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# Global Value Chains and Investment: Changing Dynamics in Asia

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# EXECUTIVE SUMMARY

World trade and production are increasingly structured around global value chains (GVCs). The emergence of GVCs during the last two decades has implications in many policy areas, starting with trade, investment, and industrial development.

The East and Southeast Asia region has been performing the role of 'factory of the world' for more than two decades. In 2019, East and Southeast Asia accounted for 18.4% of the global inward foreign direct investment (FDI) stock, concentrated at the country level, with China, Hong Kong, and Singapore each accounting for just over 25% of the regional total. Some small economies stand out as having very high rates of growth in inward FDI, such as Cambodia, the Lao People's Democratic Republic (Lao PDR), and Mongolia.

FDI data disaggregated both by country and by source are not easily made available and have several degrees of confidentiality. However, investments by the United States (US) in Southeast and East Asia reveal that investments are mainly in manufacturing, services, and mining. FDI data for manufacturing are not easily obtainable, but chemicals and computers stand out as two sectors that are relatively important in all countries as they are regarded as classic GVC sectors – attracting higher investments.

GVCs are becoming increasingly important in the services sectors, although they are still less developed than in manufacturing. FDI in services also shows considerable heterogeneity across countries. Finance stands out in the higher-income countries as having a large share of the total FDI, although this is influenced by macroeconomic forces and tax and regulatory laws for holding companies.

FDI in the wholesale sector could be linked to GVC activity too. Distribution itself is a GVC sector in terms of logistics.

Inward FDI is overwhelmingly concentrated in larger firms in all countries for which data are available. While the proportions of small firms receiving inward FDI differ across countries, from an equity and inclusion point of view, it is important to be aware of the concentration of inward FDI on larger firms in the region, as well as the challenges that can pose for smaller firms.

The period following the global financial crisis has seen slower growth of trade relative to gross domestic product (GDP), and while GVC integration has continued to increase, it has done so more slowly than in the previous period. It is still too early to say to what extent GVC integration has been affected by the coronavirus disease (COVID-19) pandemic as rigorous data will only come out with a delay of some years.

Value chains are relatively robust to unexpected changes in trade costs. While the economic shocks related to COVID-19 are indeed severe, the implications of the pandemic are more macroeconomic in nature, with some difference across sectors. The incentive to source goods locally versus using foreign suppliers has not been fundamentally altered.

East and Southeast Asia are particularly well placed to take advantage of improved global demand later in 2021, given that these countries have generally managed the pandemic response very well.

The policy risk in some countries related to the debate over reshoring and the change in production locations may be low. A more likely scenario is targeted interventions in sectors that have assumed particular importance during the pandemic, such as health-related goods and vaccines.

In developing policy responses to the COVID-19 pandemic, policymakers must recognise the unique nature of the shock: it hit all countries at essentially the same time, and had broadly similar effects in each of them, at least in its early stages.

In this context, trade and investment policies require special review, as they determine the ability of firms to contest foreign markets or to source intermediate inputs from foreign suppliers. In the GVC context, trade facilitation can increase backward and forward linkages. Similarly, restrictions on FDI can impair backward GVC participation.

More domestically focused supply chains may not be the right approach to post-COVID-19 GVCs, as purely domestic supply chains mean that if a shock hits the local economy, there is no shock absorber, and the result is increased volatility. However, supply chain resilience is important for the production of public goods and necessities from a public health or safety perspective. Any policy intervention will need to balance the efficiency advantages of GVC production against any possible social objectives that are not fulfilled.

The bigger risk to economies in East and Southeast Asia is that recovery in the large, high-income markets of Europe and the US is slower than expected. Moreover, non-tariff measures in general have become more important determinants of market conditions. GVC development in East and Southeast Asia rests on a stable foundation of trade and investment links. Macro-level risks are relatively low, but at a micro level continued efforts in many countries to use non-traditional trade policies to introduce *de facto* discrimination against international suppliers may be a challenge ahead. GVC development in the region will not return to the rapid pace of integration seen in the early 2000s, at least in the short term.

The major potential change in conditions facing GVCs is the rise of the digital economy, environmental products, electric vehicles, or goods suited for increasingly carbon-neutral societies. Recovery programmes in the high-income markets will favour this shift through incentives and other measures. East and Southeast Asia is well positioned to take advantage of these opportunities, with some important incentives of retooling. Keeping markets relatively open, an effective supplier network, and integrated GVCs could be an important advantage for Southeast and East Asia in developing the GVCs of the future.

# CHAPTER 1

# INTRODUCTION

World trade and production are increasingly structured around global value chains (GVCs). Typically, a value chain includes the following activities: design, production, marketing, distribution, and support to the final consumer. These activities can be performed within the same firm or divided amongst different firms (De Backer and Miroudot, 2013). The fact that they are increasingly spread over several countries explains why the value chain is regarded as 'global' or 'regional'.

The emergence of GVCs during the last two decades has implications in many policy areas, starting with trade, investment, and industrial development. Open trade and investment policies, greater access to resources and markets, reductions in transportation costs, and the information technology revolution have dramatically altered the world economy, resulting in increasing fragmentation of world production patterns into GVCs. World merchandise trade increased by 10% in value to $19.48 trillion in 2018 (WTO, 2019). However, trade grew by just 2.6% in 2019 as it was weighed down by several factors, including new tariffs and retaliatory measures affecting widely traded goods, weaker global economic growth, volatility in financial markets, and tighter monetary conditions in developed countries, amongst others.

The global investment scenario in 2019 was also tepid. Global and regional foreign direct investment (FDI) trends were contracting, and investment policies were gearing towards greater regulatory checks. In 2018, global flows of FDI fell by 13%, to $1.3 trillion. This was the lowest level since the global financial crisis and underlines the lack of growth in international investment in this decade (UNCTAD, 2019).

These lukewarm trends in global trade and investment have further resonance on the dynamics of GVCs in terms of customers, suppliers, location, and government policies towards investments in new production centres. Economies have become more interconnected and increasingly specialised in specific activities and stages of value chains, rather than in whole industries – trading large volumes of intermediate goods and services. Since 1995, trade in intermediate goods has contributed more to the growth in total manufacturing trade than trade in final goods, contributing a little more than half to its growth in 2009–2018 (World Bank, 2018).

At present, GVCs account for 84% of the international production networks of multinational corporations and represent a dominant feature of world trade and investment. Through GVCs, countries trade more than just products. They also exchange know-how and technology, which flow internationally from one firm to another in the different stages of production. Since GVCs function around a regional hub, they can be shaped by the level and geographical location of investments. While GVCs tend to be regional in Europe, Asia, and North America, the situation is different in Africa, where most of the domestic value added is exported outside Africa.

## 1. GVCs and Investments in Asia

The East and Southeast Asia region has been performing the role of 'factory of the world' for more than two decades. China surpassed Germany in 2011 to become the largest exporter of merchandise to the rest of the world. China was also the largest recipient of FDI in manufacturing until 2018, although the level of investment in South Asia, Africa, and Central Europe has gradually increased (UNCTAD, 2019). China is graduating from low-skilled manufacturing and moving up the ladder in the value chain of production. Some other important Southeast Asian economies, such as Thailand, Singapore, the Philippines, and Viet Nam, are also moving upward in the value chain in some sectors. These economies are also attracting increased investment in manufacturing and jobs which utilise automation, robotics, and artificial intelligence for manufacturing and related activities. East and Southeast Asia's multidimensional approach to industrialisation, which included facilitative regulatory frameworks and integration in the GVCs, made it an automatic choice for foreign investment in the manufacturing sector from across the world. The sophisticated production networks and continued investment made East and Southeast Asia, especially China, the global supplier of parts and components and finished goods. Years of research and development, coupled with timely financial and policy support from its government, have made China the preferred supplier of parts and components as well as finished goods to manufacturers and consumers in the rest of the world.

It is no surprise that Asia has been the largest recipient of global investment in the past decade and a half. Within Asia, China, Hong Kong, Singapore, and India are the top recipients.

## 2. Structural Changes in GVCs

The coronavirus disease (COVID-19) pandemic, which originated in China at the beginning of 2020, has created an unprecedented crisis for both the developed and developing world. What started as disruption and, in some cases, a temporary breakdown in the supply chain of goods and services due to the closure of factories in China has become a test for the endurance of GVCs. Factory production in Germany, France, and parts of the US came to a spluttering halt as the supply of parts and components was disrupted at one end – China. From the manufacturing of automobiles to the supply of essential items such as face masks and protective equipment, all stood disrupted.

Even though Europe, North America, Africa, and Asia are still in the grip of the pandemic, the current deadlock in the global economy has brought about a discourse amongst policymakers and businesses on the diversification of investments and the restructuring of supply chains. While much of the governments' attention is focused on saving lives, vaccinations, and saving livelihoods, short- and medium-term plans for the revival of the economy are already being put in place. The US, the European Union, the United Kingdom, India, China, Japan, and other major economies have announced multi-trillion-dollar aid for the revival of economic activities and the provision of support to small businesses and families. Multilateral development banks such as the World Bank, the International Monetary Fund, the Asian Development Bank, and the Asian Infrastructure Investment Bank have also come forward to support the developing economies.

