Chapter 3

Japan's Industrial Cooperation with India and GVC Restructuring

So Umezaki

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Chapter 3

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Global value chains (GVCs) have been restructuring globally. In the period of the second unbundling since the latter half of the 1980s, GVCs were developed and expanded to take advantage of differences in factor endowments (Baldwin, 2006, 2011). For example, labour-intensive production processes were relocated from advanced economies to developing economies endowed with abundant labour. The rationale that drove the process was mainly 'efficiency'. The situation has been changing since the trade conflicts between the United States (US) and China triggered by the first Trump administration. To mitigate the negative impacts of the conflicts, private companies were effectively urged to reduce their dependence on China with support from their respective governments. This process, known as decoupling or de-risking, has been accelerated globally by rising geopolitical risks related to Russia's invasion of Ukraine in February 2022. Under such circumstances, GVC restructuring has been ongoing – driven by resiliency instead of efficiency.

In general, the deeper a country is integrated into GVCs, the more vulnerable it is to external shocks. Different from contingent shocks such as natural disasters or pandemics, the recent rise in geopolitical risks is largely recognised as a kind of structural shock for which we cannot expect a return to normal in a short period. This is why many countries have aggressively employed industrial policies with the objective of enhancing resiliency instead of competitiveness. Such a new wave of industrial policy has been studied both intensively and extensively (OECD, 2019; Juhász, Lane, and Rodrik, 2024; Goldberg et al., 2024). Most countries have implemented industrial policies to enhance resiliency by reducing dependency through reshoring, friend-shoring, developing new technologies,

[1] The views expressed in this article are solely those of the author. Any mistake or issue in the article is the responsibility of the author alone.

and so on. Focusing on the semiconductor sector, the recent wave of industrial policy was triggered by China when it established the China Integrated Circuit Industry Investment Fund, known as 'the Big Fund', in 2014 as its strategic effort to achieve self-sufficiency in semiconductor production and reduce reliance on foreign technology.[2] After fierce trade conflicts with China, the US enacted the CHIPS and Science Act in 2022 to bolster domestic manufacturing and research and development (R&D) in the semiconductor industry using subsidies and tax exemptions, and even restricting investment in countries of concern, i.e. China (Miller, 2022). The European Union enacted the European Chips Act on 21 September 2023 to strengthen the semiconductor ecosystem in Europe through fiscal support and various incentive and facilitation measures (Shivakumar, Wessner, and Howell, 2024).

Section 1 of this article will discuss how Japan has introduced an industrial policy aiming to enhance GVC resiliency, focusing on the semiconductor industry. Section 2 summarises the recent trend of the bilateral economic relationship between Japan and India, including industrial cooperation related to the two countries.

1. Japan's Industrial Policy for GVC Restructuring

The formation and restructuring of GVCs are in principle the results of the business activities of private companies. There used to be little room for governments to intervene in the process, except making and implementing rules. But the situation has been changing rapidly. The progress of globalisation has deepened economic interdependence between countries. External shocks far beyond the control of private companies, such as natural disasters, wars, and conflicts, or even economic confrontations between other countries, can cause devastating impacts on any country connected to GVCs.

1.1. Revisiting Economic Security

Against rising geopolitical risks in the last decade, Japan has started to re-emphasise economic security. Oil shocks in the 1970s, together with the influential report from the Club of Rome, were the first major opportunity for Japan to realise the finiteness of natural resources. Since then, as a country with little endowment of natural resources, Japan has

[2] The Big Fund was established in 2014 with registered capital of CNY138.7 billion. The second phase followed in 2019 with CNY204 billion, and the third phase in May 2024 with CNY344 billion. See, for example, *Reuters* (2024).

invested a lot to develop energy-efficient and energy-saving technologies. A historically poor rice harvest in 1993 due to cold weather reminded Japan of the importance of food security. The Great East Japan Earthquake in 2011 had a huge impact on the Japanese economy. Supply chain disruptions urged Japanese firms to pay more attention to risks in their supply chain management by diversifying sources of inputs, markets, and trade routes. The Fukushima Daiichi Nuclear Power Plant incident drastically changed Japan's energy policy. These events have repeatedly caused major structural changes in Japan. The recent rise in geopolitical risks is regarded as a major external shock requiring Japan to embark on further structural changes to review the balance between efficiency and risk in GVCs.

As the first step, the ruling Liberal Democratic Party released 'Recommendations Toward Developing Japan's "Economic Security Strategy"' on 16 December 2020, which identified 16 priority issues : (i) securing resources and energy, (ii) ocean development, (iii) reinforcing food security, (iv) developing financial infrastructure, (v) developing telecommunications infrastructure, (vi) space development, (vii) reinforcing cybersecurity, (viii) promoting the utilisation of real-world data, (ix) diversifying and strengthening supply chains, (x) achieving and maintaining Japan's technological excellence, (xi) enhancing innovative capacity, (xii) land transactions, (xiii) countermeasures to major infectious diseases, (xiv) infrastructure exports, (xv) involvement in rule-making via international organisations, and (xvi) improving economic intelligence capabilities. Reflecting the complexity of economic security, the recommendations are comprehensive, consisting of a wide range of policy issues. Most of them, those underlined above in particular, urged the Japanese government to implement policies related to GVC restructuring to achieve the goal of economic security. In addition, two key concepts highlighted in the recommendations help elucidate how Japan designed GVC restructuring policies to enhance economic security. The first is 'strategic autonomy', meaning that Japan should avoid excessive dependence on other countries under all circumstances. The second is 'strategic indispensability', which urges Japan to strategically increase the number of sectors where Japan is indispensable to the international community. In short, GVC restructuring in this context is the adjustment to optimise the balance of interdependence in the global economy.

