

Vietnam's Global Value Chains Participation and Policy Implications for South Korea-Vietnam Economic Cooperation*

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I. Introduction

The term “value chain” refers to the whole production process of a good or service from the design and raw material processing to manufacturing and market services for the final customers. A global value chain (GVC) indicates production across multiple countries (Simola 2021). Wang et al. (2017) distinguish between simple and complex GVC activities and classify GVC participation in the following four activities: (i) export its domestic value added in intermediate exports used by a direct importing country to produce products for the importing country's final consumption (simple GVC); (ii) export its domestic value added in intermediate exports used by a direct importing country to produce products for importing countries' exports to third countries

(complex GVC forward participation); (iii) importing foreign value added in intermediate imports to produce products for domestic use (simple GVC); (iv) importing foreign value-added in intermediate imports to produce products for its gross exports (complex GVC backward participation).

Trade and foreign direct investment (FDI) are considered to be the main driving factors of Vietnam's economic growth. However, Vietnam's growth rates became substantially lower in the first decade of the 21st century and even lower after 2008, putting the country in high danger of falling into a middle-income trap (Nguyen and Truong 2022). Overcoming this huge challenge will require Vietnam to

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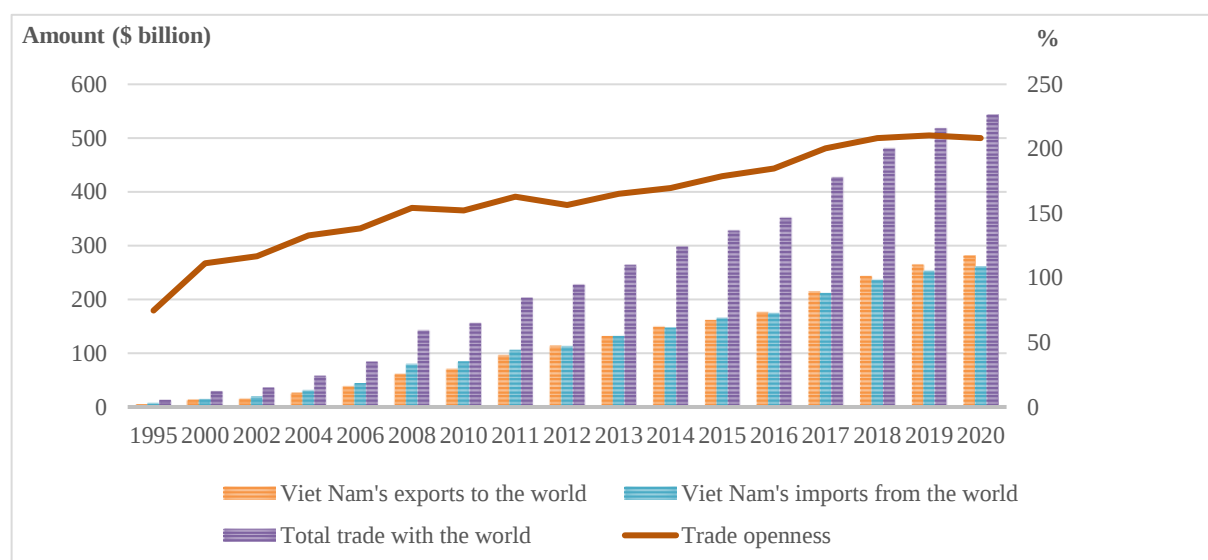
make greater progress in GVC participation, which can only be obtained by implementing the appropriate policy reforms and adjustments, particularly in FDI, trade, and industrial and institutional areas. In this regard, assistance and cooperation from Korea – an advanced economy, especially a top trade and FDI partner of Vietnam – would play a significant role in improving Vietnam's GVCs participation.

Against this backdrop, this study aims to examine Vietnam's GVC participation. It then assesses the major challenges faced by Vietnam's GVC participation. Based on this, the research draws relevant policy implications for Vietnam–South Korea (hereafter Korea) economic cooperation to improve Vietnam's GVC participation in the following years.