There is a case for examining the performance of GVCs and investments in manufacturing to establish structural and geographical changes in GVCs, in which new centres of production and the consolidation of supply chains may emerge in Asia, Africa, and Europe. Important evidence of change

in GVCs and investment patterns, both geographically and industry-wise, has started to emerge in Asia in the past few years. Some of the important features are the following:

- GVC integration has been declining since the global financial crisis.
- China has become increasingly vertically integrated, resulting in companies in Asia moving supply chains to Southeast Asia.
- The diversification began much before the pandemic-induced breakdown/disruption in supply chains.
- Asian countries' value chain participation with China has declined, except for Bangladesh, Singapore, and Viet Nam, which are driven by China's vertical integration.
- The current pandemic-led disruptions in supply chains may create an additional incentive for investment in new centres of production and shortening (of distance and number – or consolidation) of supply chains.
- Europe's dependency on the supply of intermediate goods from China may continue, but sectoral dependencies in environmental goods, batteries for electric cars, etc. may decrease.

The following sections examine the changing dynamics and emerging trends in the GVCs in East and Southeast Asia, with a special note on Asia's participation in the GVCs of the digital economy.

# CHAPTER 2

# GVCS AND INVESTMENT IN ASIA: CHANGING DYNAMICS AND EMERGING TRENDS

This section provides an overview of trade and investment in East and Southeast Asia from a GVC perspective. It focuses on presenting the data in such a way as to create a baseline for analysis. That baseline serves as a point of departure for considering possible changes in the future, in light of the COVID-19 pandemic, as well as other economic and social changes.

## 1. Current State of Play: GVC Integration in East and Southeast Asia

The fragmentation of production across borders that is implied by the GVC business model, and in particular the large-scale flow of intermediate goods and services, means that traditional trade data are inadequate to describe the phenomenon properly.[1] Standard trade data, whether for goods or services, are measured on a gross shipments basis. In other words, a cellular phone with an import value of $500 is recorded as an import of that value, even though its component parts and embodied services have travelled across borders numerous times during the production process, and have also been counted independently in trade statistics. With fragmented production, gross shipments trade statistics tend to overstate the value of trade significantly, and are incompatible with the system of national accounts, which operates on a value-added basis.

A second limitation of standard gross shipments trade data is that they do not identify the sources of value added, whether goods or services, embodied in final output and exports. But from a GVC standpoint, this question is of great importance, as it enables analysts to map GVCs both geographically and in the product (service) space. With this in mind, applied international trade researchers have developed a variety of techniques to examine the nature and extent of GVCs in goods and services sectors alike.

The value-added approach to analysing trade data manipulates the information in a multi-region input–output table to decompose trade in gross value terms into various elements of interest from a value-added perspective. Building on previous contributions by Johnson and Noguera (2012) and Koopman, Wang, and Wei (2014), current best practice methodology due to Wang, Wei, and Zhu (2013) identifies eight major elements – grouped into three large aggregates – into which exports can be decomposed, and which are consistent at the country pair–sector level.

The Wang, Wei, and Zhu (2013) decomposition breaks down gross exports into three main aggregates from a value-added perspective (Box 1). The first, domestic value added (DVA), refers to the portion of value added in gross exports that originates within the territory of the exporting country. The second, foreign value added (FVA), refers to the portion of value added in gross exports that originates within the territory of other countries and is incorporated as intermediate inputs. The final element,

[1] This section is adapted from Shepherd (2020a) and (2020b).

pure double counting (PDC), refers to movements of goods and services across international borders during production that are counted more than once.

**Box 1: Decomposition of Gross Exports Following Wang, Wei, and Zhu (2013)**

The categories identified in the main text may be broken down further as follows:

- Domestic value added (DVA) absorbed abroad through final goods and services exports, intermediate exports absorbed by the direct importer, and intermediates sent to a first importer and then re-exported to a third country, as well as DVA first exported then returned home.
- Foreign value added (FVA) contained in final exports and FVA contained in intermediate exports.
- Pure double counting (PDC) from domestic sources and PDC from foreign sources.

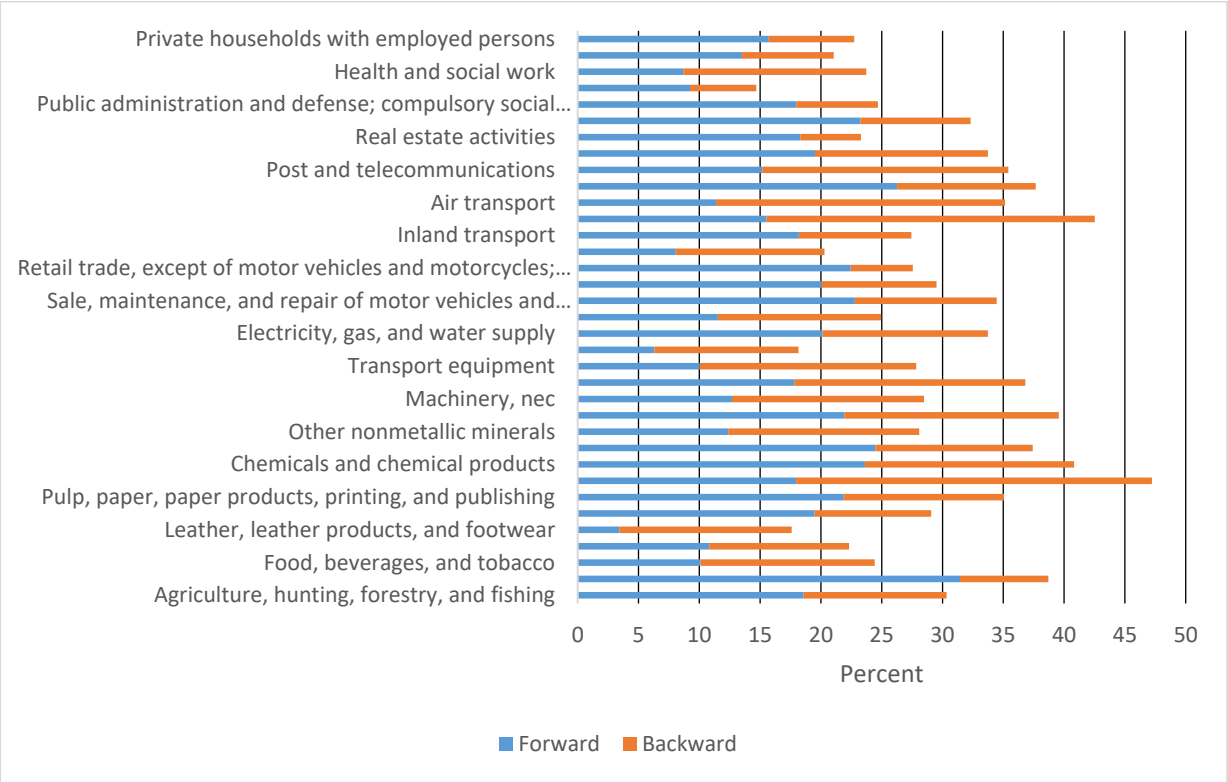
Source: Wang, Wei, and Zhu (2013).

For policy purposes, FVA as a proportion of gross exports can be understood as an indicator of GVC participation from a backward linkages perspective. If a country imports more foreign intermediates to produce its own exports, it has a higher ratio of FVA to gross exports, which indicates a higher level of GVC participation.

It can also be useful to look at the mirror image of these data – the forward linkages perspective. In the Wang, Wei, and Zhu (2013) decomposition, DVA_INTRex captures forward linkages as the proportion of a country's gross exports that are intermediates used in the production of another country's exports. In other words, this DVA is shipped abroad, where it is incorporated in other goods and services and re-exported. By the same reasoning as above, a higher proportion of forward linkages in gross exports is also indicative of greater GVC integration, as this kind of production sharing is again typical of the GVC model.

Figure 1 shows backward and forward linkages using the Wang, Wei, and Zhu (2013) methodology for East and Southeast Asia. The data are broken down by sector, using the Asian Development Bank's Multi-Region Input-Output (MRIO) database. While there is considerable variation across sectors, the general picture that emerges is one of an important contribution of GVC trade – as measured by backward and forward linkages – to the regional economy. The medium and heavy manufacturing sectors stand out as seeing high levels of integration, but so too do some services sectors, including transport, as well as mining. While the economic nature of the transactions is the same in each case – the movement of inputs across borders – the nature of the resulting GVCs can be quite different.

