

COVID-19 в Азии / COVID-19 in Asia

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South Korea trade during COVID-19 pandemic: perspectives on value chains and US-CHINA trade war

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Abstract. This paper analyzes South Korea's foreign trade during the first half of 2020. The goal is to highlight an early effect of the COVID-19 pandemic on the geographical and structural patterns of Korea's export and import. This analysis is done in order to investigate whether there is a trend towards re-structuring of Korea's value chains away from China. The need to diversify production links and increase cooperation with other countries in Asia was widely discussed in Korea during the pandemic as the country experienced a shortage of supplies and factory closure as a consequence of China's lockdown. This research looks for early signs of transformation in terms of geography and composition of traded products and places those signs into the context of global and regional value chains and the US-China trade war. Given Korea's strategic alliance with the US and economic importance of both the US and China for its export-driven economy, Korean companies have to make choices about how their value chains will look like in the near future.

The paper finds evidences that point into the direction of growing linkages between Korea and South-East Asian economies in the first half of 2020. But contrary to expectations, overall trade ties with China remain quite strong. It is likely that in the following years Korean businesses will follow a two-track approach: those that aim to sell to Chinese domestic consumers will keep their production in China while those companies that export from China to the US and EU will continue to diversify their manufacturing base in order to keep access to advanced markets.

Keywords: South Korea, global value chains (GVCs), trade, investment, US-China trade war, COVID-19

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Внешняя торговля Южной Кореи в период пандемии КОВИД-19: перспективы реструктуризации добавленной стоимости и американо-китайская торговая война

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Резюме. В статье анализируются данные о торговле Республики Корея в первом полугодии 2020 г. с целью выявления первых признаков реструктуризации цепочек добавленной стоимости (GVCs) компаниями страны на фоне пандемии COVID-19.

Статья обращает внимание, что компании, ориентированные на внутренний китайский рынок, скорее всего, останутся в Поднебесной, тогда как те, которые использовали Китай как площадку для экспорта в США и ЕС, будут продолжать диверсификацию производственной базы, чтобы сохранить доступ на рынки развитых стран.

Ключевые слова: Южная Корея, глобальные цепочки добавленной стоимости, торговля, инвестиции, торговая война между США и Китаем, пандемия COVID-19

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INTRODUCTION

International trade was one of the most affected spheres of economic activity during first COVID-19. By estimates of the World Trade Organization due to various restrictions volumes of international shipments declined as much as 50% globally and created risks for countries with a high reliance on foreign trade for economic growth [1].

South Korea is one of such countries: foreign trade makes up over 70% of the country's GDP with the share of export approaching 40%. So global trade disruptions caused by COVID-19 affected it in the form of supply and demand shocks. In addition, like many other companies across the world, Korean business started to consider a possibility of re-structuring their value chains. Built for cost efficiency and optimized for global distribution, global value chains (GVCs) were prepared neither for China's lockdown nor for a severe trade contraction. In the wake of the pandemic, a discussion about lowering dependence on China that is central to the current configuration of global production and enhancing resilience emerged.

By analyzing trade and investment data for the first half of 2020, this research aims to capture changing patterns of Korea's trade that would point in the direction of structural changes in its value chains. More specifically, the paper looks for early signs of transformation in terms of geography and composition of traded products in both export and import and places them into the context of global and regional value chains and the US-China trade war. Given Korea's strategic alliance with the US and economic importance of both the US and China for its export-driven economy, Korean companies have to make choices about how their value chains will look like in the near future.

For analysis, the paper relies on export and import data published by the Korea International Trade Association (KITA) and Korea's Industrial Statistics Analytics System (ISTANS) that published statistics on trade in parts and components that account for a large share of Korea's trade within value-chains. The trade data are further matched by the statistics on outward foreign direct investment (OFDI) by a Korean private sector published by the Korean Export-Import Bank. As of September 2020, trade data for the first half of the year and OFDI for the first quarter were released which allows to construct an outline of ongoing changes.

