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Current GVC Structure and Strategies to Upgrade Korea's Production Network in ASEAN and India

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I. Introduction

ASEAN and India are emerging as GVC hubs in the world and the countries are now regarded as the "next China." Korea has a strong economic relationship with ASEAN and India, and the regions are emerging as major production hubs for Korea. In fact, ASEAN and India are collectively the second trade and investment partners of Korea. Setting trade expansion with New Southern Policy (NSP) countries as one of its major policy agendas, the Korean government is making an effort to expand trade and economic exchanges with the regions.

However, the recent economic environment in the region is negatively affecting Korea's trade volume in NSP countries. The emergence of COVID-19 and the prevalence of global trade protectionism deteriorate the potential for economic cooperation between Korea and NSP countries. Also, as leading firms in the world enter the ASEAN and Indian markets, we are seeing a rise in market competition in NSP countries. Also, under the current economic conditions, trade expansion and upgrading strategy are much in need from the Korean perspective. To deliver practical policy suggestions, our analysis aims to understand the GVC structure of NSP countries based on a concrete database and in-depth firm-level survey.

II. Global Value Chain Analysis of ASEAN and India

We use the ADB-MRIO (Multi-Regional Input Output) database to conduct the GVC analysis, which includes information on intermediate and final good supply and usage in the country and sector levels. Following the decomposition method by Wang, Wei, Zhu (2013), we can divide export into various components, such as domestic and foreign value-added. Domestic value-added (DVA) refers to the amount of value-added in the exports that are sourced from domestic industries, and foreign value-added (FVA) indicates the amount of value-added in the exports that are sourced from foreign industries. From the decomposition, we found several structural characteristics.

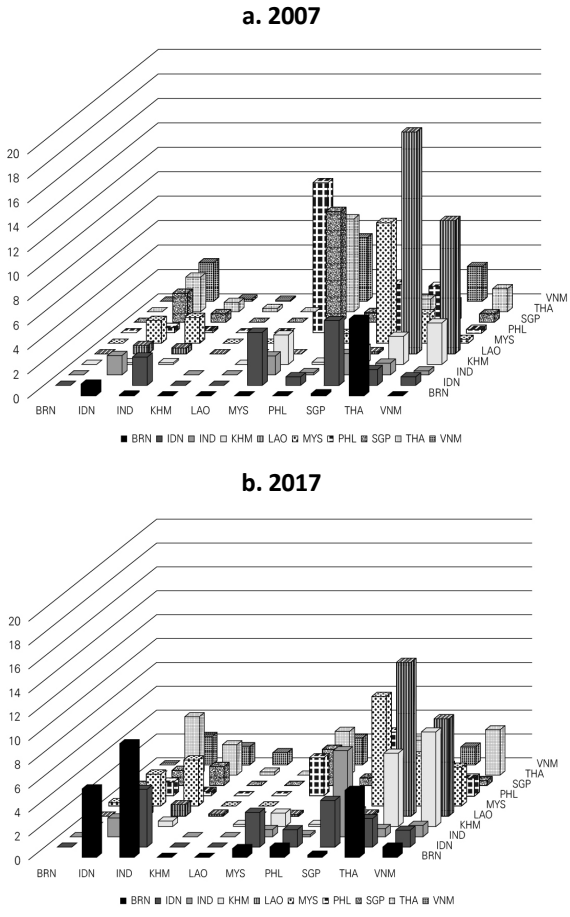
First, the GVC participation rate in NSP countries is 46.3%, which is relatively higher than other regions (RECP 39%, NAFTA 38%), but the

participation rate is moderately decreasing. Also, domestic value-added (DVA) in the exports is increasing. More specifically, the share of DVA has been boosted from 63.7% in 2007 to 69.3% in 2017. However, the share of foreign value-added (FVA) in exports has decreased from 25.2% to 22.5 in the same period. This indicates that localization is strengthening, such as expanding local production and local procurement.

Also, production linkages between NSP countries are close to each other as pure-double counted (PDC) terms in NSP's exports is increasing.

Figure 1. Bilateral Intermediate Good Export Share Matrix (2007-2017)

(Unit: %)

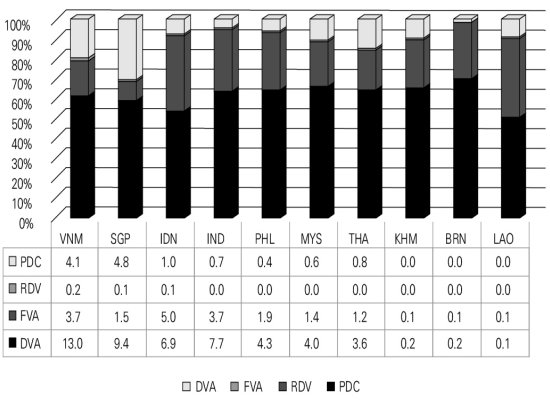


Note: Exporting country (Column), Importing country (Row).
Source: Authors' calculations based on ADB-MRIO (2017).

