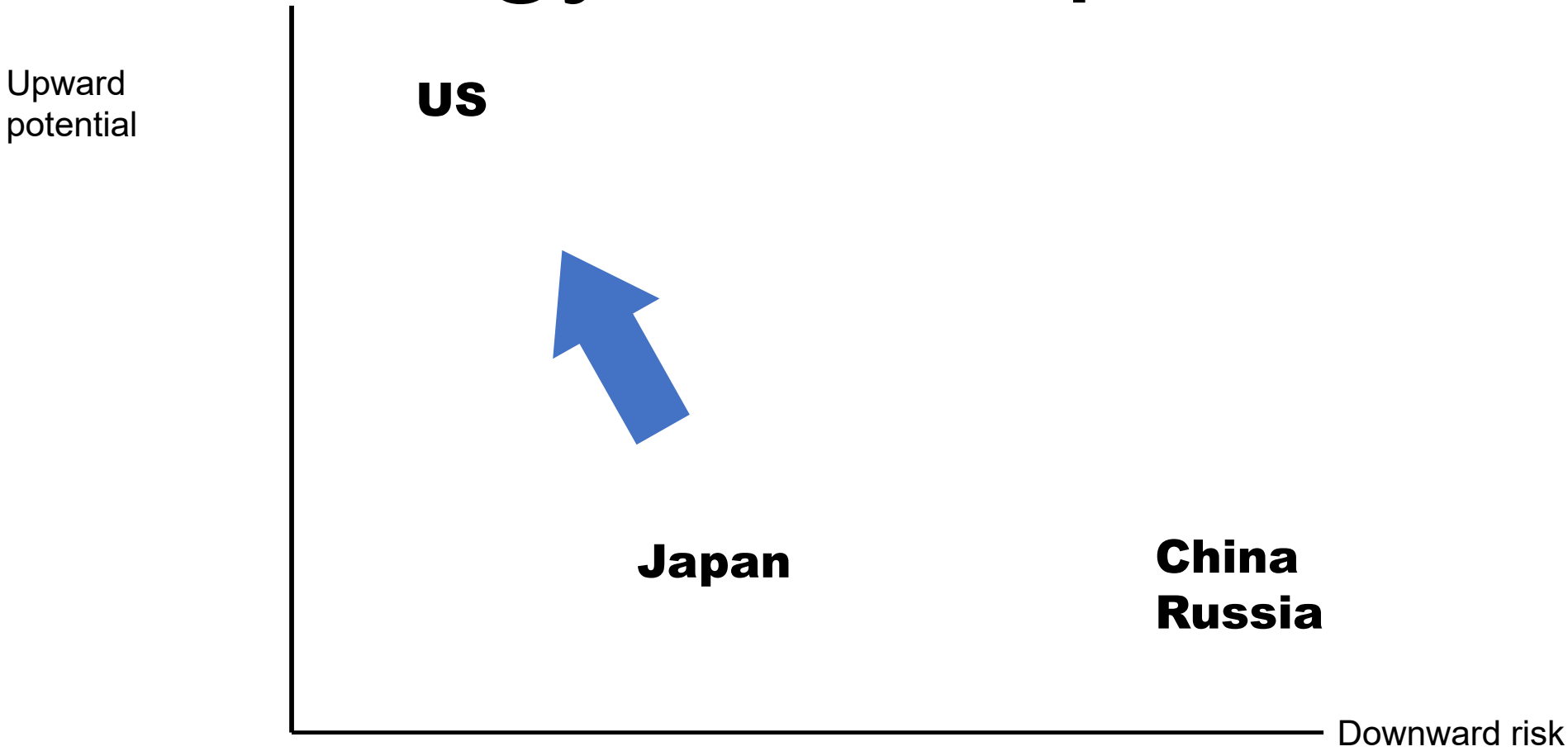
The Most Favorite Country



The Most Dangerous Country



Strategy for Cooperation



Strategy for Korea-Japan Cooperation (2) - Openness & Deterrence through Resilience

- **Openness Pursuit Strategy:**
  - Effectiveness increases when cooperation, based on bilateral ties, is open to other like-minded countries with similar interests.
  - Managing the risk of suspension due to historical issues through a **multilateral approach**.
  - Increasing the stability and effectiveness of economic and diplomatic relations.
  - Cooperation and alliance initiatives for **free trade** and the security of trade routes.
- **Deterrence through Resilience Strategy:**
  - Directly confronting the constant risks and potential chain damage in global networks and systems.
  - Securing the **ability to recover quickly** even when problems occur (**resilience**).
  - Enhancing network resilience in supply chains, maritime transport, military, energy, and information & communication.
  - **Example:** Improving supply chain elasticity with friendly nations to counter China's economic measures.