**Figure 1: GVC Participation by Sector – Exports of East and Southeast Asia, 2019 (percentage of gross exports)**



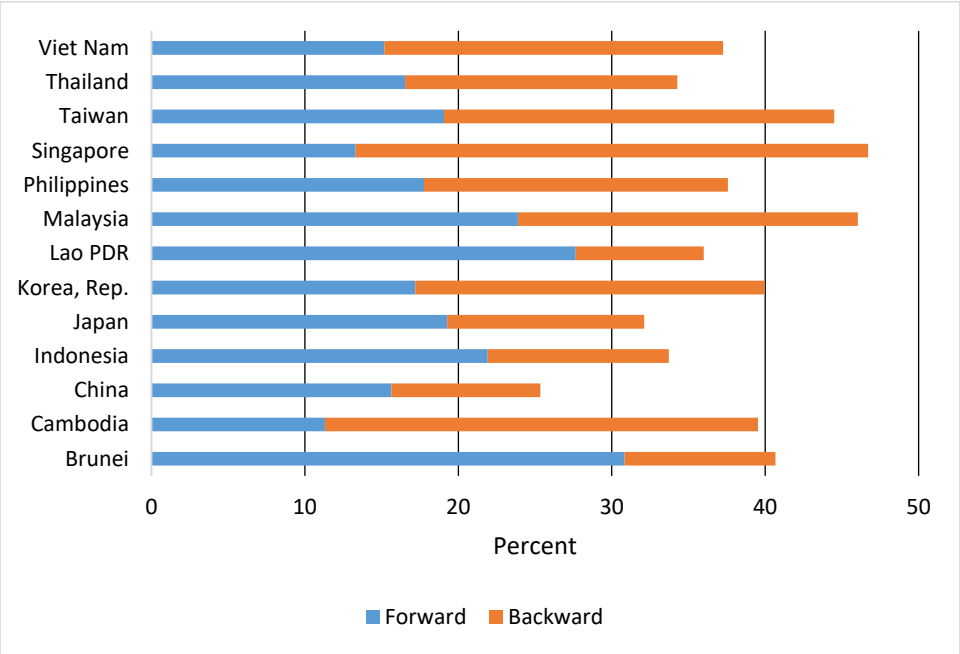

GVC = global value chain, M&Eq = machinery and equipment, nec = not elsewhere classified.
Source: ADB MRIO.

Natural resources GVCs tend to be more linear and simpler in structure than the more typical manufacturing GVCs, which split production across numerous locations. The rise of services GVCs is an important development in the regional economy, and these data indicate that, thanks to regulatory and technological changes, production sharing in some services sectors is now comparable to what is seen in some manufacturing sectors. Finally, the figure shows that the balance between backward and forward linkages differs from one sector to another, but the region is generally more reliant on backward integration rather than forward integration for its GVC participation. That is to say, there is a slight preponderance of activity relating to the foreign sourcing of inputs for a country's exports rather than subsequent use of those exports as inputs by other countries.

Figure 2 breaks the data out by country. There is again some degree of heterogeneity, due in part to different patterns of sectoral specialisation. But GVC integration is an important part of trade in all countries, accounting for at least 25% of gross exports, and frequently much more – more than 45% in some cases. There is some evidence of a preponderance of backward linkages, but it is not as strong as in Figure 1, so on an aggregate level, forward linkages tend to play a more important role.

**Figure 2: GVC Participation by Country – Exports of East and Southeast Asia, 2019**

**(percentage of gross exports)**




GVC = global value chain.
Source: ADB MRIO.

## 2. The Role of Investment

While GVCs are perhaps best known as complex networks of internationally traded goods and services, a network of investment relationships underlies them in most cases. Lead firms can adopt different strategies depending on the sector, location, and tasks being sourced. But in cases where it is desirable to exercise close control over production, for instance to ensure quality or conformity with standards, then it can be rational for a lead firm to take an investment position in a supplier firm. Such relationships are by no means the only way in which GVCs take shape, however. Arm's-length transactions amongst firms with different ownership structures are also common, but the desire to cement GVC relationships can be an additional rationale for undertaking FDI.

The policy literature (e.g. Dunning (1980)) typically distinguishes a number of different types of FDI. The first, 'market seeking' FDI, refers to the case where a lead firm establishes a local subsidiary primarily to supply the domestic market of the country where the subsidiary is located. As the name implies, this type of FDI is most common in countries with large domestic markets. In developing Asia, that primarily means China, India, and Indonesia, although some mid-sized countries also see more limited investments of this type.

The second type of FDI is 'efficiency seeking'. In this case, the lead firm invests in production facilities in another country with the aim of exploiting its comparative advantage in performing particular tasks. The objective is then typically to export the subsidiary's output rather than to sell it on the domestic market.

In addition to these two well-known motivations, investors can undertake FDI because they are seeking to acquire strategic assets held by a company overseas, such as intellectual property, networks, or technical know-how. Finally, they can also undertake FDI in order to acquire access to natural resources.

Efficiency seeking FDI is what is most commonly thought of in the context of GVCs. The paradigm is a lead firm investing in a production plant overseas in order to take advantage of, for example, low labour costs. That plant produces goods according to the lead firm's specifications, then ships them to third markets either for further transformation, or as finished goods, depending on how far downstream the firm is in the GVC.

But the other three types of FDI in the classic Dunning (1980) taxonomy are also of relevance in a GVC context. Access to natural resources, for example, can be an important motivation for upstream investments that provide particular raw materials used by downstream firms within a GVC. Similarly, where a firm abroad has specialised designs or technical know-how, its acquisition by a lead firm effectively implants it in the GVC in an upstream position, supplying design services and intellectual property to downstream firms.

While the taxonomy is well understood from a policy standpoint, the available data do not allow analysts to distinguish amongst the different motivations for an investment. They simply record the amount of the investment, not the objective of the investor. Reviewing the available data can therefore provide a rich picture of investment dynamics in countries of interest over time, with some ability to identify sectors of interest as well. But it cannot be informative as to the motivation of the investor. In a general sense, however, the objective is typically efficiency seeking for low- and middle-income countries, except for those countries that can be considered to have large domestic markets, where there may be more of a market-seeking rationale.

From the point of view of the country receiving the investment, are there any advantages to that type of GVC involvement as opposed to arm's-length transactions? On the one hand, there is clear evidence of spillovers from inward FDI, in the sense that investment tends to have productivity-enhancing effects in firms other than the one targeted (e.g. Javorcik, 2004). In addition, there is anecdotal evidence that GVCs with substantial relationship-specific investments tend to be more resilient to shocks than those based on arm's-length transactions: the existence of an investment link incentivises the lead firm to maintain GVC linkages and work to rebuild connections after a major shock (e.g. Cattaneo and Shepherd, 2014). As such, there are clearly advantages to the receiving country in welcoming FDI, beyond the obvious first-round impact on increasing employment and output within the invested firm itself.

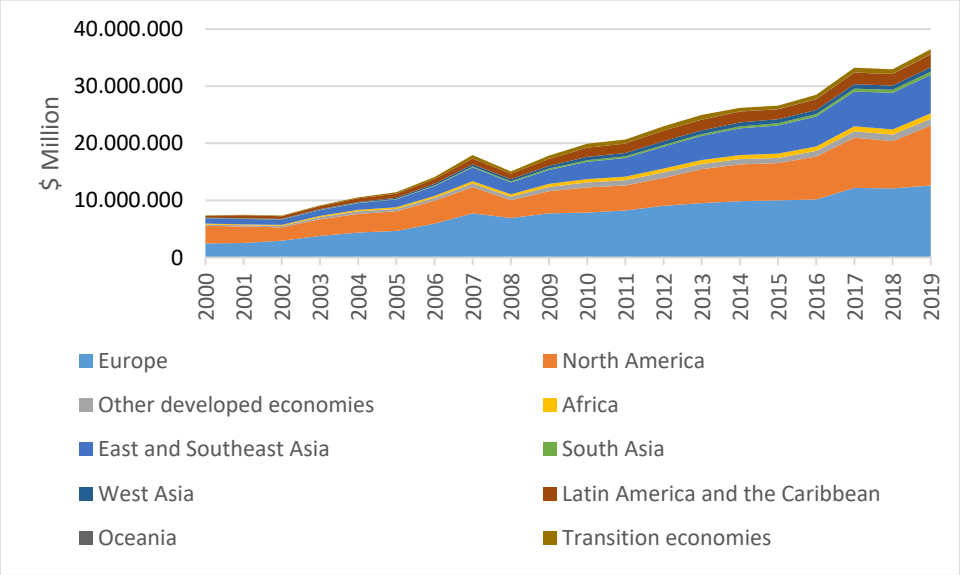
## 3. FDI Patterns in East and Southeast Asia

Figure 3 shows the United Nations Conference on Trade and Development (UNCTAD) regional data on the stock of inward FDI. As noted above, these figures aggregate all types of FDI over the four broad categories of investor motivation already mentioned. All world regions except Asia are presented at their most aggregate level. Asia is disaggregated into subregions. The figure shows that in 2019, East and Southeast Asia accounted for 18.4% of the global inward FDI stock. To provide a point of comparison, North America accounts for about 1.5 times as much inward FDI as East and Southeast Asia, while Europe is nearly double. In US dollar terms, the inward FDI stock in East and Southeast Asia

was valued at $6.7 trillion in 2019. This figure is up from just under $1 trillion in 2000. However, the region has lost share in relative terms, down from 38.8% of the global total in 2000. Rather than indicating a substantial slowdown in inward investment in Asia, however, this change instead reflects greatly increased openness to FDI in other regions, including major movements towards the integration of capital markets in Europe and North America, at the same time as substantial policy liberalisation in other developing regions.