1.2. Legislating Economic Security

Prime Minister Kishida held the first meeting of the Council for the Promotion of Economic Security on 11 November 2021, which marked the initial step towards the legislation of a series of bills related to economic security. As a result, the Economic Security Promotion Act (Act on the Promotion of Ensuring National Security Through Integrated Implementation of Economic Measures; Act No. 43 of 18 May 2022) was enacted on 11 May 2022 and promulgated on 18 May 2022. On 1 August 2022, when part of the act entered into force, the Economic Security Promotion Office was established in the Cabinet Office and the Prime Minister Fumio Kishida appointed Takayuki Kobayashi as the first Minister of State for Economic Security.[3]

The act sets a basic policy to ensure economic security through integrated implementation of economic measures by establishing four-pillar systems aimed at (i) ensuring a stable supply of critical products, (ii) ensuring stable provision of essential infrastructure services, (iii) enhancing the development of specified critical technologies, and (iv) non-disclosure of selected patent applications (Cabinet Office, n.d.). Amongst them, the first system to ensure a stable supply of critical products is regarded as the main objective of Japan's policy for GVC restructuring. We will focus on this system below.

To implement the policy, the Enforcement Order of the Economic Security Promotion Act (Cabinet Order No. 394 of 2022) was promulgated and enforced on 23 December 2022. Article 1 of the order designated 11 specified critical products (SCPs): (i) antibacterial preparations; (ii) fertilisers; (iii) permanent magnets; (iv) machine tools and industrial robots, (v) aircraft parts for engines and bodies; (vi) semiconductor elements and integrated circuits; (vii) rechargeable batteries; (viii) computer programmes for cloud services; (ix) flammable natural gas; (x) critical minerals; and (xi) ship parts (engines, navigation tools, and thrusters). In the third amendment of the order on 2 February 2024, advanced electronic parts (condensers and filters) added a 12th SCP (Cabinet Order No. 25 of 2024) (Table 3.1).

[3] Takayuki Kobayashi is a member of the House of Representatives and belongs to the Liberal Democratic Party. His term ended shortly afterwards on 10 August 2022, when Prime Minister Kishida reshuffled the Cabinet and appointed Sanae Takaichi to take over the position.

Table 3.1: Specified Critical Products

	Specified Critical Products	Ministry and Agency in Charge		HS Codes
1	Antibacterial preparations	MHLW	NIBIOHN	300310, 3000320, 300410, 300420
2	Fertilisers	MAFF	FERI	3101, 3102, 3103, 3104, 3105
3	Permanent magnets	METI	NEDO	850511, 850519
4	Machine tools and industrial robots	METI	NEDO	847950, 8456, 8457, 8458, 8459, 8460, 8461
5	Aircraft parts for engines and bodies	METI	NEDO	8803, 840710, 840910
6	Semiconductor elements and integrated circ	METI	NEDO	3818, 8486, 8541, 8542, 903082, 903141
7	Rechargeable batteries	METI	NEDO	8507
8	Computer programmes for cloud services	METI	NEDO	N.A.
9	Flammable natural gas	ANRE	JOGMEC	271111, 271119
10	Critical minerals	METI	JOGMEC	2504, 2602, 2604, 2605, 2610, 2611, 2613, 2614, 2615, 2804, 2805, 2809, 2846, 3801, 3910, 7110, 8101, 8102, 8103, 8104, 8105, 8106, 8108, 8109, 8110, 8111, 8112, 280130
11	Ship parts (engines, navigation tools, and thr	MLIT	JSTRA	840721, 840729, 840810, 840991, 840999
12	Advanced electronic parts (condensers and f	METI	NEDO	8532, 852910

MHLW	= Ministry of Health, Labour and Welfare
MAFF	= Ministry of Agriculture, Forestory, and Fisheries
METI	= Ministry of Economy, Trade and Industry
ANRE	= Agency for Natural Resources and Energy
MLIT	= Ministry of Land, Infrastructure, Transport and Tourism
NIBIOHN	= National Institutes of Biomedical Innovation, Health and Nutrition
FERI	= Fertilizer Economic Research Institute
NEDO	= New Energy and Industrial Technology Development Organization
JOGMEC	= Japan Organization for Metals and Energy Security
JSTRA	= Japan Ship Technology Research Association

Note:

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Source: Cabinet Office (n.d.), Name of webpage in Japanese [equivalent in English]. https://www.cao.go.jp/keizai_anzen_hosho/suishinhou/supply_chain/supply_chain.html. For HS codes refer to Morishige, Tanaka and Usami (2023).

Under this system, business entities aiming at ensuring a stable supply of SCPs or their materials may submit plans for (i) reinforcing production bases, (ii) diversifying supply sources, (iii) stockpiling, (iv) developing production technologies, and (v) developing alternative products, to the ministers in charge. Upon the approval of the ministers, the business entities may receive subsidies in the forms of direct grants to the approved

business entities or interest subsidies to financial institutions providing financing to the approved business entities, through the agencies in charge of supporting a stable supply of SCPs. Depending on the case, the approved business entities may also enjoy additional benefits based on special provisions of the Japan Finance Corporation Act (Act No. 57 of 2007), the Small and Medium-sized Enterprise Investment Business Corporation Act (Act No. 101 of 1963), and/or the Small and Medium-sized Enterprise Credit Insurance Act (Act No. 264 of 1950). If the above measures are not sufficient to ensure the stable supply of an SCP, the ministers in charge may designate it as an SCP for which special measures are necessary and take supplementary measures such as stockpiling.

1.3. The Revival of Industrial Policy

The Ministry of Economy, Trade and Industry (METI) disclosed Japan's strategy for semiconductors and the digital industry on 4 June 2021 to indicate future policy directions and specific strategies regarding the semiconductor industry and the digital industry, including the digital infrastructure. This strategy is a renewed manifestation of the Japanese government's initiative to revitalise the semiconductor industry after the failure of Elpida Memory.[4] The updated version of the strategy was announced by METI Minister Nishimura on 6 June 2023, reflecting the rapidly changing global trend, which requires enhanced efforts in the areas of economic security, digital transformation, green transformation, and generative artificial intelligence (AI).[5] The details of the strategy are as follows.