II. Overview of Vietnam's Economic Integration in the World Economy

In terms of the trade realm, the total commodity trade exchange between Vietnam and the rest of the world grew rapidly from only US\$13.6 billion in 1995 to US\$157.0 billion and US\$542 billion in 2010 and 2020, respectively. Vietnam's export value to the world market reached US\$281.4 billion in 2021 compared with US\$72.2 billion in 2010. Likewise, Vietnam's import value from the world market increased to US\$261.3 billion in 2020, from US\$84.8 billion in 2010. This led to a huge expansion in Vietnam's trade-to-gross trade product (GDP) ratio (trade openness), from 74.7% in 1995 to 152.2% and 208% in 2010 and 2020, respectively (see Figure 1).

Figure 1. Vietnam's International Trade with the Rest of the World, 1995-2020



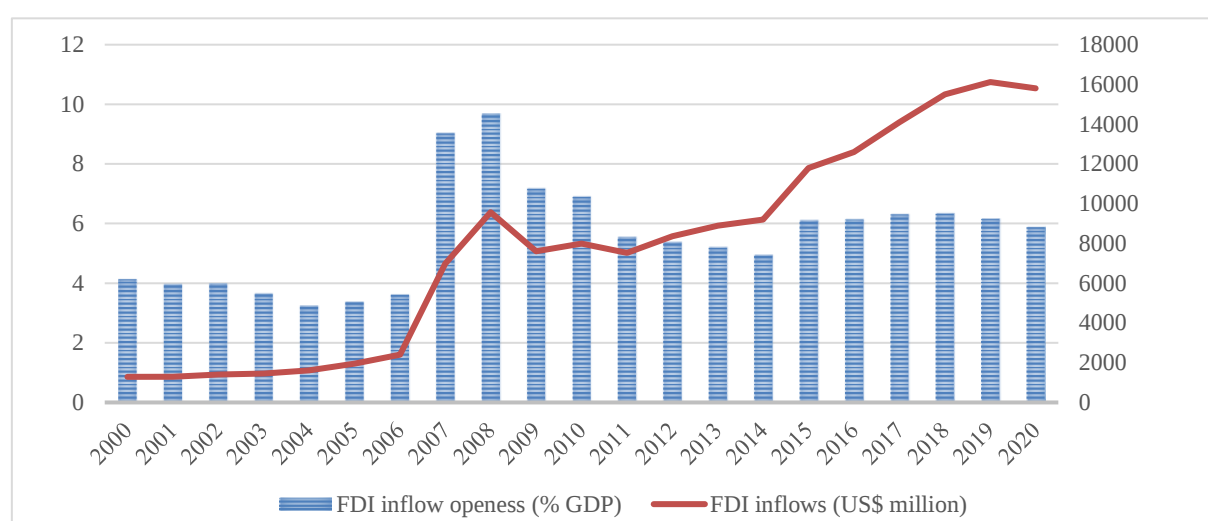
Sources: Author's compilation from United Nations Comtrade Database, World Development Indicators of World Bank and the General Statistics Office of Vietnam (GSO).

Vietnam has also made significant achievements in improving its export basket by increasing the share of manufactured products with a higher level of sophistication. For example, data processing from World Integrated Trade Solution (WITS) of World Bank shows that the contribution of machinery and electronic products to Vietnam's total export value to the global market reached 41.63% in 2019, up from 14.1% in 2010. By contrast, the export share of products that often embraced a low degree of sophistication, such as fuels, dropped from 26.4% in 2000 to 1.38% in 2019.

Similarly, there has been an impressive expansion of realized inward FDI flows into the Vietnamese economy, reaching US\$15.8 billion in 2020 from only US\$1.2 billion in 2000

(see Figure 2). In terms of sectoral distribution, data from the General Statistics Office of Vietnam (GSO) demonstrate that in 2020, the manufacturing and processing sector garnered the most interest from foreign investors, accounting for 47.7% of registered capital, followed by electrical production and distribution (18%). Statistics from the GSO also show that as of 2020, there were 112 countries and territories investing in Vietnam. Singapore took the lead, accounting for 31.5% of Vietnam's total inward FDI flows, while Korea and mainland China were the runners-up countries, comprising 13.8% and 8.6%, respectively. Foreign firms played a vital role in the Vietnamese economy, accounting for 71.7% of Vietnam's exports in 2020.