**Figure 3: Inward FDI, Total Stock, by Region, 2000–2019**

**($ million)**

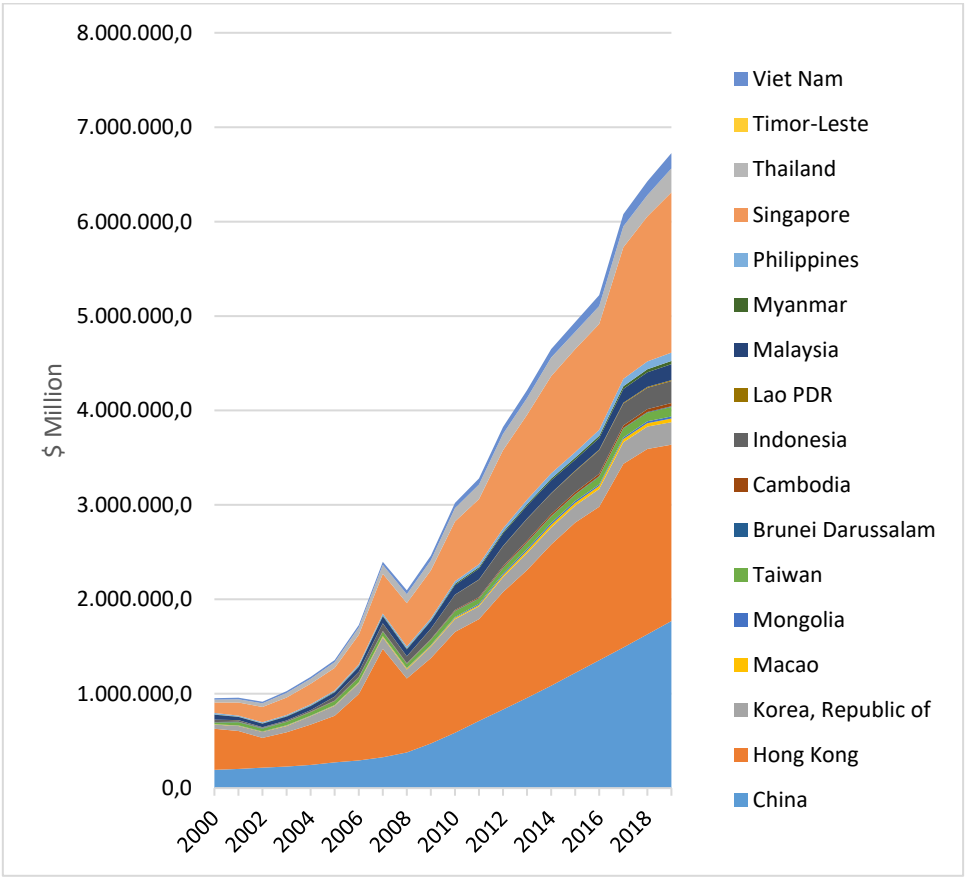



FDI = foreign direct investment.
Source: UNCTAD.

Figure 4 breaks out the data for East and Southeast Asia to show the shares of individual receiving economies. It is immediately obvious that inward FDI stocks are quite concentrated at the country level, with China, Hong Kong, and Singapore each accounting for just over 25% of the regional total. While significant growth rates are evident in other countries, their shares remain relatively small. Amongst the Association of Southeast Asian Nations (ASEAN) Member States, Thailand, Malaysia, and Indonesia have shares of the regional total of 2.5% or better; other countries are below that level. So, while inward FDI flows have been substantial in recent years, the time taken to accumulate stocks means that there is substantial hysteresis in the shares shown in Figure 3.

**Figure 4: Inward FDI, Total Stock, East and Southeast Asia, 2000–2019**

**($ million)**

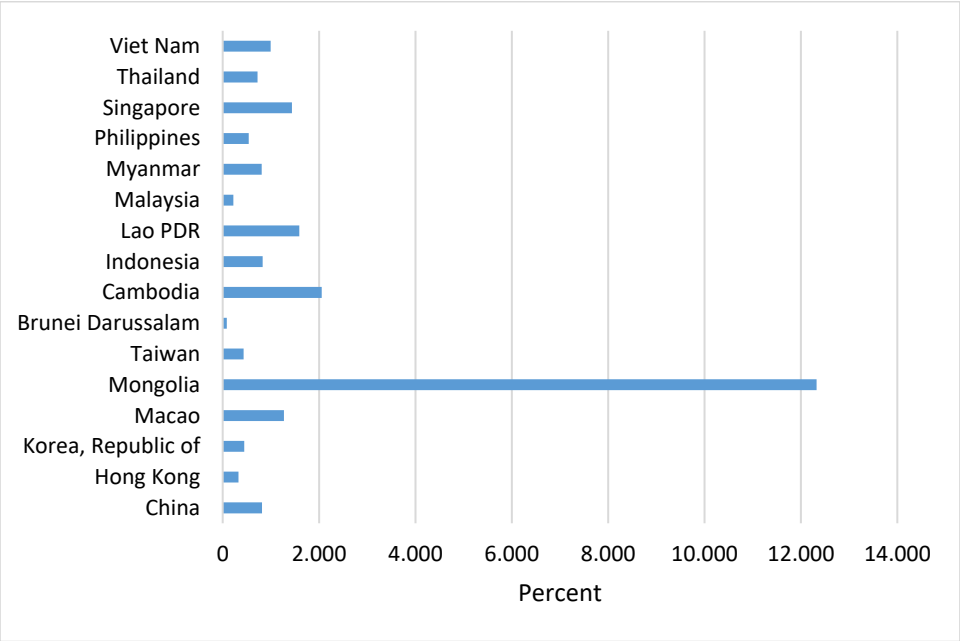



FDI = foreign direct investment, Lao PDR = Lao People's Democratic Republic.
Source: UNCTAD.

To put the data in dynamic perspective, Figure 5 shows the growth rates from 2000 to 2019. Some small economies stand out as having very high rates of growth in inward FDI, such as Mongolia, Cambodia, and the Lao People's Democratic Republic (Lao PDR). All three countries start from a low baseline and remain relatively small in aggregate terms within the region, but the growth rate is impressive, and shows that FDI stocks are growing in all countries in the region, even those that have traditionally been somewhat distant from global networks of trade and investment.

**Figure 5: Growth of Inward FDI Stock, by Country, 2000–2019**

**(%)**

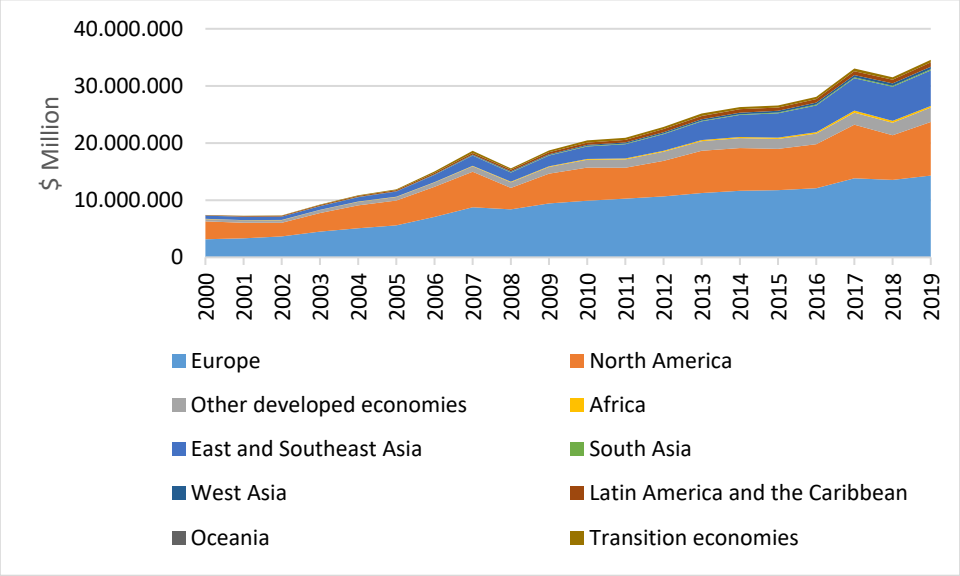



FDI = foreign direct investment, Lao PDR = Lao People's Democratic Republic.
Source: UNCTAD.

Figure 6 shows the data from the opposite perspective – outward stocks. In this case, East and Southeast Asia accounts for 18% of the global total, compared with 41% for Europe and 27% for North America. Amongst developing regions, East and Southeast Asia is far and away the leader as a source of FDI, and indeed its share in the global total has grown substantially over time: in 2000, it was only 7.8%. The contrast with the inward perspective is notable: East and Southeast Asia remains an important destination for FDI, but it has lost share in relative terms as other regions have become more integrated into the world economy; but as incomes have grown and markets have developed, the region has become much more important globally as a source of FDI.