(1) Subsidy under the Specified Semiconductor Funding Programme

Based on the Act on Promotion of Development, Supply and Introduction of Specified Advanced Information and Communication Technology Utilisation Systems (enforced on 1 March 2022), business entities that plan to expand the domestic production capacity of

[4] Elpida Memory was established in 1999 by integrating the dynamic random-access memory (DRAM) business of NEC and Hitachi. After taking over Mitsubishi's DRAM business in 2003, Elpida ranked third in the sector. Despite massive support from the financial sector, including ¥30 billion in financing from the Development Bank of Japan, Elpida succumbed to international competition and applied for reorganization under the Corporate Reorganization Act in 2012 and was acquired by Micron Technology in 2013. It was renamed Micron Memory Japan in 2014 and is still in operation.

[5] Commerce and Information Policy Bureau, METI, 'Semiconductor and Digital Industry Strategy', June 2023 (in Japanese).

advanced semiconductors may receive subsidies upon the approval of the METI minister.

Since the introduction of this subsidy, six plans have been approved by the METI minister, including the epoch-making investment by the global giant, Taiwan Semiconductor Manufacturing Company (Table 3.2). Taiwan Semiconductor Manufacturing Company holds the majority share in Japan Advanced Semiconductor Manufacturing, Inc., and the remainder is held by Sony Semiconductor Solutions Corporation (less than 20%) and Denso Corporation (over 10%). The major products are logic semiconductors with 22/28nm and 12/16nm processes, which are regarded as the product range in high demand although they are not cutting-edge products.

Table 3.2: Approved Specified Semiconductor Manufacturing Facility Development Plans

Approved Business Entity	Date of Approval	Max Subsidy (¥ billion)	Place of investment	Major products	Production Capacity ('000/month, 12-inch equivalent)	Job creation	First Production
Japan Advanced Semiconductor Manufacturing (JASM) Taiwan Semiconductor Manufacturing Company (TSMC), Ltd.	17 Jun 2022	476.0	Kikuyo-cho, Kumamoto	Logic semiconductor (22/28nm, 12/16nm)	55	1,700	Dec 2024
Kioxia Corporation Flash Partners Limited Company (FPL) Flash Alliance Limited Company (FAL) Flash Forward G.K. (FFL)	26 July 2022 Revised on 6 February 2024	92.9	Yokkaichi, Mie	3D flash memory (6th and 8th generation)	105	7,300	Feb 2023
Micron Memory Japan, K.K. Micron Technology, Inc.	30 Sep 2022	46.5	Higashi-Hiroshima, Hiroshima	DRAM (1β generation)	105	3,900	Q1 2023
Micron Memory Japan, K.K. Micron Technology, Inc.	03 Oct 2023	167.0	Higashi-Hiroshima, Hiroshima	DRAM (1γ generation)	105	4,200	Q2 2026
Kioxia Corporation Kioxia Iwate Corporation Flash Partners Limited Company (FPL) Flash Alliance Limited Company (FAL) Flash Forward G.K. (FFL)	06 Feb 2024	150.0	Yokkaichi, Mie	3D flash memory (8th and 9th generation)	105	7,400	Sep 2025
			Kitagami, Iwate	3D flash memory (8th generation)	105	1,600	Sep 2025
Japan Advanced Semiconductor Manufacturing (JASM) Taiwan Semiconductor Manufacturing Company (TSMC), Ltd.	24 Feb 2024	732.0	Kumamoto	Logic Ssemiconductor (12nm/6nm)	105	1,700	Q4 2029

DRAM = dynamic random-access memory, K.K. = Kabushiki Kaisha (corporation), nm = nano meter, Q = quarter.
Source: METI (2024), Nintei Tokutei Handotai Seisan Shisetsu Seibi To Keikaku [Projects for Improvement of Certified Specified Semiconductor Production Facilities].
https://www.meti.go.jp/policy/mono_info_service/joho/laws/semiconductor/semiconductor_plan.html (accessed 11 December 2024).

(2) Subsidy based on the Economic Security Promotions Act

Based on Article 1 of the Economic Security Promotion Act, business entities that plan to invest to ensure a stable supply of semiconductors are, with the approval of the METI minister, eligible to receive government subsidies through the New Energy and Industrial Technology Development Organization (NEDO). The products and criteria for this subsidy are listed in Table 3.3. In addition to the product-wise criteria listed in the table, several common criteria require the approved business entities to (i) continue production for 10 years or more, (ii) respond to the market in the case of tight supply and demand, (iii) continue investment to maintain or strengthen supply capacity, (iv) contribute to the local economy and job creation, and (v) prevent the leakage of core technologies.

Since the introduction of this subsidy, 18 projects have been approved by the METI minister (Table 3.4). Amongst them, the joint application by Rohm and Toshiba Electronic Devices & Storage has the largest investment size (¥388.3 billion), aimed at enhancing the production capacities of silicon carbide (SiC) and silicon (Si) semiconductors and SiC wafers, followed by SUMCO Corporation, which plans to enhance the domestic production capacity of silicon wafers (¥225 billion).

Table 3.3: Products Eligible for the Subsidy and Product-Wise Criteria

Products eligible for subsidy	Criteria
A. Conventional Semiconductors	
(1) Power semiconductors	Ex. SiC power semiconductors Investing ¥200 billion or more Equipment and apparatus with cutting-edge technologies
(2) Microcontrollers (3) Analogue semiconductors	Investing ¥30 billion or more Difficult to achieve only through private sector efforts Using equipment and apparatus with cutting-edge
B. Semiconductor Manufacturing Machineries	
Semiconductor manufacturing machineries and parts and materials thereof	Investing ¥30 billion or more Difficult to achieve only through private sector efforts Using equipment and apparatus with cutting-edge technologies Additional conditions apply in the case of parts and materials
C. Parts and Materials for Semiconductors	
Materials used in the manufacturing process of finished semiconductor products and the parts and materials that make up the materials	Investing ¥30 billion or more Difficult to achieve only through private sector efforts Using equipment and apparatus with cutting-edge Additional conditions apply in the case of parts and materials
D. Raw Materials for Semiconductors	
(1) Yellow phosphorus and its derivatives (2) Helium (3) Rare gas (Neon, Krypton, Xenon) (4) Fluorite and its derivatives	Using equipment and apparatus with cutting-edge technologies

SiC = silicon carbide.
Source: METI (2024), Handotai no Antei Kyokyu no Kakuho ni Kakaru Torikumi no Nintei ni Tuite [Regarding the Approval of Plans to Secure Supply of Semiconductors]. https://www.meti.go.jp/policy/economy/economic_security/semicon/index.html (accessed 11 December 2024).