COVID-19 AND ITS IMPACT ON GLOBAL VALUE CHAINS (GVCs)

COVID-19 pandemic has three essential features that differentiate it from other crises that world have previously experienced. Firstly, it is a truly global phenomenon spreading practically to every country. According to the estimates by the pandemic center at the Johns Hopkins University in the US [2] more than 5 bln people were affected by lockdowns and various restrictions during the initial stages of the pandemic with more than one million people have died as of September 2020.

Secondly, the pandemic had a multi-dimensional and long-lasting effect in most national economies, including Korea: they were hit by demand and supply shocks simultaneously [3; 4]. Many aspects of life have undergone changes: starting from the way people interact with each other, to the way they shop, to how governments make policies in order to fight pandemic and revitalize economies.

Third, the pandemic turned out to be highly contagious not just in terms of health but also in the sense of global economy. COVID-19 has exposed vulnerabilities of the global supply chains to disruptions, particularly excessive reliance on China. High inter-connectivity between countries through GVCs, as much efficient and beneficial as it proved to be for cost optimization for global businesses, appeared to have a low resilience in the face of a severe global disruption. As OECD economist S.Miroudot [5] has pointed out, the COVID-19 crisis initiated a debate about the future of global value chains (GVCs), 'examining whether excessive globalisation of production has not created new economic vulnerabilities.'

Changes brought about by the pandemic were further aggravated by the US-China trade war. Javorcik [6] argues that US-China disagreements and COVID-related disruption of production will make global community to reconsider the shape of global value chains, particularly from a point of "an excessive reliance on China for supplies." The US Trade Representative Robert Lighthizer wrote that "businesses have been rethinking the way that overextended, overseas supply lines expose them to unacceptable risk" [7]. There is no doubt that countries will have to minimize risks associated with reliance on 'a particular producer or a particular geographic location' [6]. As a result, more changes in GVCs will come in the next five years [8]. World is moving to a new model entirely shaped by competing forces ranging from US-China trade tensions to COVID-19 and others.

Changes caused by the COVID-19 pandemic will result in a very different supply chain landscape that is impacted as much by specific sector issues, geopolitics, sustainability concerns and the desire to bring essential production onshore as it is by labor costs and tax incentives. Expected shifts will be both significant and, in many cases, long-term. The decade to 2030 is likely to be a decade of profound transformation for international production [9].

KOREA'S PLACE IN GVCs

Countries participate in GVCs in different ways, some are more engaged in simple manufacturing production chains, whereas others export commodities or raw materials for further processing or produce innovative services that are being increasingly traded and embodied in manufactured good [10]. Korea is the country that

belongs to the later group. Over last 20 years, Korea has evolved as an important player in complex global value chains, producing innovative goods and services used by other regional economies to make final goods. Its contribution to the expansion of GVCs worldwide was predominantly through a combination of two factors: an increase in its share of world trade and GVC intensification [10, p. 26]. Today, Korea's role is defined by its place as a regional hub that sources out various intermediate products to China and other countries for the final production or assembly.

The following data illustrate Korea's essential part in the international production network. Its GVC participation index is higher than average for both developed and developing countries: 51.7% versus 41.4% both for developed and developing countries [11]. The WTO estimates that Korea's share of the foreign value added in exports of computer and electronic products and chemical stands at over 35%, in automobile sector it is more than 27% [11]. Services, that make up an essential part of value chains, add more than 30% of Korea's export value added, of which 22% are domestic services and 12% are foreign services. These numbers characterize Korea as one of the most active participants of Global Value Chains. From this point of view, China's significance for Korea is very high because China is the largest foreign services provider to Korea in terms of exports of manufacturers.

To elaborate on the issue further, a few examples about Korea's role in the ICT sector networks and links to China will be relevant. Korea is a major supplier of inputs to China in traditional ICT networks. And China serves as a key link in Korea's access to American and European markets. In addition to China, Korea has built extended links with other countries like Slovakia or Vietnam that play a role of complementary access point to European and the US consumers. The integration of China, Eastern European countries, in recent years Vietnam and South-East Asian countries into the global economy created huge new product and labor markets. This allowed Korean firms to expand their output and access cheap labor facilitating their relocation of production facilities across the world [11].

Close production links with China through global value chains and risks they represent for Korea's manufacturing and their ability to fulfill their obligations as responsible actors of value chains has spurred discussion inside a country on strategies to mitigate those risks. Naturally, diversification of production links away from China has come into focus. In the following sections, the paper will look whether there are signs of divergence from China.