**Figure 6: Outward FDI, Total Stock, by Region, 2000–2019**

**($ million)**

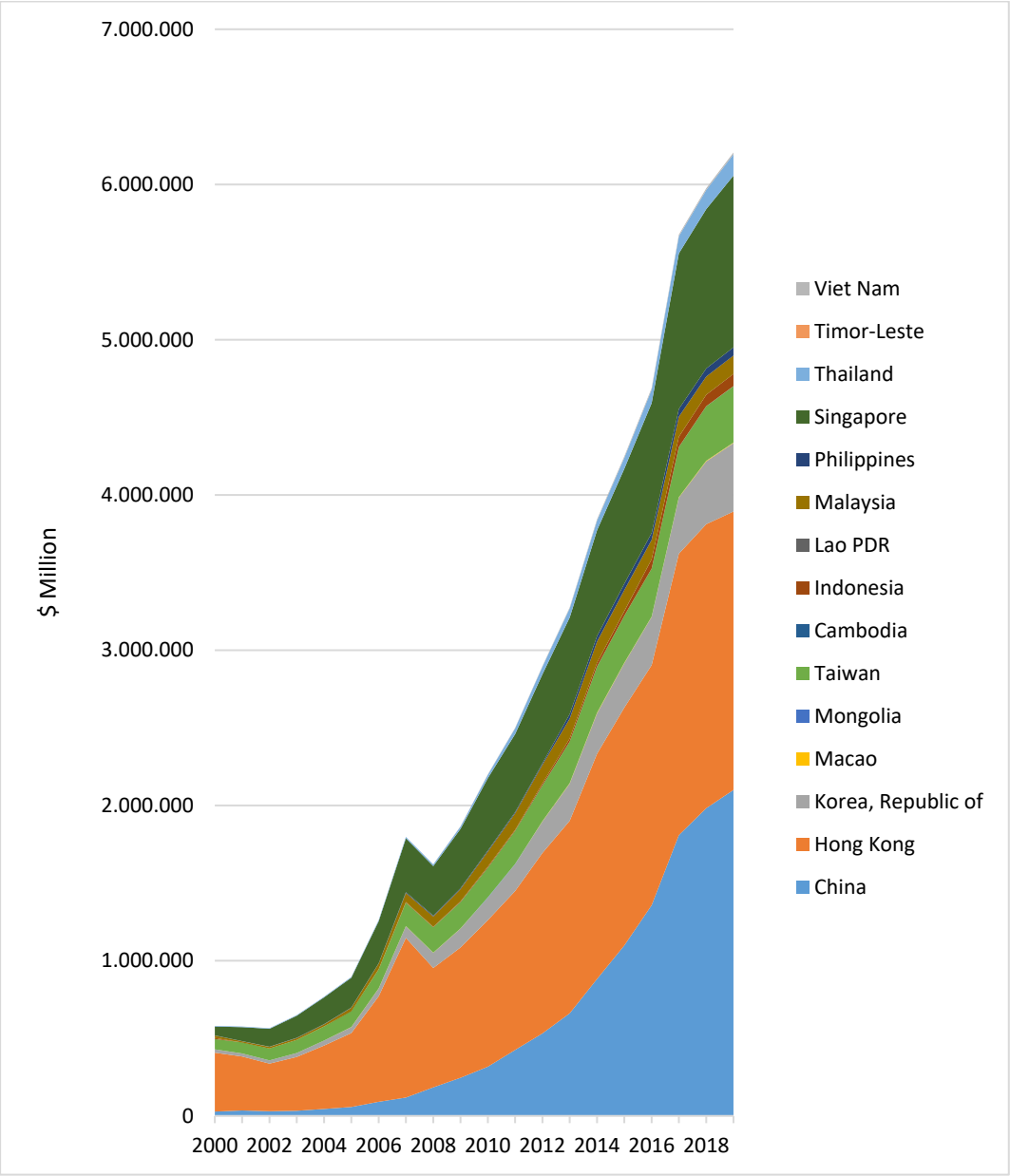



FDI = foreign direct investment.
Source: UNCTAD.

Figure 7 breaks down the data for East and Southeast Asia by source country. As in the case of the inward FDI stock, the outward stock is highly concentrated in just a few source countries. China alone accounts for 33.8% of the total, followed by Hong Kong at 28.9% and Singapore at 17.8%. Amongst the remaining ASEAN Member States, only Thailand accounts for more than 2% of the regional total (2.2%). Overall, country level inward and outward stocks appear to correlate reasonably strongly, i.e. countries that are important sources for FDI are also important destinations.

**Figure 7: Outward FDI, Total Stock, East and Southeast Asia, 2000–2019**

**($ million)**




FDI = foreign direct investment, Lao PDR = Lao People's Democratic Republic.
Source: UNCTAD.

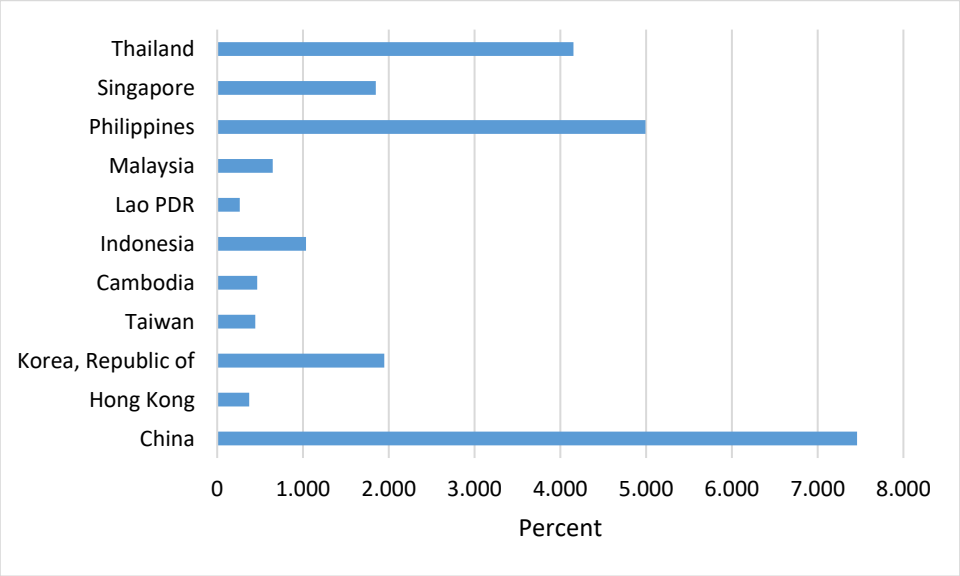
An important characteristic of both the inward and outward data for East and Southeast Asia is that while a large economy (China) typically has the largest share of the regional total, two small economies – Singapore and Hong Kong – come next. This dynamic is important because it speaks to possible differences in investor motivation depending on location. In China, anecdotal evidence suggests that both efficiency-seeking and market-seeking motivations loom large. But in the two small economies, the objective is unlikely to be market seeking; it is tempting to conclude that efficiency seeking must therefore be the dominant rationale, and that is plausible. But given the high levels of technology in both economies, it is also possible that investment activity is related to firm-specific assets, such as

technology, know-how, and intellectual property. Moreover, both economies have an important financial sector in common, and that may distort the numbers to some extent.

Figure 8 shows the country-level growth rates of outward FDI. Some countries record zero outward stocks, so they are omitted from the figure. In this case, the most rapid growth is in a large economy – China. But the Philippines and Thailand have also seen major growth in their outward FDI stocks over the sample period. Again, the figure should be interpreted carefully because rapid growth can be from a low baseline. But the picture discussed above, of a general acceleration in investment integration across the region, is borne out on the outward side as well, although to a lesser extent given that not all countries participate as origins of FDI.

**Figure 8: Growth of Outward FDI Stock, by Country, 2000–2019**

**(%)**

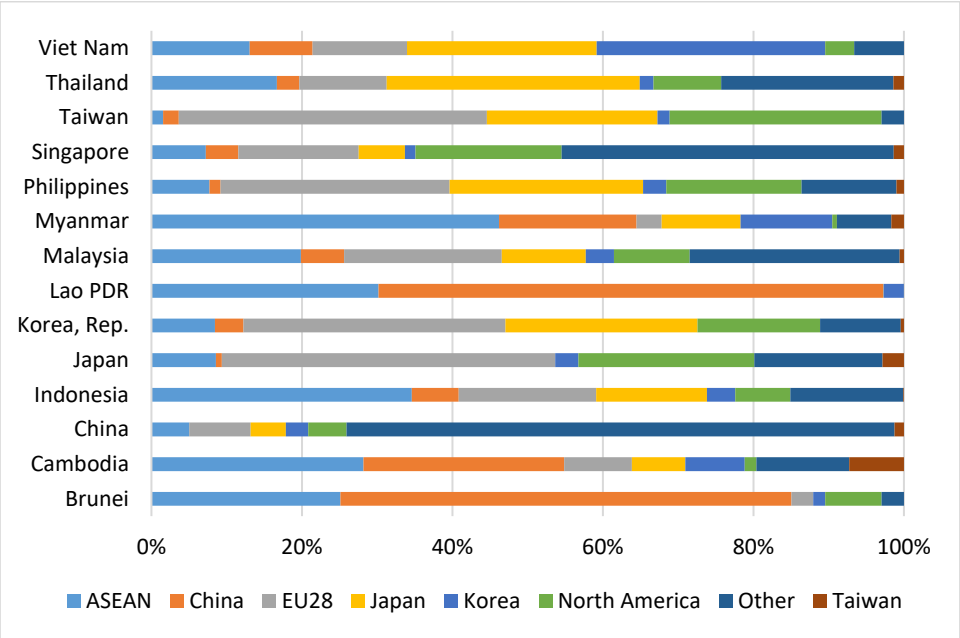



FDI = foreign direct investment, Lao PDR = Lao People's Democratic Republic.
Source: UNCTAD.