Table 3.4: Approved Plans for Securing Supply of SCPs

	Approved business entity	Approval date	Planned investment (¥ billion)	Maximum subsidy (¥ billion)	Criteria (Table 3.3)	Plan to
1	Renesas Electronics Corporation	28 Apr 2023	47.70	15.90	A(2)	Enhance domestic production capacity of MCU for automobiles and industrial IoT
2	Ibiden Co., Ltd.	28 Apr 2023	n.a.	40.50	C	Enhance domestic production capacity of advanced FC-BGA substrates
3	Canon Inc. Canon Semiconductor Equipment Inc.	16 Jun 2023	33.30	11.10	B	Enhance domestic production capacity of exposure apparatus for i-line and KrF
4	Resonac Corporation Resonac HD Yamagata	16 Jun 2023	30.90	10.30	C	Enhance domestic production capacity of SiC wafer
5	Sumitomo Electric Industries, Ltd.	16 Jun 2023	30.00	10.00	C	Enhance domestic production capacity of SicC wafer
6	Shinko Electric Industries Co., Ltd.	16 Jun 2023	53.30	17.80	C	Enhance domestic production capacity of next generation FC-BGA substrates
7	Kioxia Corporation Kioxia Iwate Corporation	16 Jun 2023	0.83	0.28	D(3)	Increase domestically-recycled amount of neon
8	Sony Semiconductor Manufacturing Corporation	16 Jun 2023	1.12	0.37	D(3)	Increase domestically-recycled amount of neon
9	Koatsu Gas Kogyo Co., Ltd.	16 Jun 2023	n.a.	0.07	D(2)	Collect helium gas from the gases emitted during semiconductor manufacturing process, and recycle
10	Sumitomo Corporation	16 Jun 2023	n.a.	5.20	D(1)	Develop recycling technology for yellow phosphorus, and start domestic production
11	SUMCO Corporation	14 Jul 2023	225.00	75.00	C	Enhance domestic production capacity of Si wafer
13	JFE Steel Corporation Tokyo Gas Chemicals Co., Ltd.	28 Jul 2023	n.a.	<18.87*	D(3)	Produce neon domestically
14	Taiyo Nippon Sanso Corporation	28 Jul 2023	n.a.	<18.87*	D(3)	Produce neon, krypton, and xenon domestically
15	Air Liquide Japan G.K.	28 Jul 2023	n.a.	<18.87*	D(3)	Produce neon domestically
16	Rasa Industries, Ltd.	28 Jul 2023	n.a.	0.16	D(1)	Develop recycling technology for high-purity yellow phosphorus, and stabilize supply thereof
17	Air Water Inc. Nippon Helium Inc.	06 Dec 2023	n.a.	0.92	D(2)	Stockpile helium
18	Rohm Co. Ltd. Lapis Semiconductor Co., Ltd. Toshiba Electronic Devices & Strage Corporation Kaga Toshiba Electronics Corporation	08 Dec 2023	388.30	129.40	A(1)	Enhance domestic production capacity of SiC power semiconductor, Si power semiconductor, and SiC wafer
19	Fuji Electric Co. Ltd. Denso Corporation	29 Nov 2024	211.60	70.50	A(1)	Enhance domestic production capacity of SiC power semiconductor, Si epitaxial wafer, and SiC wafer
20	Kanadevia Corporation	29 Nov 2024	2.70	0.90	B	Enhance domestic production capacity of lapping plate
21	C.I. Takiron Corporation Takiron Tech Co., Ltd.	29 Nov 2024	4.40	1.40	B	Enhance domestic production capacity of resin plate
22	Chemours-Mitsui Fluoroproducts Co.,Ltd.	29 Nov 2024	8.00	Jp to 1/3	B	Enhance domestic production capacity of resin
23	Toyo Gosei Co., Ltd.	29 Nov 2024	21.10	7.00	C	Enhance domestic production capacity of raw materials (photosensitive materials, polymers, and high purity solvents) for advanced photoresists
24	Mitsubishi Chemical Corporation	29 Nov 2024	3.70	Jp to 1/3	C	Enhance domestic production capacity of synthetic quartz powder

Note:
*) A part of the total amount of subsidy for rare gas (JPY 18.87).
FC-BGA = Flip Chip-Ball Grid Array, G.K. = Godo Kaisha (limited liability company), HD = hard disk, IoT = internet of things, MCU = microcontroller unit, n.a. = not available, Si = silicon, SiC = silicon carbide, C.I. = chemical industries.
Source: Author's compilation based on METI (2024), Nintei Kyokyu Kakuho Keikaku [Approved Plans for Securing Supply]. https://www.meti.go.jp/policy/economy/economic_security/semicon/index.html (accessed 11 December 2024).

1.4. Supporting Diversification of Overseas Supply Chains

Before the Economic Security Promotion Act, METI started a programme to support Japanese companies in enhancing the resiliency of their overseas supply chains through diversification, mainly in response to the supply chain disruptions caused by the coronavirus disease (COVID-19) pandemic. The programme was implemented primarily by the Association for Overseas Technical Cooperation and Sustainable Partnerships, and the Japan External Trade Organization (JETRO) supported the Association for Overseas Technical Cooperation and Sustainable Partnerships in administrating the application selection process. The programme includes subsidies for (i) introducing facilities, (ii) demonstration projects, and (iii) feasibility studies to diversify overseas supply chains. The industrial scope of the subsidy covers a wide range of the manufacturing industry, including semiconductors, automotives, medical equipment and devices, pharmaceuticals, construction machinery, and electronics and electrics. Following the first round from 26 May to 15 June 2020, a series of public calls was issued until the eighth round from 22 May to 23 June 2023. During the whole project, the total number of applications was 449, of which 124 (27.6%) were adopted (Table 3.5).