Areas for
Economic Cooperation

Gradual Integration of the Labor Market (1)

- **Background:** Economic integration at the FTA level has been achieved; the next stage is the integration of **factors of production markets**.
- **Benefits of Integration:**
  - Similar levels of income, education, and skill.
  - **Benefits for both countries:** Easier employment of personnel for companies, reduced unemployment, and alleviation of worker shortages.
  - **Mid-to-long-term vision:** Maximizing the ripple effect on economic/security cooperation through **full-scale labor market integration**.

Gradual Integration of the Labor Market (2)

- **Current Status (Labor Supply-Demand Imbalance):**
  - **Japan:** Severe labor shortage (98.1% employment rate while in college). Shortage of ICT talent.
  - **Korea:** Long-term youth unemployment issues (69.6% graduate employment rate, 238,000 youth unemployed for 3 years or more).
- **Policy Proposal:**
  - Prioritize the integration of the **youth and highly skilled talent labor market**: Apply the same treatment as domestic workers.
  - **Support measures:** Establishment of a joint Korea-Japan fund (language training, settlement support).
  - **Mid-to-long-term vision:** Maximizing the ripple effect on economic/security cooperation through **full-scale labor market integration**.

Economic Security (Supply Chain) (1)

- **Background:**
  - The Korea-Japan economic relationship (trade, investment) has been declining since the 2010s.
  - Interdependent trade structure centered on **intermediate and capital goods**.
- **Changes in International Situation and Supply Chain Threats:**
  - Strengthening of US containment of China.
  - Korea's high trade dependency and complex supply chain.
  - Both Korea and Japan have a high dependency on the Chinese economy, leading to severe supply chain vulnerability. (e.g., export control of urea solution, rare earth elements).
  - Severe dependency on China for key minerals (Graphite 67%, Rare Earth 70%, Germanium 93%, Gallium 98%, etc.).

Economic Security (Supply Chain) (2)

- **Strengthening Whole-of-Government Dialogue Channels:**
  - Permanent establishment and regular holding of the **"Korea-Japan Economic Security Council"** (tentative name).
  - Functioning as a communication channel for practical supply chain stabilization and industrial cooperation.
  - **Establishment of a Working Group:** Identifying items of common interest and requiring joint response.
  - **Fiscal basis:** Discussion on the establishment of the **"Korea-Japan Supply Chain Stabilization Fund."**

Economic Security (Supply Chain) (3)

- **Concrete Supply Chain Sector Cooperation:**
  - Cooperation on **11 specific key materials** of Japan (semiconductors, cloud, batteries, etc.).
  - **Semiconductors:** Expanding Korean company investment in Japan, attracting Japanese So-Bu-Jang companies to Korea. Joint R&D.
  - **Batteries:** Resolving dependence on China, sharing technology development trends.
- **Joint System Establishment for Key Resources:**
  - System for joint development/procurement/stockpiling/utilization of **food, energy, and minerals**.
  - System for mutual transfer during a crisis.
  - Establishment of a rare earth element procurement and mineral recycling system.

Strengthening Currency Cooperation:

- Concern over currency value decline due to structural problems like low birth rate and aging population.
- Increased demand for hard currencies due to investment into US
- **Expansion of the Korea-Japan Currency Swap scale** (currently $10 billion → over $30 billion) and increased utilization.

Advanced Manufacturing Cooperation (1)

- **Importance of Advanced Manufacturing:** The core of economic growth and security. Importance/urgency increases due to China's rapid rise.
- **Common Goal:** Fostering advanced manufacturing through proactive industrial policy.
- **Necessity of Cooperation:**
  - Both Korea and Japan are inferior to the US and China in terms of investment capital, human resources, and global influence.
  - Securing **economies of scale** in R&D and facility investment, reducing investment risk.
  - **Co-opetition based on comparative advantage** (developing strengths, supplementing weaknesses).