Figure 2. Inward FDI Flows into Vietnam, 1995-2020



Sources: Author's compilation using the United Nations Conference on Trade and Development (UNCTAD) database and the GSO of Vietnam.

Trade and FDI are considered to be the main driving factors for impressive economic growth

in Vietnam, reaching 6.01% on average between 2016-2020. The country is currently

among the fastest growing economies in the region and world. This results in considerable improvement in Vietnam's income per capita, reaching nearly US\$3,526 in 2020, from only US\$390 in 2000 (World Development Indicators of World Bank).

III. Situation and Challenges of Vietnam's GVC Participation

1. The Situation of Vietnam's GVC Participation

Many studies have capitalized on the trade in value added (TIVA) database which is jointly created by the Organisation for Economic Co-operation and Development (OECD) and World Trade Organization (WTO), as a proxy to examine GVC participation between economies (OECD 2012; Kowalski et al. 2015).

First, we consider domestic value added (DVA) content embodied in total commodity exports between Vietnam and the rest of the world, with a comparison to East Asian economies. DVA content of exports represents the exported value added that has been generated anywhere in the domestic economy. Statistics from the OECD-WTO TIVA database show that Vietnam's DVA exports to the world market had expanded dramatically from US\$12.1 billion in 2000 to US\$46.9 billion and \$120.7 billion in 2010 and 2018 respectively. Considering DVA as a share of gross exports, there is a different trend between Vietnam and its peers. More specifically, Table 1 shows that Vietnam's DVA share of gross exports was the lowest with a decreasing trend over time, reaching 48% in 2018. This trend contrasts with that of other East Asian economies, particularly Japan and China, which show Vietnam's weak domestic industry.

Table 1. DVA Share of Exports of Vietnam and Other East Asian Countries (%)

Countries	2000	2005	2010	2015	2018
Japan	92.51	88.81	86.75	84.44	82.79
Korea	70.75	68.23	63.17	68.46	68.01
China	82.5	76.33	80.83	84.08	82.76
Indonesia	81.94	82.07	85.67	85.81	85.61
Malaysia	51.29	56.39	61.76	65.47	65.21
Philippines	76.28	65.84	74.33	79.66	76.27
Singapore	56.47	51.65	52.54	52.3	52.71
Thailand	63.85	59.07	61.12	64.89	65.42
Vietnam	70.1	63.81	57.17	52.82	48.91

Source: Author's combination from OECD-WTO TIVA database.

On the other hand, according to OECD-WTO TIVA database, Vietnam's FVA content of gross exports had increased from US\$5.1 billion in 2000 to US\$35.1 billion and US\$126.1 in 2010 and 2018. Considering FVA as share of gross exports, there was a different trend between Vietnam and its peers. Table 2 reveals a rising FVA share of gross exports from Vietnam from 29.9% in 2000 increasing to 51.0 % in 2018. Interestingly, between 2005 and 2018, while Vietnam

witnessed a rapidly growing FVA share of gross exports, many other East Asian countries showed a reverse trend, with the highest decline occurring in Malaysia and Philippines. It should be noted that the share of FVA exports from Vietnam was the highest among East Asian economies. This implies that Vietnam's dependence on imports of intermediate goods from foreign partners is much higher than that of East Asian peers.