Table 3.5: Subsidy Programme for Diversifying Overseas Supply Chains

Round	Public call		Date	No. of applications	No. adopted	Ratio
	From	To				
1	26 May 2020	15 Jun 2020	17 Jul 2020	124	30	24.2%
2	03 Sep 2020	02 Oct 2020	05 Nov 2020	64	21	32.8%
3	30 Sep 2020	30 Oct 2020	02 Dec 2020	155	30	19.4%
4	26 Mar 2021	26 Apr 2021	29 Jun 2021	38	11	28.9%
5	31 Jan 2022	31 Mar 2022	07 Jun 2022	27	11	40.7%
6	29 Aug 2022	28 Oct 2022	27 Dec 2022	15	6	40.0%
7	13 Feb 2023	14 Apr 2023	30 Jun 2023	10	4	40.0%
8	22 May 2023	23 Jun 2023	18 Aug 2023	16	11	68.8%
			Total	449	124	27.6%

Source: Author's compilation based on JETRO (2023), Kaigai Sapurai Chein Tagenka To Shien Jigyo [Overseas Supply Chain Diversification Support Project]. https://www.jetro.go.jp/services/supplychain/ (accessed 11 December 2024).

2. Japan–India Economic Relationship

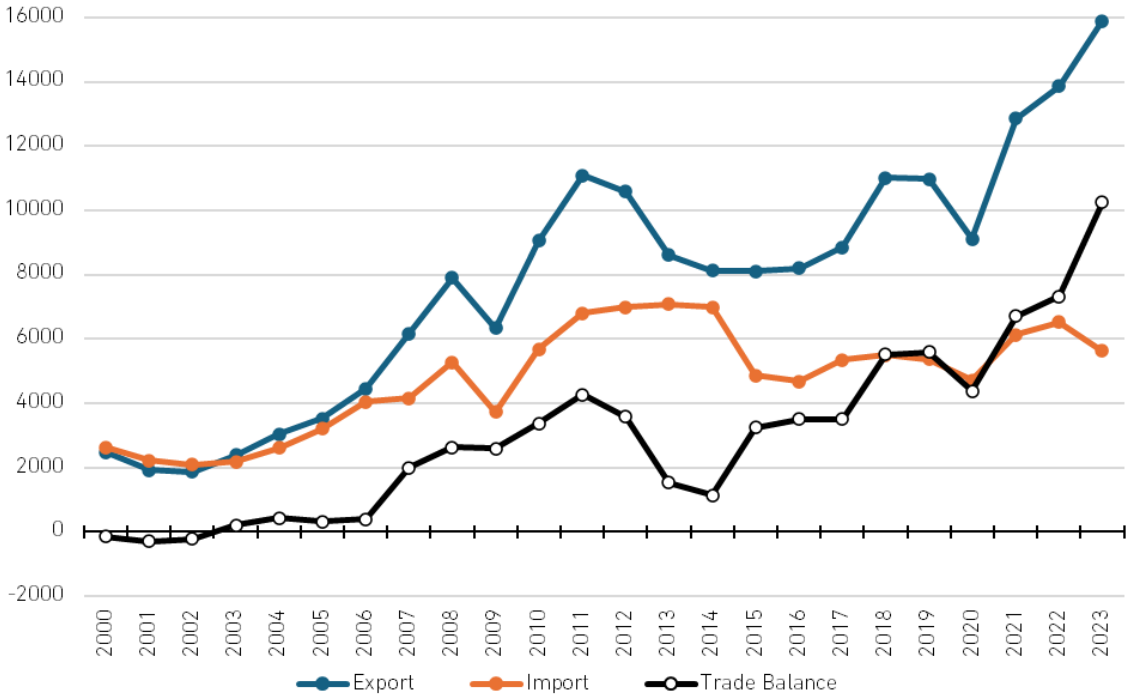
This section reviews the recent trend of Japan–India bilateral relationships in terms of economic cooperation, trade, and investment from the viewpoint of Japan.

2.1. Trade

Bilateral trade between Japan and India was stagnant and almost balanced in the early 2000s (Figure 2.1). Subsequently, both exports and imports started to increase, with an expanding trade surplus in favour of Japan. This trend is vivid in the last decade. Japan's imports from India have been stagnant since 2014, whereas Japan's exports to India grew rapidly from US$8,121 million in 2014 to US$15,894 million in 2023. As a result, Japan's trade surplus with India widened from US$1,132 million in 2014 to US$10,258 million in 2023. It is worth noting that the widening gap in bilateral trade has been observed under the Japan–India Comprehensive Economic Partnership Agreement (CEPA).

Table 3.6 illustrates the structure of Japan's exports to India in terms of Harmonised System (HS) 2-digit codes. Cumulative shares of the top 3, 5, and 10 items and the Herfindahl-Hirschman Index (HHI) indicate that the export structure was stable by 2010 but has diversified since then. In terms of traded goods, the share of HS 84 (machinery and mechanical appliances) has been the largest since 2000. HS 85 (electrical machinery and equipment), HS 87 (transport machinery), HS 72 (iron and steel), and HS 74 (copper and articles thereof) have been highly ranked. HS 29 (organic chemicals), HS 28 (inorganic chemicals), HS 39 (plastics), HS 40 (rubber), and HS 90 (optical products) are also important export items to India.

Figure 3.1: Japan's Trade with India (US$ million)



Source: Compiled by the author based on Global Trade Atlas (n.d.), https://www.spglobal.com/market-intelligence/en/solutions/products/maritime-global-trade-atlas (accessed 16 September 2024).