KOREAN FOREIGN TRADE DURING THE FIRST PHASE OF COVID-19

Korea publishes very detailed data on trade and statistics for the first half of 2020 has been released that provides a snapshot of the effect of the coronavirus pandemic. First, let's consider an overall effect on trade balance by looking at export and import flows. COVID-19 pandemic had a similar effect on both exports and imports. For 7 months of 2020 Korean export contracted 10.6% and import fell by 9.5% (see *Table 1*). If they decline by a similar percentage it means that export goes down more in the US dollar terms because it makes up a bigger share of Korea's economy. As *Table 1* shows, the decline was strongest in April and May with rates for exports falling to minus 25.6% and minus 23.8% and for imports to minus 15.8% and minus 21.0% respectively.

If export declines more this directs to the fact that recession in some of Korea's trading partners was more serious than in Korea itself. Indeed, if GDP rates for the first half of the year are compared, Korean economy did better during first two quarters of 2020 than other OECD countries and the overall contraction for 2020 is expected to be smaller than in other countries. For example, in Korea it will be somewhere between 2-3% while in Japan 6-7%, in Germany 6-7% and France around 12% [13]. Because recessions were worse in other countries, so the compression of export was greater than decline in imports.

Table 1. Korean export and import in January-July 2020, value (\$US) and growth rate (%)

	Export Value	Growth rate, %	Import Value	Growth rate, %
January	43110611,00	-6.6	42737862,00	-5.3
February	40920095,00	3.6	37019905,00	1,00
March	46216741,00	-1.7	41845893,00	-0.3
April	36303992,00	-25.6	37912177,00	-15.8
May	34845742,00	-23.8	34459992,00	-21,00
June	39233902,00	-10.8	35613225,00	-11.2
July	42827385,00	-7.1	38693491,00	-11.6
Total	283 458 469	-10.6	268 282 544	-9.5

Source: created by author from: [12].

Positive trade balance has been a salient feature of the Korean economy for the past several decades and maintaining it is one of the main objectives of the Korean government's trade policy. As of July 2020, since the beginning of the year trade surplus declined by 27% compared to the same period in 2019 but overall remained positive and quite large. It went down from \$20.9 bln for 7 months of 2019 to \$15.2 bln for 7 months of 2020. There was a moment in April when trade balance turned negative (the trade balance for April was minus \$1.6 bln) as export were declining faster than imports but it quickly rebounded back already in May as the pace imports contraction accelerated (see *Table 1*).

Sharp import contraction by 21% in May indicates that economic slowdown started in Korea economy as well. With industrial production decreasing due to partial quarantines and temporary factory closures dropped the demand for inputs. Another important factor has been lower prices for oil. Korea is a net importer of energy and oil and natural gas make up a considerable part of its spending.

Overall, Korea's import of oil and natural gas in US dollars were down 35.5% and 12.6% respectively in 2020. However, contrary to the expectation that lower energy prices are good for Korea, it poses certain risks for industries that use oil in their production cycles. Oil refinery is a strong industry in Korea, which is one of the major producers of various plastics and other materials that go into production of consumer and industrial goods. Lower prices for oil would mean that Korean producers will have to lower prices for their products and export numbers will be affected. In fact, decline in exports of various petroleum products experienced a more pronounced decline contracting by 37.7% in USD terms over 7 months of 2020 [12].

Looking at the nuanced data for Korea's export during the first seven months of 2020, one can say that a 10.6%-decline in exports is spread unevenly across product categories. For example, among 7 major export categories, the biggest decline was observed in oil-based products, car industry was the second hardest hit industry. Export of automobiles and parts and components for them declined 23.9% and 28.3% respectively. Export of steel was down 19.5% and export of ships by 7.9%. Semiconductor industry has had a smaller negative impact, its export fell just 0.3%. These results are somewhat predictable. People were driving less during the pandemic and holding off big purchases like automobiles, so export has contracted. On the other hand, modest decrease in semiconductor industry reflects that Asia, the primary destination for these exports, was recovering quicker from the contraction than the rest of the world.