Advanced Manufacturing Cooperation (2)

- **Semiconductor Sector:**
  - Prioritize discussion on **post-processing (packaging)**: Changing global competition dynamics.
  - **Japan's strengths:** Materials/equipment, analog IC, microcomponents.
  - **Korea's strengths:** Overwhelming market share in memory semiconductors.
  - **Cooperation measures:** Joint R&D investment (next-generation photoresist, lithography equipment, etc.).
  - Attracting Japanese materials/parts/equipment companies to the **Yongin Semiconductor Mega Cluster/** Korean investment in R&D in semiconductor technology and production in Japan.
  - **Expansion of multilateral cooperation:** Bilateral cooperation is easier within the Korea-US-Japan cooperation framework. Korea-Taiwan-Japan advanced semiconductor cooperation.
- **AI Safety and Inclusiveness:** Linking the AI Seoul Summit and the Hiroshima AI Process, leading the establishment of global AI governance.

Renewable Energy Cooperation (1)

- **Background:** Deepening climate change
  - Decarbonization technology development and dissemination are essential.
- **Efforts of the Korea-Japan Governments:**
  - Korea's "Climate Change Response Fund"
  - Japan's "Green Innovation Fund" and "GX Economic Transition Bonds.“
- **Joint Response to Climate Environment Protectionist Trade Regulations:**
  - Analysis and joint response to trade barriers.

Renewable Energy Cooperation (2)

- **Areas of Cooperation:**
  - **Decarbonization energy cooperation:** Expanding renewable energy, policy cooperation on developing new power sources (nuclear, nuclear fusion).
  - **Reorganization of the global renewable energy supply chain:** Efforts to reduce dependence on China for solar panels and Energy Storage Systems (ESS).
  - **Decarbonization of traditional industries:** Technological/industrial response in shipbuilding (strengthening eco-friendly regulations), steel industry, etc.
  - **Stable procurement of clean hydrogen:** Joint construction of a supply chain utilizing technology despite the difficulty of producing green hydrogen in both countries.

Economic Cooperation (4): Renewable Energy and Decarbonization

- **Climate Change:** Deepening crisis requires essential **Decarbonization Technology** development and dissemination.
- **Key Cooperation Areas:**
  - **Clean Energy:** Policy cooperation on developing new power sources (nuclear, fusion) and expanding renewables.
  - **Supply Chain:** Effort to reduce dependence on China for solar panels and ESS.
  - **Clean Hydrogen:** Joint construction of a global supply system.
  - **Trade Barriers:** Joint analysis and response to protectionist regulations (e.g., EU CBAM, US IRA).


Areas
for Science & Technology
Cooperation

Basic Science and Technology Standards (1)

- **Background:**
  - Until the 2000s, Japan was Korea's second largest international science and technology cooperation partner.
  - During 2009-2019, international cooperation with Japan decreased significantly across all academic fields.
- **Restoration of Basic Science Research Cooperation:**
  - **Goal:** Restore the level of Korea-Japan international joint research to the 2010 level by 2030.
  - **Measures:** Increase the number of cooperative projects between the Korea Research Foundation (NRF) and the Japan Society for the Promotion of Science (JSPS) by more than five times.
  - Establish a master plan for **joint research in big science** and human exchange: Synergy between Japan's basic science (with Nobel laureates) and Korea's new growth technologies.
  - **Strengthening institutional cooperation:** Activation of academic exchange among NRF, JSPS, etc.

Basic Science and Technology Standards (2)

- **Joint Response to Technology Standards and Securing Leadership:**
  - **Common understanding:** Strengthening global negotiation power through joint response to technology standards.
  - **Cooperation measures:** Joint response to Technical Barriers to Trade (TBT), leading the development of standards for new growth industries (green hydrogen, digital finance).
  - **Regularizing cooperation among related institutions:** KRISS, KATS, NMIJ, NICT, etc.
  - **Fostering future talent:** Promoting the standardization of certification/technology recognition systems.

Quantum Technology and Hydrogen/Energy Cooperation (1)

- **Quantum Technology Cooperation:**
  - **Game changer:** Joint recognition by the leaders of both countries.
  - **Technology gap:** Korea and Japan significantly lag behind China and the US.
  - **Possibility of joint investment:** Infrastructure-driven, government-investment-led nature.
  - **Cooperation measures:**
    - Requesting the signing of an **MOU between the national research institutes** of both countries.
    - Human exchange and joint research (including the US, Germany, etc.).
    - Participation of Japanese companies/researchers in the construction of the **Korean Quantum Fab**.