Table 3.6: Japan's Exports to India (2-digit HS codes)

Rank	2000 HS-2 Share	2005 HS-2 Share	2010 HS-2 Share	2015 HS-2 Share	2020 HS-2 Share	2023 HS-2 Share
1	84 31.7%	84 31.2%	84 30.6%	84 25.3%	84 21.9%	84 18.2%
2	85 12.8%	85 11.7%	85 13.6%	72 17.3%	85 10.9%	74 11.9%
3	87 10.2%	87 11.5%	72 12.2%	85 11.3%	74 10.1%	85 11.7%
4	72 6.1%	72 7.0%	87 8.2%	39 6.8%	39 8.9%	72 8.3%
5	29 5.9%	29 6.2%	90 5.2%	87 5.6%	28 7.7%	28 7.3%
6	90 4.9%	90 6.2%	0 4.0%	90 5.5%	72 6.7%	39 6.6%
7	82 3.3%	39 3.6%	29 3.9%	0 5.0%	29 5.1%	87 5.4%
8	37 3.1%	73 3.3%	73 3.9%	29 4.3%	90 4.9%	38 5.0%
9	40 2.9%	0 2.2%	39 3.3%	73 2.7%	87 3.8%	90 4.8%
10	73 2.8%	37 2.1%	40 2.7%	40 2.3%	0 2.9%	0 4.0%
Cumulative Shares of						
Top 3	54.7%	54.4%	56.4%	54.0%	42.8%	41.7%
Top 5	66.8%	67.6%	69.9%	66.4%	59.4%	57.4%
Top 10	83.8%	85.0%	87.6%	86.2%	82.9%	83.1%
HHI	1,426	1,417	1,441	1,246	977	892

HHI = Herfindahl-Hirschman Index, HS = Harmonised System.
Source: Compiled by the author based on Global Trade Atlas (n.d.), https://www.spglobal.com/market-intelligence/en/solutions/products/maritime-global-trade-atlas (accessed 16 September 2024).

Table 3.7: Japan's Imports from India (2-digit HS codes)

Rank	2000		2005		2010		2015		2020		2023	
	HS-2	Share	HS-2	Share	HS-2	Share	HS-2	Share	HS-2	Share	HS-2	Share
1	3	22.8%	27	16.8%	27	35.6%	27	26.3%	29	16.8%	29	17.2%
2	71	18.1%	26	16.7%	26	10.8%	29	11.6%	27	13.0%	71	9.1%
3	26	15.7%	71	16.7%	71	6.7%	3	7.7%	3	8.0%	87	7.3%
4	27	8.4%	3	8.6%	23	6.6%	71	7.2%	71	7.4%	84	6.9%
5	62	4.5%	29	4.9%	3	6.2%	84	4.3%	84	6.0%	3	6.8%
6	52	3.3%	62	3.7%	72	5.8%	72	4.0%	26	5.6%	76	6.6%
7	23	2.6%	23	3.5%	29	5.4%	62	4.0%	62	3.6%	85	6.0%
8	29	2.2%	84	2.5%	62	3.1%	87	2.7%	87	3.4%	72	3.7%
9	72	1.9%	52	2.4%	84	1.8%	26	2.7%	72	3.2%	62	3.1%
10	9	1.7%	72	2.3%	85	1.7%	85	2.1%	85	2.6%	30	2.4%
Cumulative shares of												
Top 3	56.6%		50.2%		53.0%		45.7%		37.9%		33.6%	
Top 5	69.5%		63.7%		65.8%		57.2%		51.3%		47.3%	
Top 10	82.9%		80.0%		84.9%		74.3%		71.9%		71.1%	
HHI	1,230		1,000		1,598		1,033		715		668	

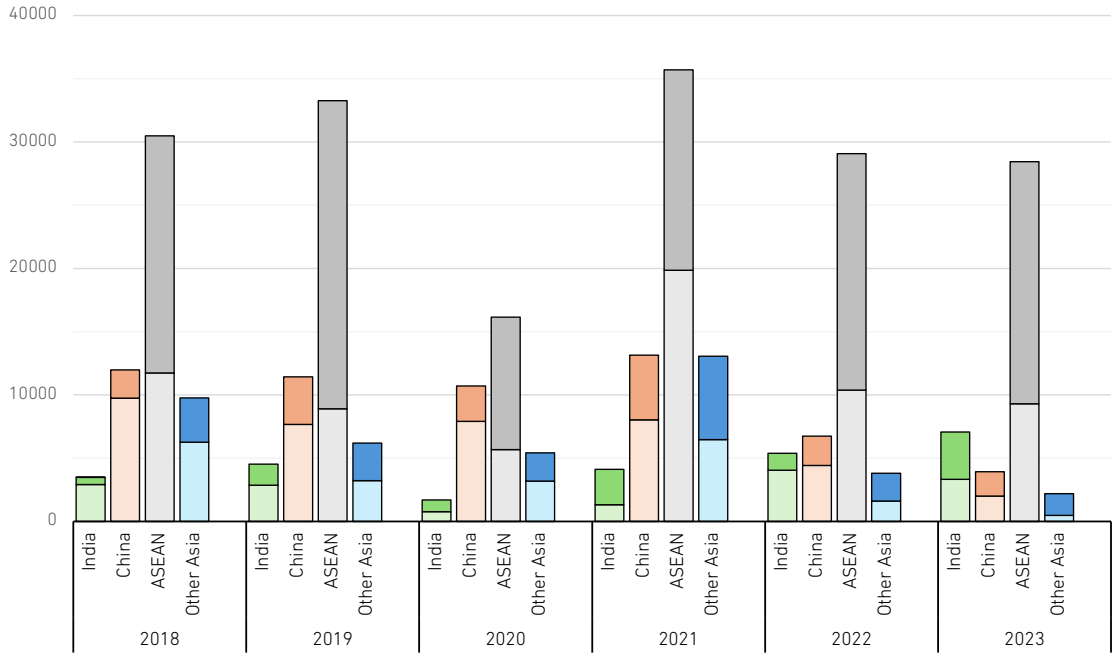
HHI = Herfindahl-Hirschman Index, HS = Harmonised System.
Source: Compiled by the author based on Global Trade Atlas (n.d.), https://www.spglobal.com/market-intelligence/en/solutions/products/maritime-global-trade-atlas (accessed 16 September 2024).