Table 2. FVA Share of Exports of Vietnam and Other East Asian Countries (%)

Countries	2000	2005	2010	2015	2018
Japan	7.49	11.19	13.25	15.56	17.21
Korea	29.25	31.77	36.83	31.54	31.99
China	17.5	23.67	19.17	15.92	17.24
Indonesia	18.06	17.93	14.33	14.19	14.39
Malaysia	48.71	43.61	38.24	34.53	34.79
Philippines	23.72	34.16	25.67	20.34	23.73
Singapore	43.53	48.35	47.46	47.7	47.29
Thailand	36.15	40.93	38.88	35.11	34.58
Vietnam	29.9	36.19	42.83	47.18	51.09

Source: Author's combination from OECD-WTO TIVA database.

In the sectoral dimension, Table 3 reveals that the DVA share in exports of all sectors declined remarkably during the 2000-2018 period. In 2000, mining and quarrying had the highest DVA share in Vietnam's exports, followed by agriculture, forestry and fishing. In 2018, services as well as agriculture, forestry and fishing had the highest DVA shares in exports. This is understandable, because a large proportion of intermediate

goods in these sectors are produced domestically. By contrast, DVA share in manufacturing is the lowest, as Vietnam has imported a significant part of the input for manufacturing industries from foreign countries. This also explains why the DVA share in manufacturing is the highest. In addition, there was a growing tendency for FVA share in all export sectors (See Table 3).

Table 3. DVA and FVA Share of Vietnam's Exports by Sectors (%)

Sectors	DVA and FVA	2000	2005	2010	2015	2018
Agriculture, forestry and fishing	DVA	79.17	73.03	70.87	67.99	64.42
	FVA	20.83	26.97	29.13	32.01	35.58
Mining and quarrying	DVA	90.47	85.88	67.53	59.76	53.76
	FVA	9.53	14.12	32.47	40.24	46.24
Manufacturing	DVA	60.38	54.64	50.91	47.56	44.12
	FVA	39.62	45.36	49.09	52.44	55.88
Total services	DVA	79.21	76.56	72.05	68.84	65.44
	FVA	20.79	23.44	27.95	31.16	34.56

Source: Author's combination from OECD-WTO TIVA database.

Table 4. DVA and FVA Share of Vietnam's Exports by Sub-sector of Manufacturing (%)

Sectors	DVA and FVA	2000	2005	2010	2015	2018
Food products, beverages and tobacco	DVA	73.93	64.87	65.18	62.82	59.43
	FVA	26.07	35.13	34.82	37.18	40.57
Textiles, clothing, and leather	DVA	54.51	50.0	46.75	45.01	42.37
	FVA	45.49	50.0	53.25	54.99	57.63
Wood and paper products	DVA	68.16	63.12	53.76	53.25	48.15
	FVA	31.84	36.88	46.24	46.75	51.85
Chemicals and chemical products	DVA	55.54	57.31	52.42	51.03	48.04
	FVA	44.46	42.69	47.58	48.97	51.96
Metals and metal products	DVA	52.99	44.61	41.03	38.37	34.39
	FVA	47.01	55.39	58.97	61.63	65.61
Computers, electronic and electrical equipment	DVA	54.21	49.58	43.56	41.03	38.69
	FVA	45.79	50.42	56.44	58.97	61.31
Machinery and equipment	DVA	50.79	48.44	42.64	33.34	28.65
	FVA	49.21	51.56	57.36	66.66	71.35
Transport equipment	DVA	73.81	48.34	44.26	44.76	42.95
	FVA	26.19	51.66	55.74	55.24	57.05

Source: Author's combination from OECD-WTO TIVA database.