Korea is essentially a diversified industrial exporter and many sectors were hit due to a sharp demand contraction in overseas markets, but some industries have found a momentum for growth. According to the data from Industrial Statistics Analytical System that publishes very detailed information on the performance of Korean industry, pharmaceutical sector enjoyed a remarkable growth.

Table 2. Growth of Korea's exports of some product categories in 2020, %

	Jan.20	Feb.20	Mar.20	Apr.20	May.20	Jun.20	Jul.20	Q1*	Q2*
Farmaceuticals	62.84	29.31	41.76	14.35	84.15	50.75	65.62	43.36	46.20
Home appliances	74.51	119.76	121.3	97.71	83.57	89.75	73.41	104.8	89.94
Fine chemicals	-8.09	12	22.05	17.09	9.24	25.20	19.31	8.95	16.89
Manufacturing total	-6.61	3.64	-1.77	-25.62	-23.75	-10.82	-7	-1.85	-20.30

* Q1 and Q2 stands for quarter 1 of 2020 and quarter 2 of 2020. *Source:* created by author from: [14].

As shown in *Table 2*, in the first and second quarters of 2020 its export grew by 43.36% and 46.20% respectively compared to last year 11.89% and 7.42% respectively.

Exports of fine chemicals grew by 8.95% in the first quarter of 2020 and 16.89% in the second quarter. This is somewhat natural given that they are used as starting materials for pharmaceuticals and biopharmaceuticals. Home appliances was another big export item during first two quarters of 2020, recording 104.79% and 89.94% growth. Under quarantine people stayed home and needed more machines to occupy themselves. So, the major point there is a tremendous variation across different product categories in response to COVID-19.

Let's see the other side of the balance sheet and look at how industrial imports have been affected. Compression of Korean imports have been only slightly smaller compared to exports. It happened during the second quarter of 2020. But the compression tends to be concentrated in some specific areas.

As was mentioned earlier, imports of crude oils have contracted: people are driving a lot less, they use their cars less. Another indirect confirmation of a decreased traffic volume serves the number of car accidents. According to the data for the first six month of 2020, there were 10% less people who died as a result of the car accidents [15]. So, Korea was using less oil plus the price went down quite a lot. Because Korea's spending on oil

fell it helped to keep the overall trade balance positive. Also, it was natural to observe steel imports to decrease because sectors like auto-manufacturing and ship building needed less inputs.

Other categories that saw a contraction of imports were LCD displays (-21% in Q1 and -23% in Q2), aircrafts (-22% in Q1 and -34.5% in Q2), steel (-21% in Q1 and -28% in Q2), various industrial machinery (-6.7% in Q1 and -10.653% in Q2) [13]. This is a good indication of the whole market. People were holding on purchase of things like displays probably reluctant to go to retailers and worried about their incomes. Also, demand for clothes and shoes drove import down. Because at home consumers did not need clothes as much as they would under normal circumstances, it influenced the overall import statistics.

But on the other side, Korean imports of communication equipment like cell phones, pharmaceutical remained steady. Import of computers picked up in the second quarter reflecting Asia's recovery. Import of cars held steady at 5.99% in the second quarter although a bit lower than same period last year when it was 15.34%. This is an indication that domestic market was not affected as much by the pandemic. So, this kind of crisis created some opportunities for particular industries but serious problems for some others.

Effect of COVID-19 on trade with partners has been uneven. Korea exports a lot to China and countries like Vietnam and Malaysia where its companies have production facilities. China, the US, Vietnam, are Korea's three biggest trade partners. Export to them fell by 5.1%, 4.3%, 7.2% respectively which is quite modest compared to other countries. For example, export to India and Singapore went down by 34.5% and 20.2%, export to Australia fell by 31.1% [12].

Among 20 major trade partners, only Malaysia, Germany and Turkey remained positive with growth rate of 8.6%, 1.8% and 2% respectively. In case of Germany, increase was mainly due to strong demand for medical goods. Korean exports of products under category 30 according to HS 2-digit classification grew 268% for 7 months of 2020 [12]. Items with positive rate exported to Malaysia during first 7 months of 2020 were ships, electrical machinery and rubber, other industrial inputs like steel, plastics etc. were down up to 40% and more in some cases.