Similarly, Table 3.7 shows the structure of Japan's imports from India in terms of 2-digit HS codes. Again, the cumulative shares and HHI indicate that Japan's imports from India have diversified since 2010. Compared with exports, the structure of imports has shown more dynamic changes. For example, HS 27 (mineral fuels) was highly ranked until 2020, but the share decreased rapidly to 2.0% in 2023 (ranked 12th). Imports of HS 29 (organic chemicals) increased from US$59 million (1.7%, 8th) in 2000 to US$970 million (17.2%, 1st) in 2023. HS 71 (precious metals), HS 72, and HS 62 (apparel) are consistently ranked relatively high. Another important change is that Japan's imports of machinery products, HS 84, HS 85, and HS 87, has been increasing steadily and rapidly. The share of the three items expanded from 1.8% in 2000 to 4.2% in 2010, 9.1% in 2015, 12.0% in 2020, and 20.2% in 2023.

2.2. Investment

Japan's foreign direct investment (FDI) in India has been increasing since 2020 and marked a record high of ¥7,068 billion (about US$50 billion) in 2023, up 23.0% from the previous year – exceeding Japan's FDI to China, which has been decreasing after hitting a peak in 2021 (Figure 3.2). About half (47.2%) of Japan's FDI to India in 2023 is directed at the manufacturing sector, which includes Suzuki's acquisition of additional shares of its consolidated subsidiary, Maruti Suzuki India Limited, to raise its stake from 56.48% to 58.19%. This additional acquisition was done by transferring all the shares of Suzuki Motor Gujarat, a wholly owned subsidiary of Suzuki, to Maruti Suzuki, with the aim of improving business efficiency by consolidating its production system under Maruti Suzuki. In January 2024, Maruti Suzuki announced the establishment of a new factory in Gujarat, and Suzuki is making investments in India to start the production of India's first battery electric vehicle in 2024 (JETRO, 2024).

Figure 3.2: Japan's FDI to Asia (¥ billion)



ASEAN = Association of Southeast Asian Nations, FDI = foreign direct investment.
Notes: The light shading indicates FDI to the manufacturing sector, while the dark shading is FDI to non-manufacturing sectors. 'Other Asia' includes Hong Kong, the Republic of Korea, and Taiwan.
Source: Bank of Japan (n.d.), Direct Investment by Region and Industry and by Type of Investment, (2) Direct Investment Flows. https://www.boj.or.jp/en/statistics/br/bop_06/bpdata/index.htm (accessed 5 September 2024).

2.3. Deepening the Bilateral Relationship

Japan and India have strengthened their bilateral relationship since the beginning of the 21st century. During Prime Minister Yoshiro Mori's visit to India in August 2000, he and Prime Minister Atal Bihari Vajpayee established the Global Partnership between Japan and India, marking an important step towards strengthening the bilateral relationship. Since Prime Minister Junichiro Koizumi's official visit to India in 2005, Japan–India summit meetings have been held every other year in each country. In December 2006, during Prime Minister Manmohan Singh's visit to Japan, the bilateral relationship was elevated to the Global and Strategic Partnership.

At a summit meeting in Tokyo in September 2014, Prime Minister Narendra Modi and Prime Minister Shinzo Abe upgraded the bilateral relationship further to the Special Strategic and Global Partnership, aiming at deepening bilateral and regional cooperation (including security issues) and economic cooperation and improvement in investment climates to facilitate Japan's FDI to India.[6]

After the next summit meeting in Delhi in December 2015, they produced a joint statement titled 'Japan and India Vision 2025 Special Strategic and Global Partnership: Working Together for Peace and Prosperity of the Indo-Pacific Region and the World' as a guidepost for the new era in Japan–India relations – reiterating 'their unwavering commitment to realise a peaceful, open, equitable, stable and rule-based order in the Indo-Pacific region and beyond'.[7] The emphasis on the Indo-Pacific region led to Prime Minister Abe's epoch-making advocacy of the Free and Open Indo-Pacific in the keynote speech at the Sixth Tokyo International Conference on African Development (TICAD VI) in Kenya in August 2016, which claimed the importance of freedom of navigation, open trade routes, and respect for international law in the Indo-Pacific region. Since then, the Free and Open Indo-Pacific has been regarded as one of the most important cornerstones of Japanese diplomacy.

This led to the restart of the Quadrilateral Security Dialogue (Quad) in November 2017. At the Association of Southeast Asian Nations (ASEAN) Summit in Manila, the Leaders of Australia, India, Japan, and the US had a meeting for the first time in about 10 years and

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[6] 'Tokyo Declaration for Japan–India Special Strategic and Global Partnership', 1 September 2014, signed by Prime Minister Shinzo Abe and Prime Minister Narendra Modi.

[7] 'Japan and India Vision 2025 Special Strategic and Global Partnership: Working Together for Peace and Prosperity of the Indo-Pacific Region and the World', 12 December 2015, para. 4.

agreed to revive the Quad to counter China's expansion in the South China Sea, an important part of the Indo-Pacific region. Following a Foreign Ministers Meeting in September 2019, the first Quad Summit was held online on 12 March 2021. Since then, the Quad Summit Meeting has been held annually – on 24 September 2021 in Washington, DC, 24 May 2022 in Tokyo, 19 May 2023 in Hiroshima, and 21 September 2024 in Wilmington, DE. The next Summit Meeting will be held in New Delhi in 2025. Back to back with the series of Quad Summit Meetings, Japan and India have had bilateral summit meetings, deepening bilateral ties.