Quantum Technology and Hydrogen/Energy Cooperation (2)

- **Hydrogen and Energy Cooperation:**
  - **Core future technology:** The essence of the decarbonization era and sustainable development.
  - **Cooperation measures:** Joint construction of a large-scale domestic and international hydrogen supply system and an early warning system.
  - Policy/institutional cooperation (sharing best practices). Utilizing the **Pohang Blue Valley Cluster**. Attracting Japanese companies/technology transfer/joint investment.


Policy Proposals

Policy Proposals: Economy

1. **Integration of Youth and Highly Skilled Talent Labor Markets:** Revision of laws, non-visa policy, establishment of a joint fund.
2. **Expansion of the Korea-Japan Currency Swap:** Increased scale and utilization.
3. **Formation of the "Korea-Japan Economic Security Council" (tentative name) and Expansion to Friendly Nations:** Permanent establishment, working groups, discussion of a joint fund.

Policy Proposals: Economy

4. **Establishment of a Joint Development/Procurement/Stockpiling/Utilization System for Key Resources:** Food, energy, minerals.
5. **Strengthening Korea-Japan Semiconductor Supply Chain Cooperation:** Enhancing production capacity, R&D cooperation, establishing a support system.
6. **Joint Construction of Decarbonization Infrastructure in the Indo-Pacific Region:** Achieving overseas emission reduction targets, advancing technology/products overseas.

Policy Proposals: Science & Technology and Culture (1)

1. **Restoration of Basic Science Research Cooperation and Strengthening Cooperation among Science and Technology Research Institutions:** Expanding joint research, upgrading/regularizing committees.
2. **Prioritization of Strategic Technology Focus Areas (Quantum, Hydrogen) for Korea-Japan:** Strategic prioritization of national research projects.
3. **Joint Response to Global Technology Standards and Securing Leadership:** Responding to TBT, international standardization, jointly leading AI norms.

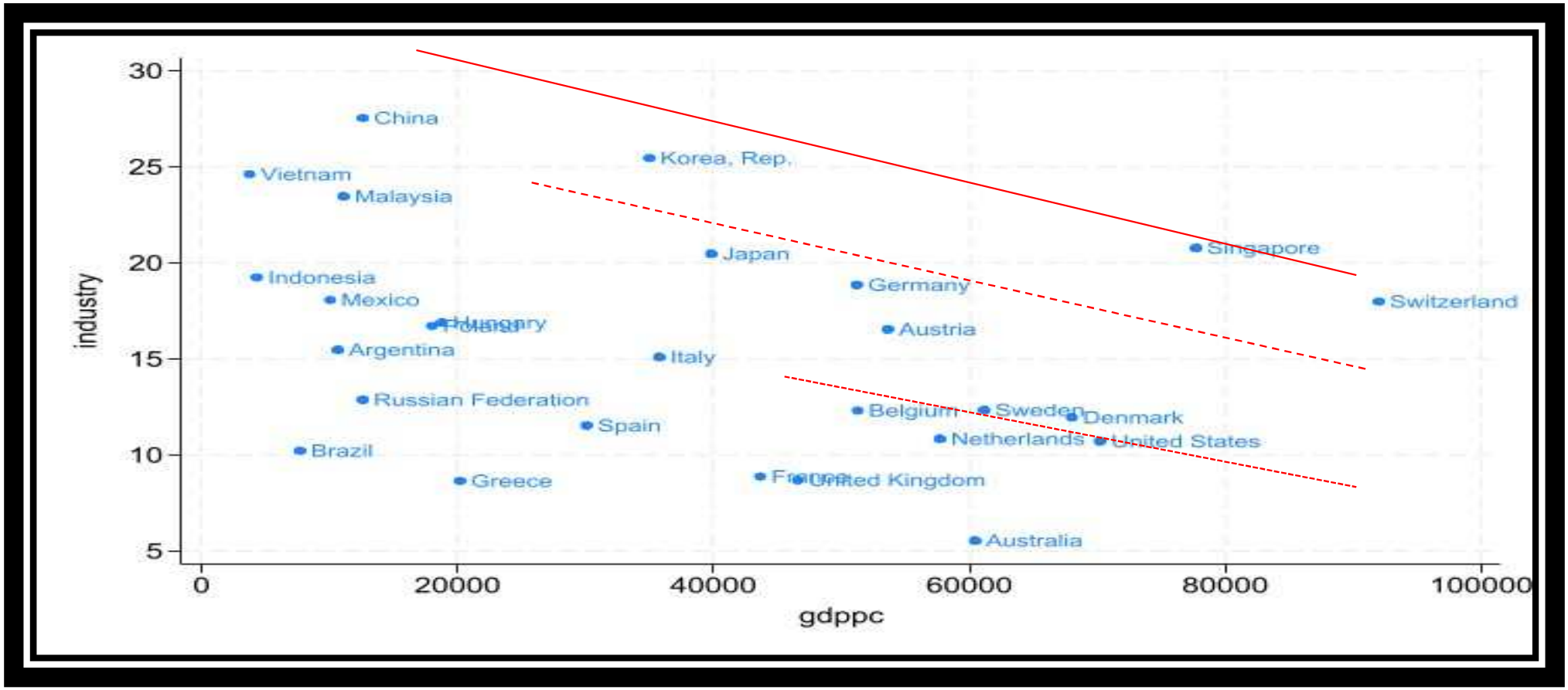
Policy Proposals: Science & Technology and Culture (2)