On the import side, contraction in China and the US was quite modest, import from Vietnam grew slightly by 0.3%. Import from Singapore and Germany were also positive recording 27% and 4.9% increase respectively. Again, in case of Germany, imports of premium cars remained positive at 17.6%, as well as various machinery and chemical products. Overall, import data are better than export data, this reflects that Korean economy avoided a deep recession.

US-CHINA TRADE WAR AND RESTRUCTURING OF VALUE CHAINS

One of the themes that defined discussion about trade during the pandemic has been restructuring of value chains. Resilience and bringing value chains closer to home in order to avoid disruptions has been one of the major themes. Additional pressures for Korea are presented by the US-China trade war: China is the biggest trading partner but with the US Korea shares both economic interests and strategic goals.

As discussed above, there are different types of value chains in which Korea participates. One type is represented by manufacturing capacity that moved to China to take advantage of lower labor costs in order to export from China. The other type of value chains was built by companies that moved to China in order to sell to local market. These companies assemble in China and sell into Chinese market. As Chinese market is starting to grow again after the pandemic it is unlikely that companies oriented to Chinese market will be moving out of China. For them, US sanctions do not present high risks because their products are not aimed for the US market. Companies that do their final assembly in China and then export to the US represent a different story.

Close production links between Korea and China can be demonstrated the following data. In 2019 Korea exported to China 77.4% of various inputs and imported 61.6%, among exported inputs more than 40% was accounted by parts and components. This a high rate of dependence. Electronic industry is particularly exhibited to China. According to KITA [12], in 2019 48.8% of exports of semiconductors was accounted by China.

Looking at statistics for trade in electronic components during first seven month of 2020 and putting it into the context of trade pattern observed in recent years is one way to understand re-shaping of value chains. Given their central role in industrial links between the two countries changes in trade pattern will be reflective of restructuring in those value chains that are oriented to exporting outside china. Since 2001 and till 2019, export of electronic components from Korea to China were growing quite rapidly with exception of 2001, 2011 and 2016 (see *Figure 1*). But since 2019 and till July 2020 we see a continuous declining trend in the volume of Korean export to China (see *Figure 2*). Korea was shipping less inputs to China for final assembly. In 2019 export of electronic components fell to the level of 2013 and will be even lower at the end of 2020.

A similar picture is found in import: since June 2019 inflow of electronic components from china to Korea started to slowdown. In the last quarter of 2019 imports contracted almost 23% [13]. So, in the pandemic we can observe changes in Korea's trade with China trade that started before.

It is curious to see that at the same time trade in electronic components between Korea and Malaysia showed a sustained growth in recent years. Of course, the total volume is still below trade volume with China, but the overall trend is positive and remained positive during COVID-19 pandemic. In addition, Korean companies see opportunities from Vietnam-EU FTA for deeper cooperation with Vietnam. In recent year trade in electronic component with Vietnam was growing (see Figure 2). There was a sharp contraction in April but in June growth rated returned to positive numbers.

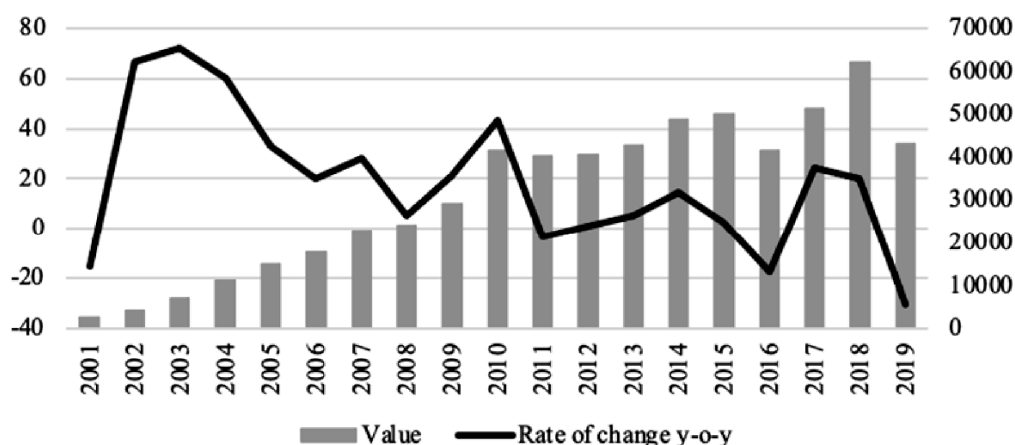


Figure 1. Export of electronic components to China, value (\$US) and growth rates (%), 2001-2019.