Second, the regional hubs of intermediate export and re-export in NSP countries are diversified. Malaysia used to be one of the major regional production hubs, where it had the largest share of intermediate good exports or re-exports within the region. Now, along with Malaysia, Vietnam, India, Indonesia are also part of this regional value chain. The major importers of intermediate goods within the NSP regions were Malaysia, Singapore, and Thailand. Now, Indonesia and Vietnam import significant amounts of intermediate goods from the regions. In 2017, Indonesia imported intermediate goods mostly from Brunei and Thailand, while India imported these from Indonesia and Malaysia, and Vietnam from Cambodia, Laos, and Malaysia. In terms of re-exports, Brunei and Thailand used the re-export route of Indonesia, Brunei of India, and Cambodia, Laos, Malaysia, and Thailand of Vietnam. Compared to final good exports, the export share of intermediate goods in NSP countries is increasing. This type of intermediate product is used as an input in an early stage of production, and it produces relatively high value-added compared to the final good exports.

Figure 2. Korea Export Decomposition to New Southern Policy Regions (2017)

(Unit: Billion USD, %)



	VNM	SGP	IDN	IND	PHL	MYS	THA	KHM	BRN	LAO
PDC	4.1	4.8	1.0	0.7	0.4	0.6	0.8	0.0	0.0	0.0
RDV	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FVA	3.7	1.5	5.0	3.7	1.9	1.4	1.2	0.1	0.1	0.1
DVA	13.0	9.4	6.9	7.7	4.3	4.0	3.6	0.2	0.2	0.1

Source: Authors' calculations based on ADB-MRIO (2017).

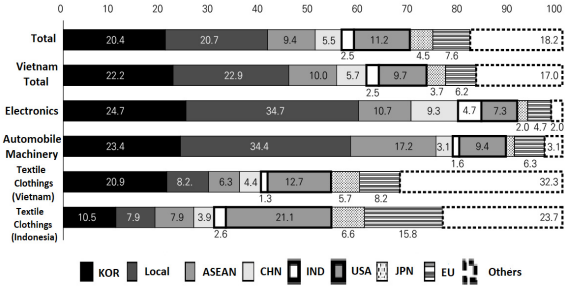
Third, the major destination of Korea's domestic value-added in NSP countries is Vietnam, Singapore, India, and Indonesia. When we consider PDC share in Korea's export, Vietnam and Singapore come in first and second, which indicates that Korea has established stable value chains in those countries.

III. Korean Firms' Value Chains in New Southern Policy Countries

To understand the GVC production network in NSP countries, we conduct a survey of Korean firms in Vietnam and Indonesia where Korean electronics, automobile/machinery, and textile/clothing industries are located. Also, we conduct an in-depth interview with Korean firms in India, focused on the automobile and electronics sector.

Figure 3. Sourcing Structure of Vietnam and Indonesia: Electronics, Automobile/Machinery, Textile/Clothing Industry

(Unit: Billion USD, %)



Source: Authors' calculations based on Export-Import Bank of Korea (2018).

We found that Korean firms in ASEAN countries mainly source intermediate goods from Korea, but the second-highest share is different by industries and countries. More specifically, Korean firms in the electronics sector use intermediate inputs from China, as many of their affiliates and subcontract enterprises are located in China. Firms in the automobile and machinery industries, on the other hand, procure their intermediate inputs from local firms in ASEAN. If we look into the textile and clothing industries, firms in Vietnam procure intermediate goods from Korea and ASEAN equally, while firms in Indonesia source most of their inputs from China.

There is a growing trend where Korean firms branch out into the ASEAN market to expand their market share in the region and re-export the intermediate and final goods to Korea. 45.9% of Korean firms in ASEAN are associated with the domestic market, 32.8% with re-export to Korea, and 21.3% with export to 3rd countries. Also, our in-depth survey reveals that Korean firms struggle with difficulties to expand the GVC due to a lack of competitive product quality and technology skills, lack of logistics infrastructure, lack of suppliers of parts for production and lack of variety, lack of cultural understandings including communication capabilities, and difficulties in securing or fostering a local labor force.