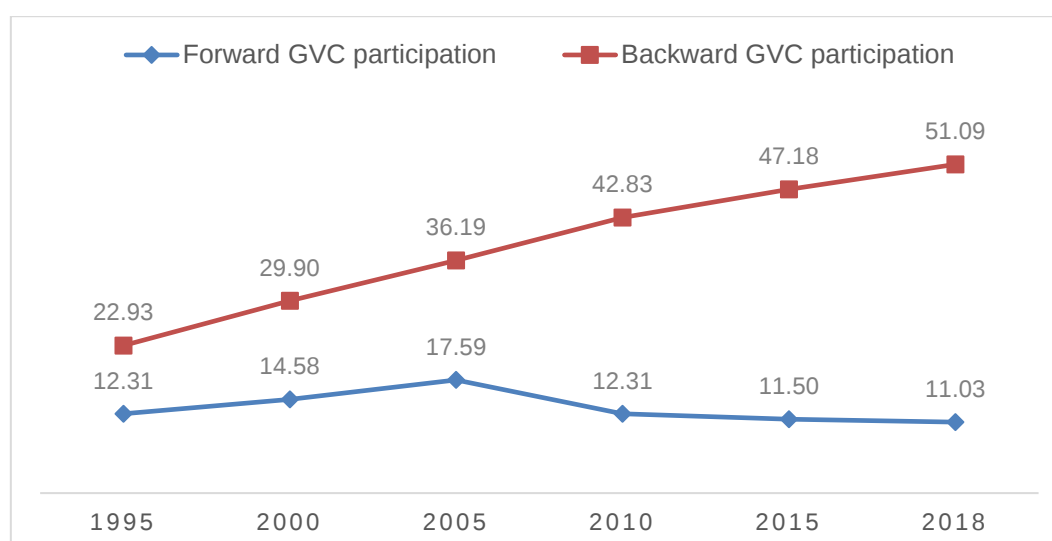
Within the manufacturing sector, Table 4 demonstrates that the highest DVA content was in low-technology intensive industries, such as food products, beverages and tobacco, chemicals, and wood and paper products. In contrast, the DVA content of gross exports was found to be very low in medium and high-technology intensive industries, namely, machinery and equipment, metals, and computers, electronic and electrical equipment. This trend indicates that due to limited production capacity, Vietnam's domestic enterprises could only produce a higher proportion of intermediate goods in low-technology intensive industries than in medium and high-technology intensive industries. In terms of FVA content in exports, machinery and equipment, metal industry as well as computers, electronics, and electric equipment industry embodied the highest FVA share in Vietnam's gross exports. This pattern is likely due to the large inward FDI flows into Vietnam's manufacturing sector, which enhances the imports of parts and components from foreign countries. As of December 20, 2021, the total newly registered, adjusted, and contributed capital of foreign investors in Vietnam was nearly \$31.15 billion; in which investment focused on processing and manufacturing industries with a total capital of \$18.12 billion, accounting for 58.17% of total inward FDI (Foreign Investment Agency 2021).

Next, we directly consider Vietnam's GVC participation using two indicators: backward

and forward GVC participation. Backward GVC participation refers to the ratio of FVA content of exports to the economy's total gross exports. This is the "buyer" perspective or sourcing side in GVCs, where an economy imports intermediates to produce exports. Forward GVC participation corresponds to the ratio of DVA sent from a country to third economies to its total gross exports. It captures the DVA contained in the inputs sent to third economies for further processing and exports through value chains. This is the "seller" perspective, or the supply side in GVC participation (Kowalski et al. 2015). Due to data availability, we were only able to investigate Vietnam's forward and backward GVC participation at the aggregate level.

In terms of forward participation, Figure 3 demonstrates an upward trend in Vietnam's forward participation during the period 1995-2005. However, after this period, this indicator decreased significantly, reaching 11.0% in 2018. Vietnam's forward GVC participation is much lower than that of Malaysia (20.3), Indonesia (24.8), China (19.3), Korea (21.5), and Japan (25.4), showing limitations in Vietnam's GVCs participation in forward linkages compared to its peers in East Asia. In terms of Vietnam's backward linkages, Figure 3 shows that Vietnam's backward GVC participation grew significantly from 22.9 in 1995 to 51.0 in 2019. Vietnam's backward participation is the highest among the selected East Asian economies.

Figure 3. Forward and Backward GVC Participation of Vietnam



Source: Author's combination from OECD-WTO TIVA database.