Source: author calculation based on: [14].

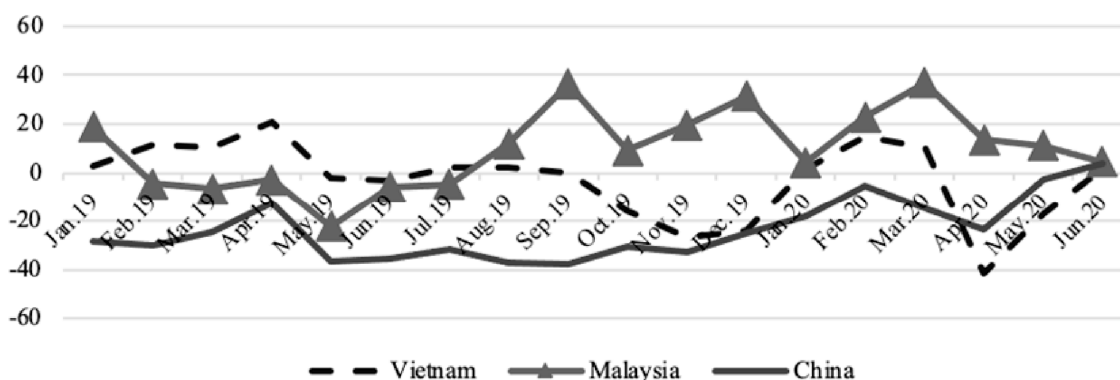


Figure 2. Rate of growth of export of electronic components from Korea to China, Vietnam and Malaysia in Jan 2019 - June 2020, %. Source: author calculation based on: [14].

Another way to look at the value chains is through data on investment. China was an important destination for Korea's OFDI as manufacturing sector was actively expanding its production capacity along with distribution network in different geographical locations. In 2019, Korea's overall OFDI increased 14% reaching a record number for the country [16]. Korean business invested into Asia \$19.98 bln, or 73.1% of the total OFDI in that year, reflecting a sustained interest in the region and opportunities it can provide (see Table 3).

The highest increase 86% was to Singapore. It comes on the backdrop of investment to Hong Kong following mass protests and uncertainty about the future of the autonomous region complicated by its exclusion from the special treatment by the US Administration. As Hong Kong status of a key access point to the western market diminished, Korean companies invested into Singapore that provides well-developed infrastructure in terms of transportation and financial logistics.

Investment to Japan has dropped 8.4%. But as a matter of fact, Korean investment to Japan has always been much lower than the amount Korean companies sent to China, Vietnam or Singapore since 2015 [16]. Interestingly, despite sluggish export, OFDI to China were up 20.7% and reached a record volume of \$5.7 bln or double their value in 2015. Manufacturing sector was the driving force of Korean OFDI to China. In 2019 Korean companies invested into China's production sphere 22.8% more than the 2018. In Asia, Vietnam has been another important recipient of Korean capital. Worldwide, Korean companies were investing more to the US, investment grew 176%.

Results for the first quarter of 2020 capture a massive decrease of OFDI to all major recipients with the only exception of India and Indonesia. Investment to Singapore 20%, China 56%, Vietnam 16%, Hong Kong were down

20%, 56%, 16% and 74% respectively (see *Table 3*). With the exception of Hong Kong, much of the decrease was accounted for by low economic and production activity during lockdowns. Manufacturing OFDI to Indonesia were up almost \$150 (see *Table 3*). So, COVID-19 pandemic has seemingly reinforced a diversification trend by diverting attention to new destinations like India and Indonesia.