Thus far, the discussion has focused on aggregates – the total amount of inward or outward investment by country. An additional dimension is to look at the data bilaterally, i.e. identifying source regions for inward FDI and destination regions for outward FDI. Figure 9 shows the results for inward FDI. While there is some consistency in terms of the main players in regional investment linkages, there is also considerable heterogeneity across countries. China is the largest investor in Brunei, Cambodia, the Lao PDR, and Myanmar, but its share is lower in the other countries in the figure. Intra-ASEAN investment is substantial in most cases, but Japan also plays a substantial role in some countries, as do North America and Europe. While many factors go into these patterns, including historical linkages and the existence of appropriate international legal frameworks for investment, it is also likely that sectoral patterns of investment play a role, which are based, in turn, on the factors that drive comparative advantage, at least in those countries without large domestic markets.

**Figure 9: Breakdown of Inward FDI by Country and Source, ASEAN and East Asia**

**(%, based on 2018 data)**

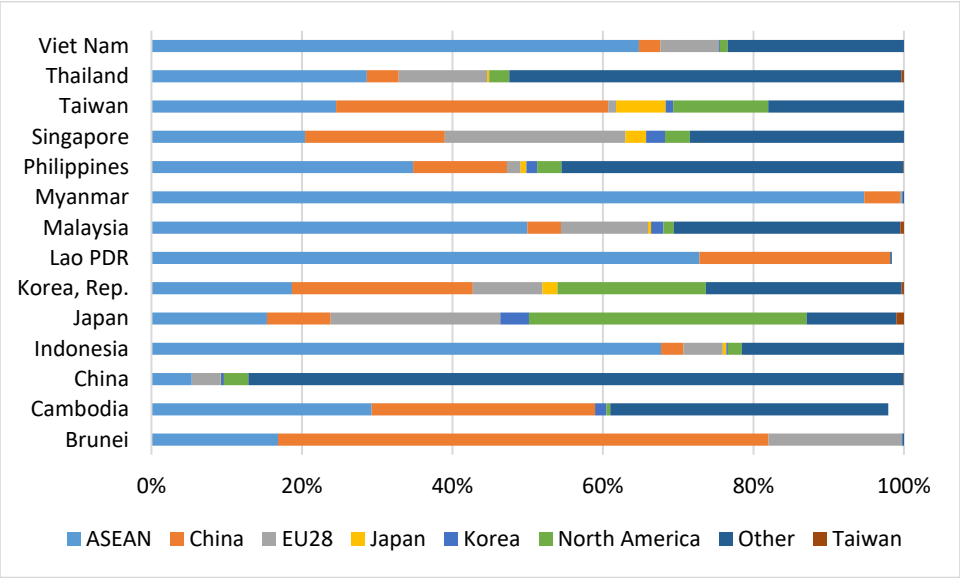



ASEAN = Association of Southeast Asian Nations, EU = European Union, FDI = foreign direct investment, Lao PDR = Lao People's Democratic Republic.
Source: World Bank.

Figure 10 shows a similar breakdown for outward FDI in ASEAN and East Asia. Interestingly, with the exception of China, outward investment is much more focused on the region, specifically ASEAN and China. The figure shows proportions, so it is important to keep in mind that outward stocks of some countries are very small. Nonetheless, there is a clear implication that FDI originating in ASEAN Member States tends to go primarily to other countries in the region, but that within those countries (Figure 7) it does not typically represent a predominant proportion of the total stock of FDI. So, outward investment is more concentrated in regional terms than is inward FDI.

**Figure 10: Breakdown of Outward FDI by Country and Destination, ASEAN and East Asia**

**(%, based on 2018 data)**




ASEAN = Association of Southeast Asian Nations, EU = European Union, FDI = foreign direct investment, Lao PDR = Lao People's Democratic Republic.
Source: World Bank.

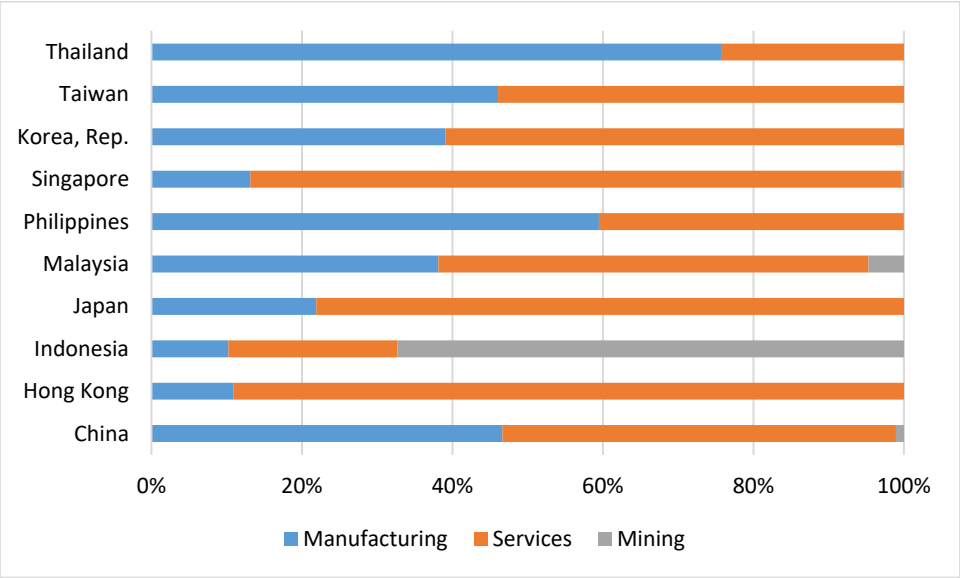
FDI data that disaggregate both by country and by source are difficult to obtain. Typically, it is necessary to use 'mirroring', i.e. looking at the outward stock of a partner country that records the necessary information, as most countries do not make this kind of data public, even if they track it. The Organisation for Economic Co-operation and Development (OECD) is the only international agency that has a database which is disaggregated both by country pair and by sector, but inspection shows that most of its contents are suppressed for reasons of confidentiality in the case of receiving countries in East and Southeast Asia.

As the only easily available proxy, therefore, it is appropriate to consider data from the US. In this case, therefore, the data record stocks of US origin investment in particular sectors in countries in ASEAN and East Asia. In the absence of more comprehensive data, it is impossible to know how representative the sectoral pattern of that investment is in terms of other important source markets, such as China, Japan, the European Union, and ASEAN. But in the absence of complete data, an examination of US investment in East and Southeast Asia is nonetheless informative.

Figure 11 shows the distribution of FDI across the three main economic aggregates: manufacturing, services, and mining. The bars represent percentages of the total stock, and so do not account for scale differences across countries. Nonetheless, some interesting patterns are present. Indonesia is the only country in the region where mining is a major source of inward FDI. By contrast, manufacturing predominates in Thailand and the Philippines, but in other economies, the services sector is dominant. The balance between services and manufacturing is relatively close in Taiwan; the Republic of Korea (henceforth, Korea); and China. But in the remaining countries, the services sector is largely dominant in terms of hosting inward FDI.

**Figure 11: US Outward FDI Stocks in East and Southeast Asia, by Sector**

**(% of total, 2019)**




FDI = foreign direct investment, US = United States.
Source: US Bureau of Economic Analysis.

The data in Figure 11 are consistent with various hypotheses regarding investor motivation. First, it seems clear that in Indonesia's case, a substantial proportion of inward FDI is related to resource acquisition, given the focus on the mining sector. Such investments can still underlie GVC activity, but they would put Indonesia in the position of a country that is primarily supplying natural resources to GVCs.

Second, the countries where manufacturing is dominant likely mostly see efficiency-seeking FDI. Neither is a small market, but given their advantages in terms of labour costs, it seems plausible that comparative advantage effects predominate, and that FDI is designed to serve the broader world market rather than the local market. This kind of FDI is typical of manufacturing GVCs.

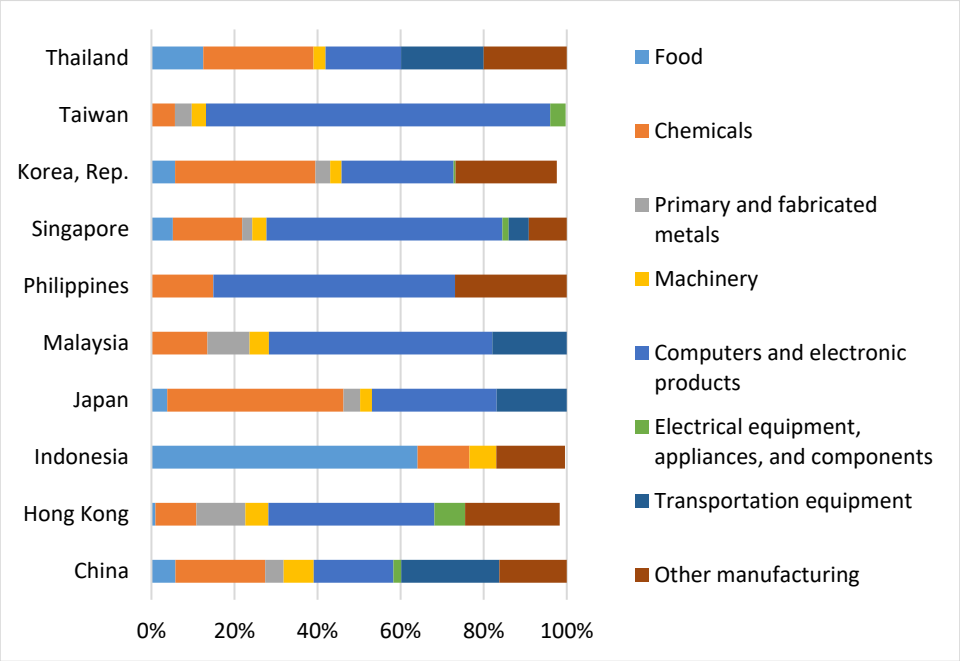
Finally, the countries where services dominate inward FDI represent an interesting middle case. GVCs are becoming increasingly important in the services sectors, although they are still less developed than in manufacturing. So it is possible that some of the inward FDI in services is linked to efficiency-seeking motivations. But other services sectors play a more important role in terms of serving domestic demand, so it is also possible that there is a market-seeking rationale. Of course, considerations such as country size likely play an important role: market seeking seems an unlikely rationale in the case of Hong Kong or Singapore, for example. By contrast, the high level of technology in those countries suggests an additional motivation – the desire to acquire intellectual property.