2. Challenges of Vietnam's GVC Participation

It can be assessed that along with the rapid growth in trade and investment, Vietnam has integrated more in GVCs, allowing the country to expand its own DVA through exports. Vietnam has shown higher integration in GVCs as a buyer and seller since 1995 and is considered a typical case in which one country imports goods or services that are incorporated in exports to another country. Measures of importing to exports consider that most of the country's exports consist of FVA. In addition, Vietnam's export basket has diversified over time, showing a transition from exporting primary commodities to exporting low- and medium-tech manufactured goods (apparel, furniture, and footwear) to more sophisticated products (machinery and electronics).

Nevertheless, Vietnam faces numerous constraints in innovating its export basket to allow for the capture of more value addition and move up the value chain into higher value-added functions. Despite the increasing share of FVA in gross exports, backward linkages with Vietnam's domestic economy are weak. The expansion in DVA exports came directly from export activities, rather than indirectly through domestic inputs. In 2016, data processed from the OECD-WTO TIVA database showed that the contribution of direct DVA from exports was 61.6% of the total, whereas the value added generated by the domestic pipeline supplying exports was 38.3%. Weak backward linkages are largely the result of weak linkages from FDI firms to the domestic private sector as well as between local suppliers.

At the same time, Vietnam's services contribution to value added remains low by international standards, where its forward linkages to manufacturing export sectors from the backbone services sectors necessary for a competitive industry are weak. Because the high value-added segments of GVCs are often rich in service content, enhancing the competitiveness of the service sector to enable the role of services, both as inputs into the economy and as a means to change the way value is created, should be a priority for the Vietnamese government's upgrading strategy in GVCs participation (Hollweg et al. 2017). When the domestic services sector reaches a certain competitive level according to international standards, service exports themselves can foster Vietnam's export diversification.

Vietnam has a weak domestic private sector that is constrained by both an FDI- and state-owned enterprise (SOE)-centric business environment and a lack of skilled labor. Meanwhile, the majority of Vietnam's foreign investors operate in the electronics sector, a highly skilled industry with high barriers to supplier entry. These original equipment manufacturers (OEMs) hold suppliers for the highest quality and reliability standards, as well as they often require the majority of Tier-1 suppliers to hold patent protection on supplied parts and components (Grozier and Keene 2020).

IV. Implications for Vietnam-Korea Economic Cooperation

Over the years, Vietnam-Korea economic relations have enjoyed a substantial extension. The total trade volume between the two sides has rapidly grown from US\$12.85 billion in 2010 to US\$78.04 billion in 2021. As a result, Korea and Vietnam have become top trading partners for each party. In 2020, Vietnam was the third largest export destination and fifth largest import source in Korea. At the same time, Korea was Vietnam's fourth largest export destination and Vietnam's second largest supply source (ASEAN-Korea Center 2021).

Our processing data from the WITS show that over the years, Vietnam has significantly reduced the contribution of consumer goods and raw materials, with a combined share of 40.2% in 2019. The contribution of capital goods to Vietnam's exports to Korea reached 50.2% in 2019. In 2019, capital goods also dominated Vietnam's imports, reaching 64.2%, followed by intermediate goods, at 23.0%. The difference in Vietnam-Korea export and import structures shows the technological and skilled labor gap between the two countries.

With respect to the investment field, by the end of 2021, Korea had 9,223 FDI projects with a total accumulated capital of US\$74.65 billion, sharing 18.29% of the total FDI in Vietnam, followed by Japan (15.78%), Singapore (15.77%), Taiwan (8.66%), and Hong Kong (6.82%) (Foreign Investment Agency 2021).

Korea, in general, and Samsung in particular, play a vital role in Vietnam's trade activities and GVC participation, especially in the electronics sector. Among multinational enterprises (MNEs) operating in Vietnam, the Samsung group has largely dominated the electronics industry in particular, and the entire country's exports in general. More specifically, by the end of 2017, Samsung had committed a total investment of US\$17.3 billion in Vietnam, of which over \$14 billion was disbursed, making it the largest foreign investor in the country. Samsung alone comprised 25% of Vietnam's total merchandise exports in 2017 and employed more than 100,000 employees, making this group one of the country's largest employers (Nguyen 2018).