Table 3. Korean OFDI to Asian countries, 2020, \$ mln

Country	2017	2018	2019	2019 Q1	2020 Q1	Change Q1 2019/Q1 2020
1. Korean OFDI to Asian countries, 2020, \$ mln						
China	3,213	4,801	5,794	1,693	743	-56.1%
Vietnam	1,985	3,323	4,473	944	793	-16.0%
Singapore	1,063	1,627	3,026	1,076	856	-20.4%
Hong Kong	3,360	3,619	2,755	752	195	-74.1%
India	516	1,072	447	73	251	244.6%
Indonesia	677	603	963	224	230	2.7%
Asia Total	13,359	17,525	19,978	5,275	3,561	-32.5%
2. Manufacturing OFDI 2020, \$ mln						
China	2,406	4,404	5,406	1,648	637	-61.4%
Vietnam	1,408	2,057	2,550	626	545	-13.0%
USA	1,079	1,495	4,134	1,474	348	-76.4%
Indonesia	200	200	466	72	181	149.6%
Total	8,850	16,121	18,335	5,819	2,596	-55.4%

Source: author calculation based on: [16].

So, from the emerging investment pattern several things come to light. Korean companies are not withdrawing their investment from China massively just yet. Recently, there was an uptick in how much volume companies invested to China's manufacturing market. This could mean that China remains lucrative as far as it remains one of the few places in the world with positive economic growth. But at the same time, there are signs that Korean companies take notice of various restrictions on sourcing components from China and start to diversify their manufacturing base first of all by increasing outreach to Vietnam, Malaysia. There is a clear move out of Hong Kong.

If a short answer was to be given whether there is a massive re-structuring of the value chains in terms of lessening dependence on China, it would be negative. First of all, it is not easy to stop all production in China and move it out of the country simply because of China's huge place and expertise as a manufacturer of hyper-specialized products that make up a specific feature of value chains. China is the only country that can produce in all 666 sub-categories (based on the United Nations classification) in the manufacturing sector.

Secondly, it would take several years to completely substitute Chinese companies. But this is not desirable, and business-wise may not be logical given the potential of China's internal market. Also, this would contradict to the diversification logic. As Miroudot [5] points out "firms that have diversified suppliers and a production network across different countries can adjust their production when a disaster occurs in one place". To put it differently, supply chains are the way they are today for very good reasons. Sourcing internationally, including China, creates flexibilities and resilience.

But there are small shifts in some Korean value chains out of China to lower wage countries mostly in south East Asia - Vietnam and Malaysia and Indonesia. A real-life example of this move is Samsung. At the beginning of August Samsung announced closure of its largest foreign laptop plant in China. This is a signal that those Korean companies that have their consumer base in the US and Europe, like Samsung does, will have to adapt to new realities.

It is highly likely that Korean companies will consider a "China+1", or in other words a two-track strategy. In essence the two-track strategy implies that there will be a division whether the value-added produced in Korea will be consumed in China or in third countries. In the first case, production facilities will be kept in China, in the second case, there will be a continuing trend towards diversification. The amount of production that can be affected by the need to diversify can be somewhere between 20-30%. This is a share of products that was exported by Korean companies from China after final assembly to the rest of the world. Another important aspect that needs to be mentioned is the future of R&D centers that Korean companies established in China. Recent measures introduced by the US Administration make them consider moving some research activity to countries like India.

CONCLUSIONS

To sum up, COVID-19 pandemic has caused serious disruption in trade for Korea whose economic dynamism is highly reliant on foreign markets. But there were some opportunities for growth that the country could use. Amidst signs of recovery there is a visible trend towards diversification of certain value chains. Korean tech companies are re-locating some parts of their production facilities from China to South East Asia. This is done as a precautionary measure in order to keep access to the US and EU markets in the wake of growing tensions between the US and China and partial economic decoupling. The re-location trend will likely to continue with countries like Vietnam, Malaysia and India becoming important manufacturing places for Korean corporations. But this will not lead to Korean companies leaving China completely, they will likely to continue cooperation with China in sectors that are oriented towards China's domestic market.

There are many unknown factors that can additionally impact future of GVCs. Slow progress of trade liberalization, rising protectionism and economic and geopolitical confrontations cannot be predicted now. Depending on how these factors will play out, Korea's role in global GVCs can transform at even greater degree in the coming years.

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