To elucidate these points further, it is important to go into a greater level of sectoral detail. Figure 12 shows the results for manufacturing. They need to be interpreted cautiously, as some data are suppressed due to confidentiality concerns. But in broad terms, they show considerable heterogeneity across countries in terms of the most important sectors for inward FDI. Chemicals and computers, however, stand out as two sectors that are relatively important in all countries for which data are available. Of course, both sectors are regarded as classic GVC sectors, so the investor motivation is

highly likely to be efficiency seeking. It is quite plausible that these investments represent key components in a broader GVC strategy by US lead firms in the region.

**Figure 12: Sectoral Breakdown of US Outward FDI Stock in East and Southeast Asia, 2019**

**(% of total, manufacturing only)**




FDI = foreign direct investment, US = United States.
Source: US Bureau of Economic Analysis.

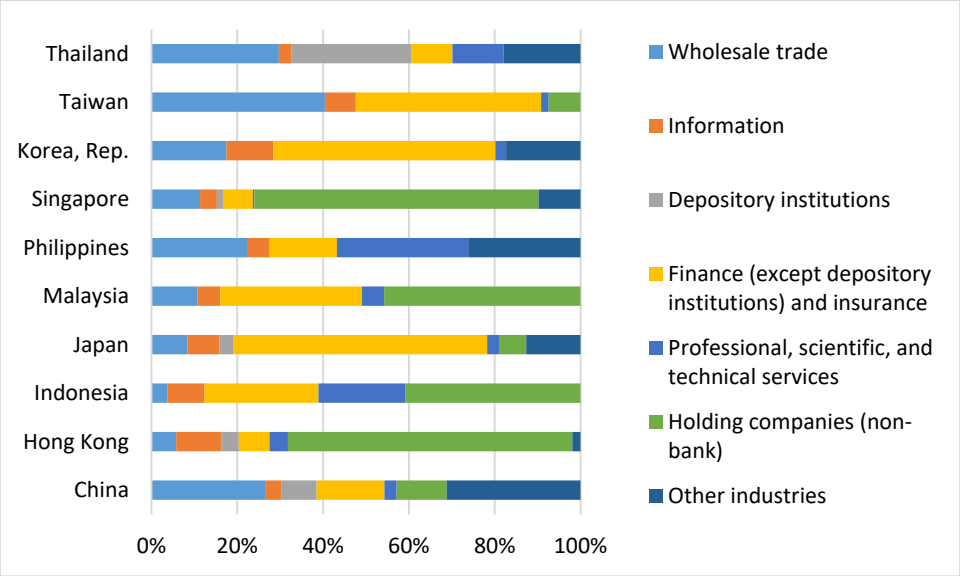
Figure 13 repeats the exercise for services. Again, there is considerable heterogeneity across countries, which is to be expected given the different patterns of comparative advantage and other country characteristics in the region. Nonetheless, finance stands out in the higher-income countries as having a large share of the total. This result is important to nuance, because the valuation of financial investments can be influenced by macroeconomic forces to a greater extent than in other sectors, so it plausible that some of these values may be inflated. Similarly, the result for holding companies is influenced by tax and regulatory considerations, and so is somewhat outside the scope of the present analysis. Nonetheless, the data show the importance of the financial sector in a number of countries in the region, and may be linked to GVC activity: finance is a service industry that has been relatively successful in internationalising its production process over recent years.

Amongst the remaining sectors, wholesale trade stands out as being of relative importance in most regional economies. FDI in this sector could be linked to GVC activity in direct or indirect ways. The direct connection is that distribution itself is a GVC sector, in particular in terms of sub-sectors like logistics. So lead firms could be establishing subsidiaries in the sector to assist with splitting the distribution production process across countries. But it is also plausible that this investment is derived from the activities of GVCs in goods sectors, which depend on efficient distribution to coordinate production across countries, and of course to bring goods to final consumers. Either way, the

importance of this sector could be driven in part by domestic market considerations, but likely also has a linkage, whether direct or indirect, to GVC activity in the region.

**Figure 13: Sectoral Breakdown of US Outward FDI Stock in East and Southeast Asia, 2019**

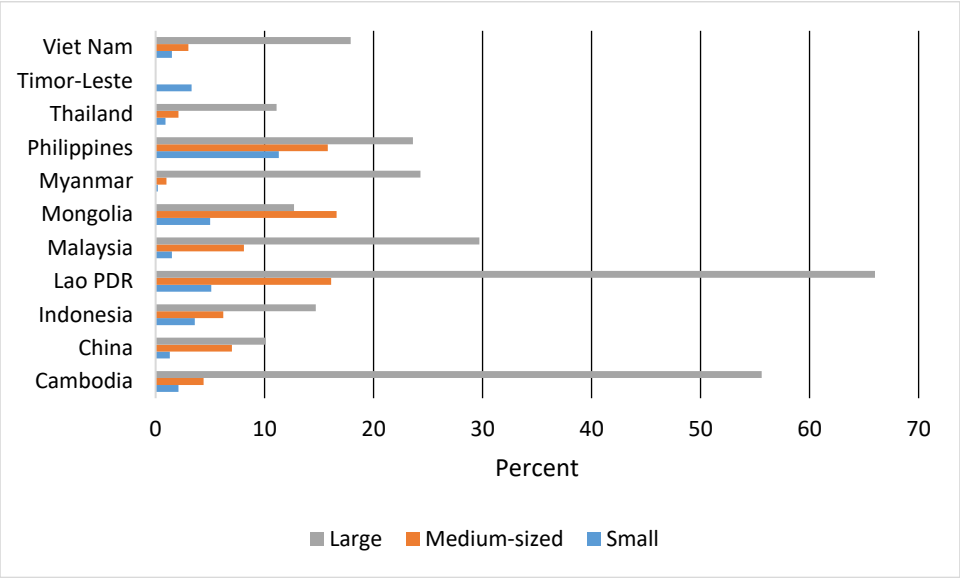
**($ of total, services only)**




FDI = foreign direct investment, US = United States.
Source: US Bureau of Economic Analysis.

A key constraint on FDI integration, however, is that it is closely tied to firm size. Figure 14 uses data from the World Bank Enterprise Surveys to show that inward FDI is overwhelmingly concentrated in larger firms in all countries for which data are available. While the proportions of small firms receiving inward FDI differ across countries, they are nearly always much smaller than the proportion of medium-sized and large firms. A partial exception is the Philippines, where a relatively large number of small firms have received inward FDI. From a GVC perspective, this pattern is not unexpected. Lead firms looking for efficiency gains are typically interested in working with suppliers that can work at scale. Smaller firms most commonly participate in GVCs only indirectly, that is to say as second-tier suppliers of larger firms that participate directly in GVCs. Such supplier linkages can still have important benefits for second-tier firms, beyond simply increased demand. Lacovone et al. (2015), for example, showed that local suppliers can experience positive spillovers from the entry of a foreign distributor, although the implications for less productive firms can be challenging in terms of increased competition and the necessity to undertake costly investments to upgrade production. Nonetheless, from an equity and inclusion point of view, it is important to be aware of the concentration of inward FDI on larger firms in the region, as well as the challenges that can pose for smaller firms.

**Figure 14: Percentage of Firms in Each Size Category with at Least 10% Foreign Ownership, East and Southeast Asia, Latest Available Year**




Lao PDR = Lao People's Democratic Republic.
Source: World Bank.

## 4. Looking Forward: Emerging Issues

The 'golden age' of GVC growth and development in Asia, as elsewhere, was the 1990s and particularly the 2000s. The period following the global financial crisis has seen slower growth of trade relative to GDP, and while GVC integration has continued to increase, it has done so more slowly than in the previous period. Against this background, the economic shocks associated with the COVID-19 pandemic have put stress on GVCs in various sectors, including some high-profile ones, such as personal protective equipment and other goods needed for responding to the pandemic.

Against this background, it is natural that questions should arise as to the continued viability of the GVC business model. But it is important not to overreact to the extreme circumstances of 2020 and 2021. It is still too early to say to what extent GVC integration has been affected by the COVID-19 pandemic: rigorous data typically only come out with a delay of some years due to the need to combine input–output data with trade data. While high frequency trade data show that there has predictably been a major drop in trade, particularly in services requiring personal contact, it is still unclear why recovery is happening at radically different rates in different countries. Even in those countries where recovery is lagging, it is unclear whether the proportion of GVC trade in the total has been affected: it is plausible, for instance, that trade has fallen by a particular amount, but that the fall was distributed over GVC and other types of trade roughly in proportion to their initial shares, which would mean that the relative prevalence of GVC trade would not change too significantly.