4. **Joint Efforts for the Creation of a Global Community of Values:** Cooperation based on democracy, freedom, and human rights (ICC, expansion of G9).
5. **Integration of the Korea-Japan Professional Sports Leagues:** Promoting private exchange, establishing an open sports ecosystem.
6. **Joint Development of Cultural Content:** Korea-Japan joint fund, dissemination of soft power.

Japan-Korea Partnership and US Tariff Deals

- Japan-US tariff deal and Korea-US tariff deal
- The US purpose of the deals is to make US strong in advanced manufacturing. From the US perspective, it is necessary for
  - National security
  - Provision of good quality jobs (strengthening middle-income class)
- We need to link Japan-Korea partnership to US tariff deals to better achieve the US goals and serve the mutual interests of the three countries.

Share of manufacturing in GDP and GDP per capita



US as a strong advanced manufacturing country?

- The US is a critical manufacturing country in that without its IP, design, components, machines, etc., the whole supply chain of manufacturing goods would not be functioning.
- However, if it aims to build a domestic ecosystem of advanced manufacturing goods from design to production, it would be an uphill battle.
  - Shortage of workforce
  - Shift of workforce from innovative high tech sectors to advanced manufacturing may reduce US GDP.
  - Products of advanced manufacturing may not be exportable because of high costs.
- After the US-China hegemonic competition, the opportunity costs of maintaining advanced manufacturing would be too high.

Varieties of Capitalism: Competitive Industries

Category	United States	Germany	South Korea
Education & Training	General, universal education (**Weak supply of S&T personnel**)	Strong specific education (**large supply of S&T personnel**)	General, universal education, but universities and companies provide vocational training (**large supply of S&T personnel**)
Employment Relations	High job mobility (Contractual relationship)	Relatively low job mobility	Low job mobility, but increasing
Capital financing	Direct financing (Focus on short-term capital financing and short-term performance)	Indirect financing (Advantageous for long-term capital financing	Mixture of indirect and direct financing
Values & Culture	Individualism	Communitarianism (Stronger than the US)	Communitarianism (Stronger than the US)
Industries with Competitiveness	Advanced technology-based online and digital industries (**Fast-moving industry**)	Automobiles, pharmaceuticals, chemicals (**Slow-moving industry**)	Semiconductors, displays, secondary batteries, shipbuilding, steel, etc. (**Semi-fast and slow-moving industry**)

Japan-Korea-US Economic Partnership

- Friendshoring rather than reshoring
  - Specialization among three countries
  - Backup option in each country against geopolitical risks and natural disasters
- Hallowing out advanced manufacturing in Korea and Japan as a result of required investment in US should be avoided.
  - If Korea and Japan lose manufacturing competitiveness, China's dominance in such an industry will be even stronger.
- Hence, devising a win-win strategy is very important.

Coordinated strategy and efforts

- Tariff deals of Japan and Korea focus on virtually the same industries
  - Semiconductors, pharmaceuticals, critical minerals, shipbuilding, energy (including pipelines), and artificial intelligence/quantum computing
- Investment advisory committee (tentative name) including members from the three countries should be established.
  - Its purpose is to promote industrial competitiveness of the three countries.
- Supply chain alliance in key sectors such as food, energy, critical minerals, and energy