2.4. Economic Cooperation Involving Japan and India

(1) Economic Partnership Agreements

Japan and India agreed to establish a joint study group for a bilateral economic partnership agreement in November 2004. After four joint study group meetings between July 2005 and April 2006, both parties agreed to start negotiations in December 2006. It took 14 rounds of official talks to reach an agreement in principle in September 2010. As a result, the Japan–India CEPA was signed on 16 February 2011 and entered into force on 1 August 2011 to strengthen economic relations further between the two countries by liberalising and facilitating trade and investment, protecting intellectual property, harmonising competition policies, improving the business environment, and advancing bilateral cooperation in various areas.

The Regional Comprehensive Economic Partnership (RCEP) agreement was signed in November 2020 by the 10 ASEAN Member States, Japan, China, the Republic of Korea, Australia, and New Zealand, and entered into force on 1 January 2022 amongst the 10 Member States. The ratification process was completed on 2 June 2023, when it entered into force in the Philippines. Although India was one of the negotiating members of the RCEP, it withdrew from the RCEP negotiations at the Third RCEP Summit in November 2019.

(2) Bilateral Industrial Cooperation

One of the visible deliverables of the Special Strategic and Global Partnership established in 2014 was the Japan–India Investment Partnership, under which both parties agreed to develop Japan Industrial Townships (JITs) as integrated industrial parks so that Japanese

companies could smoothly establish production sites and operate their businesses – facilitating their investment in India and contributing to policies of India such as 'Make in India'. Since then, 12 JITs have been developed, and 110 Japanese companies are in operations, construction, land contracts, or contract negotiations in 9 JITs, generating at least ₹150 billion in investment and about 35,000 jobs (METI, 2024a).

The rapid progress of digital technologies in India led to the establishment of the Japan–India Start-up Initiative during METI Minister Hiroshige Seko's visit to India in May 2018. The scope of bilateral cooperation was expanded in the Japan–India Digital Partnership agreed during Prime Minister Modi's visit to Japan in October 2018 to include collaboration between private firms, human resources in the information technology (IT) sector, R&D in AI, and next-generation networks. Along this line of cooperation, the Japan–India Fund of Funds was established to mobilise financial resources for start-up businesses in India, aimed at enhancing collaboration amongst Indian companies, which are strong in software, and Japanese companies, which are strong in hardware.

In December 2019, the India–Japan Industrial Competitiveness Partnership (IJICP) was launched under an agreement between the METI Minister Hiroshi Kajiyama and the Minister of Commerce and Industry Piyush Goyal, as a secretary/vice minister-level framework. Under the IJICP, Japan and India have been working jointly to strengthen India's industrial competitiveness and promote bilateral industrial cooperation in areas such as logistics; sharing experiences and best practices on industrial policy; ease of doing business; export competitiveness; resolution of issues faced by Japanese companies operating in India; and issues in primary sectors such as healthcare, education, and agriculture through the use of digital technology.[8] In February 2023, the 5th IJICP secretary/vice minister-level meeting was held for the first time in Tokyo with about 80 delegates from both sides. The Sixth IJICP secretary/vice minister-level meeting was held on 28 June 2024 in Delhi, confirming the progress of sectoral working groups on agriculture, micro, small, and medium-sized enterprises, and the JITs (METI, 2024b).

Furthermore, to achieve the ¥5 trillion goal for public–private investment and loans to India in the 5 years to 2027, as agreed at the Japan–India summit meeting held in 2022, the two sides agreed to promote industrial cooperation, including human resources

[8] India–Japan Industrial Competitiveness Partnership Roadmap, signed on 19 March 2022.

development, and the improvement of the business environment in India to encourage Japan to invest in India.

The METI Minister Yasutoshi Nishimura announced the Initiative for Japan–India Industry Co-Creation during his speech at the Japan–India Deeptech Innovation and Clean Energy Seminar on 20 July 2023 in Delhi. Building upon existing bilateral cooperation frameworks, such as the Digital Partnership, CEPA, IJICP, and Clean Energy Partnership, the Initiative for Japan–India Industry Co-Creation aims to upgrade the bilateral economic relationship to the next stage by (i) creating future industries through innovation, (ii) evolving existing industries, and (iii) developing new markets. The memorandum of understanding on a Semiconductor Supply Chain Partnership signed by Minister Nishimura and the Minister for Electronics and Information Technology of India Ashwini Vaishnaw during the visit is an important part of the bilateral cooperation for the envisaged future industries, together with other cooperation in the areas of start-ups, digital technology, hydrogen and ammonia, and energy-related technologies. Cooperation on existing industries focuses on the steel industry in pursuit of economic growth and decarbonisation, the textile industry to improve quality, and small and medium-sized enterprises for capacity building and investment promotion. Initiatives for new market development include the promotion of Japanese export companies' investment in India, enhancing the export competitiveness of Indian industries, and the promotion of exports to third countries such as those in Africa.

Based on the Semiconductor Supply Chain Partnership, METI and the Ministry of Electronics and Information Technology co-organised the first policy dialogue on 10 November 2023. In addition to private companies in the semiconductor sector from both countries, related industrial associations and government agencies attended the dialogues to exchange views on improving the semiconductor industry's business environment.[9]

(3) Supply Chain Resilience Initiative

The Supply Chain Resilience Initiative is a trilateral collaboration between Australia, India, and Japan to strengthen supply chains in the Indo-Pacific region by reducing the

[9] The India Semiconductor Mission, India Electronics and Semiconductor Association, and India Cellular and Electronics Association from India; and the Japan Bank for International Cooperation and JETRO from Japan.

dependence on China. The initiative was launched in April 2021 in response to the COVID-19 pandemic, which exposed vulnerabilities in global supply chains and led to heavy debts for countries dependent on China.

The goals of the Supply Chain Resilience Initiative are (i) reducing China's dominance in the region, (ii) creating a sustainable supply chain, (iii) promoting best practices in national supply chain policy, (iv) fostering closer interconnectedness between businesses, (v) sharing best practices, (vi) promoting investment, and (vii) matching buyers and sellers for supply chain diversification.

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