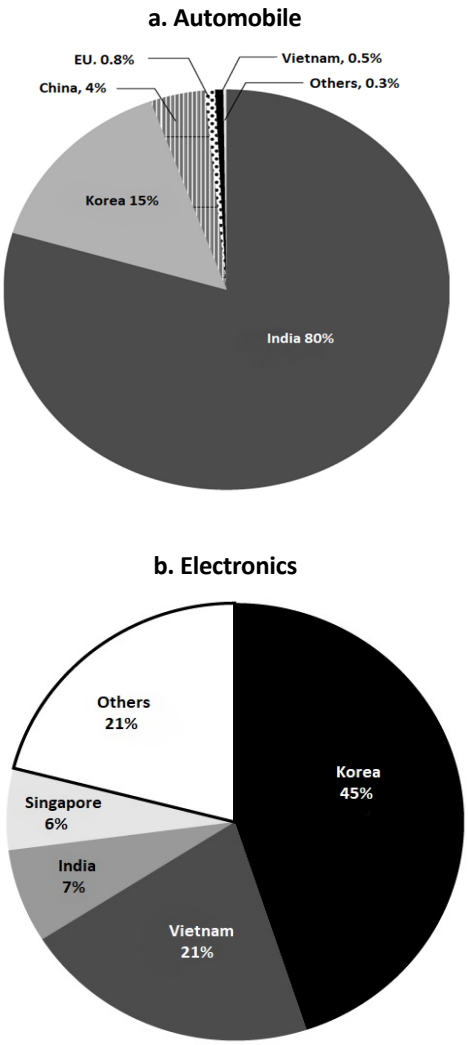
The sourcing structure of Korean firms in India depends on the development levels of the electronics and automobile industries. When the firms produce fully-built automobile units and automobile parts in India, they mainly use local raw materials and parts for production. Firms in the electronics sector, on the other hand, exploit more imported input as the production network in India is still insufficient for electronic goods.

We found that the sales of Korean firms in India are mainly from the local market. This

stems from the fact that India has a fast-growing domestic market. Regarding the export of Korean firms in India, automobile export is expanding. However, electronic firms are building their production network for the export market. All the automobile firms we interviewed included at least 10% of exports in their total sales. However, electronic firms are mostly dedicated to the domestic market with no exports.

Figure 4. Sourcing Structure of India: Electronics, Automobile

(Unit: Billion USD, %)



Source: Authors' calculations based on firm-level survey.

The in-depth firm-level interviews reveal that Korean firms experience difficulties in building a GVC network in India, including: the difficult local business environment for joint business arising from cultural differences, less information on the local joint firms, and a technology gap; poor infrastructure; and unpredictable government policy in India, especially for the manufacturing industries.

IV. Policy Implications

We suggest the following policy directions and tasks for Korea's trade expansion and GVC upgrading strategies.

First, it is important to expand the production network in NSP regions. A high level of GVC integration will increase the trade of intermediate goods and parts, and it will directly boost the trade volume between Korea and NSP countries. We can also expect to ease the trade imbalance issue between Korea and NSP countries.

Second, it is necessary to strengthen the production network with India and Indonesia. Korea has established a strong production network in Vietnam. In addition to Vietnam, Indonesia and India have also demonstrated their potential to grow into GVC hubs. Indonesia has a large domestic market and abundant resources, and it shows strong potential in economic growth. India is well known for its abundant high-skilled labor, and is recently making progress in the area of global production. From these observations, Indonesia and India can be seen as suitable strategic partners for the global production network. In particular, to upgrade

and differentiate from the current GVC structure in the NSP region, the Korea-Vietnam production network can be expanded to major industries such as the chemical and automobile industries. In labor-intensive industries like textile and clothing, measures could be considered to induce a shift from Vietnam to Cambodia or Myanmar, in light of the FDI attraction policies in Cambodia and Myanmar for these industries.

Third, we need to utilize NSP countries' connected production network. NSP countries are becoming more connected through initiatives such as the ASEAN Economic Community (AEC), Master Plan on ASEAN Connectivity (MPAC) 2025, ASEAN-India FTA, and Regional Comprehensive Economic Partnership (RCEP). These regional trade agreements and initiatives within the region make it easier for Korean firms to procure intermediate goods and labor within the region. The Korean automobile industry, for example, can expand its production network by utilizing connections between India-Indonesia, the electronics industries in India-Vietnam-Indonesia (the Philippines), or the textile and clothing industry in Indonesia-Vietnam-Myanmar.

Fourth, to strengthen the GVC network in NSP countries, it is important to consider comparative advantages, GVC structure, local GVC policies, and industry demands in NSP countries. Based on these analyses, we need to prioritize and support the industries.

Fifth, to fulfill these directions, we suggest the following tasks. It is important to utilize ODA funds to promote local infrastructure, industrial complexes, and skilled labor. Meanwhile, it is necessary to stimulate local agencies like KOTRA and KITA, which help firms in NSP countries through GVC consultation. Also, Korea needs to actively participate in bilateral and multilateral free trade agreements (FTA). Lastly, it is important to build a mechanism to solve GVC-related issues from Korean firms in NSP countries. To do this, Korea needs to establish Joint-Initiatives (JI) with major countries in the NSP region, such as Vietnam and India, and it is necessary to bolster the support of the Association of ASEAN KoCham (AAKC), newly established in 2018. KIEP

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