However, Vietnamese firms have been able to participate in the lowest midstream activities in the electronic value chain of Korean firms, such as subassemblies and finished products. The economy depends heavily on imported components and subassemblies. Local production is limited; consequently, Vietnam has no option other than relying on component imports to support export activities. The upstream activities in Vietnam's electronics industry are very weak. Designing is carried out abroad, and the main components (such as electronic chips) are imported from foreign countries. Few MNEs have limited research and development (R&D) activities in the country, such as the recent R&D center of Samsung in Hanoi with a value of \$220 million (Nguyen 2020). At the downstream level,

these activities are performed by foreign companies and produced outside Vietnam, whereas local companies have limited international exposure and marketing capabilities owing to a lack of experience and capital (Tractus Asia Vietnam 2019). In addition, attracting MNEs from Korea in high-tech industries is not sufficient to generate the positive spillover effects and demand multipliers necessary to create sustainable industrial development. If supply linkages are weak, there are few direct contacts between Korea's MNEs and Vietnamese firms, resulting in less learning, fewer spillover benefits, and weaker prospects for upgrading and developing competitive local firms.

In this context, this study provides several recommendations for Vietnam-Korea economic cooperation in improving Vietnam's GVC participation as follows:

Vietnam and Korea should focus on facilitating Vietnamese companies' entry into GVCs by improving the drivers of investment, especially the functioning of market institutions (such as asset protection), and improving the functioning and quality of the domestic segment of value chains and the quality of service inputs. Strengthening linkages between buyers and sellers in GVCs, along with maximizing the absorption potential of local firms (especially their innovation capacity), would help the domestic sector benefit from GVC spillovers as well as expand opportunities for upgrading. Cooperation between the two sides should concentrate on improving Vietnamese

firms' skills development because this may speed up economic upgrading and densification of the GVC space with more domestic suppliers, while increasing the benefits of GVC participation by promoting social upgrading and cohesion.

Additionally, Vietnam's FDI attraction efforts from Korea should not be limited to large MNEs at the core of GVCs but should also aim at large supplier firms in upstream industries across the MNEs' value chains. On one hand, MNEs at core GVCs are more likely to assist both local suppliers and foreign firms in their value chains in the early phases of the production process (Amendolagine et al. 2019). Thus, Vietnam's FDI policy still needs to attract MNEs including those from Korea. On the other hand, there are some reasons for attracting large (tier-1) suppliers from Korea. Tier-1 suppliers provide input in the form of specialized parts, which in turn contain generic and specialized components. Given that local firms may not possess the skills to process and produce specialized parts, it is a good choice for them to concentrate on the manufacturing of more generic components before proceeding to the production of more complex products (Nguyen and Truong 2022). In addition, Vietnamese firms may gain information embedded in the products supplied by Korean suppliers regarding foreign customers and preferences. Therefore, by establishing contacts with tier-1 suppliers from Korea, Vietnamese firms would benefit from learning and

spillovers and have more opportunities to participate in the value chain (even as lower-tier suppliers).

In the electronics industry, the capacity to develop an electronic GVC relies heavily on supportive services. Therefore, investing in a technically skilled workforce with professional qualifications could boost the development of supporting industries in the electronics industry, while improving the managerial skills and other soft skills of employees is necessary to improve the competitiveness of domestic electronic firms in Vietnam. To ensure that supplier development programs work effectively, Korean firms in Vietnam should be involved. For instance, Korean firms could provide valuable information to help the government determine the types of local suppliers (Tier-1, or Tier-2, and Tier-3 suppliers) and then direct support and assistance resources to them. As the electronics industry is expected to expand, additional support services (such as from R&D institutes and quality control centers) will be needed to create more specialized but high value-added service jobs. The establishment of Samsung's R&D center in Hanoi and Samsung's plan to invest more US\$3.3 billion in producing semiconductors in Vietnam will significantly contribute to improving Vietnam's GVC participation. **KIEP**

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