A reason for giving credence to this type of analysis is that there is some support in the literature for the view that value chains are relatively robust to unexpected changes in trade costs. Indeed, the degree of cost increase required to cause GVCs to unravel at scale in a proportional, not absolute, sense is very high (Shepherd, Forthcoming a). While the economic shocks related to COVID-19 are indeed severe, it is unlikely that they are sufficiently focused on input markets as to fundamentally

change firm sourcing decisions. Rather, the implications of the pandemic are more macroeconomic in nature, although of course with differences by sector. But there is no evidence that input markets are affected to a different order of magnitude than markets for final goods, so the incentive to source goods locally versus using foreign suppliers has not been fundamentally altered.

In particular in cases where lead firms have made relationship-specific investments in GVC linkages, there is good reason to believe that the frictions created will help maintain GVC activity through the crisis, and position it to rebound rapidly as global recovery takes hold. East and Southeast Asia are particularly well placed to take advantage of improved global demand later in 2021, given that these countries have generally managed the pandemic response very well, and thus have seen fewer and shorter restrictions to economic activity than in other parts of the world, in particular Europe and the United States.

Of course, there are significant risks to the reasonably upbeat outlook just presented. On the one hand, there is a non-negligible policy risk in some countries related to the debate over 'reshoring' (see further below). Given the change of administration in the US, however, it seems unlikely at least in the short term that there will be major policy interventions designed to reshore substantial amounts of production activity currently undertaken in other countries. A more likely scenario is targeted interventions in sectors that have assumed particular importance during the pandemic, such as health-related goods. While the economic implications of such steps should not be underestimated, they are by no means of the same order of magnitude as a potential effort to reshore large amounts of manufacturing activity more generally.

The reason for highlighting policy as the major risk from a GVC integration standpoint is that the other sources of risk – technology and private sector decision-making – are likely to have significantly less radical effects than those that had been feared until recently from policy interventions. In the technological realm, additive manufacturing (3D printing) now has the potential to move production closer to the location of final consumption, thereby reducing transport costs substantially. But the limited evidence currently available suggests that even when firms use this technology, they tend to maintain existing production locations and simply take advantage of the possibility of reducing costs even further by employing automation: Freund, Mulabdic, and Ruta (2019); Shepherd (Forthcoming b) paints a similar picture in the case of e-books.

At the level of firm decision-making, the pandemic experience will likely lead to a reassessment of the risks associated with dispersed production and just-in-time management practices, at least in those sectors that suffered particular stress. But it is important to note that while some GVCs experienced shortages and severe disruptions in the early stages of the pandemic, anecdotal evidence suggests that they resolved those problems rapidly, and retooled to meet increased short-term demand for pandemic-related products. The early part of the pandemic period shows the difficulties of relying on complex production networks for critical goods, but the latter part of the period shows the strength inherent in those systems. As such, the private sector's reassessment of risk is unlikely to lead to a wholesale unravelling of the GVC business model. Instead, a likely scenario is the introduction of increased redundancies in supplier networks to deal better with bottlenecks created by over-reliance on single sources (e.g. McKinsey Global Institute (2020)).

In developing policy responses to the COVID-19 pandemic, policymakers would do well to be mindful of the unique nature of the shock: it hit all countries at essentially the same time, and had broadly similar effects in each of them, at least in its early stages. As such, most countries saw a combined

supply and demand shock as a result of the pandemic. But this pattern is extremely unusual. More commonly, economic shocks are imperfectly correlated across countries: what happens in one place may happen in another only with a significant delay, or not at all. A natural disaster is a good example: it is highly localised, and therefore does not affect all countries equally at the same time. In world of random but largely uncorrelated disturbances, distributing production geographically can actually be a way of managing risk, not heightening it, in the same way that diversification reduces the volatility of an investment portfolio. Of course, finding the right balance between the efficiencies that come from concentrated sources and the need to mitigate risk is an ongoing question. But there is as yet no strong evidence of the need for policy intervention in a broad-based sense to supplant the normal course of decision-making within private businesses.

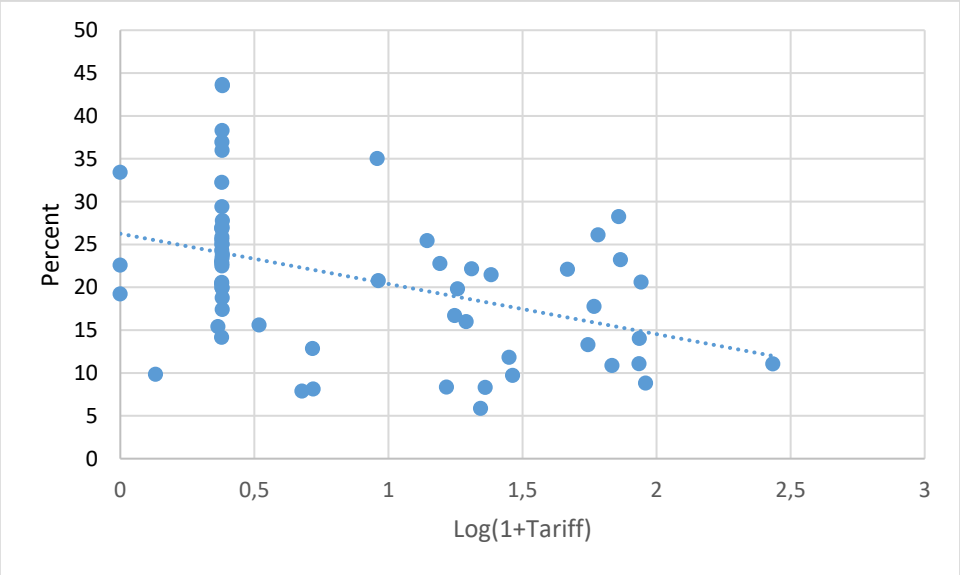
# CHAPTER 3

# TRADE AND INVESTMENT POLICIES: SHAPING THE FUTURE OF GVCS

## 1. An Enabling Environment for GVCs

The GVC business model emerged primarily in the 1990s and 2000s, when tariffs were at historical lows in many countries. Over recent decades, Asia has been a relatively liberal region by world standards, even though significant impediments to trade remain in the form of inefficient or ineffective regulatory measures, and other non-tariff measures (NTMs). Nonetheless, the role of relatively open trade and investment policies in facilitating the growth of GVCs is undeniable. Figure 15 makes the point in a simple way, by showing a negative correlation between country-level average applied tariffs and the aggregate proportion of backward GVC linkages. The negative line of best fit suggests that lower tariffs are indeed associated with stronger backward GVC linkages.

**Figure 15: Correlation between Applied Tariffs and Backward GVC Linkages**



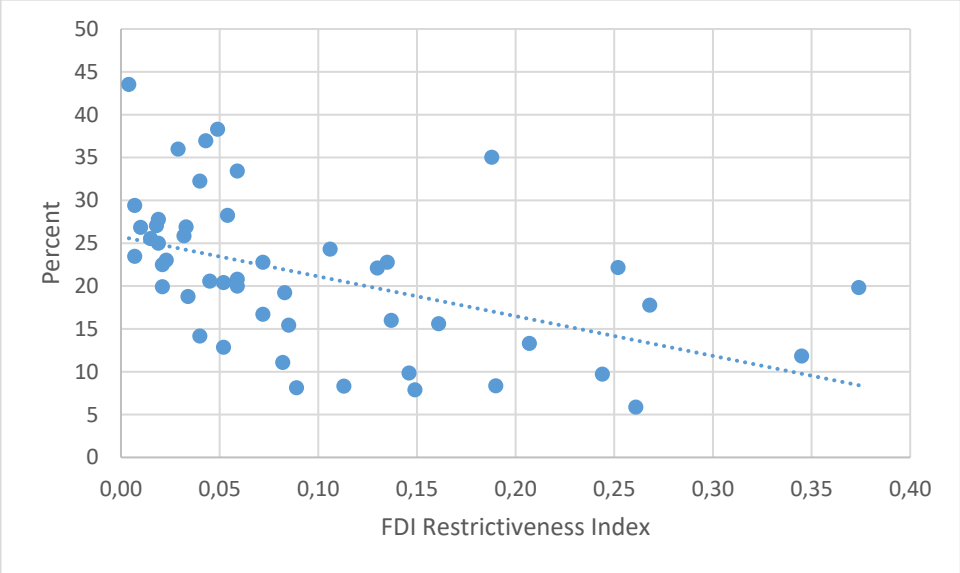

GVC = global value chain.
Source: Author's calculations.

But in the modern era, trade policy is about much more than tariffs. Trade economists typically talk about 'trade costs' as the full range of factors that drive a wedge between producer prices in the exporting country and consumer prices in the importing country (Anderson and van Wincoop, 2004). From the broad scope of this definition, it is immediately clear that a wide range of other policies also determines the ability of firms to contest foreign markets, or equivalently, to source intermediate inputs from foreign suppliers. In the GVC context, there is good evidence, for example, that improving trade facilitation can increase backward and forward linkages across countries: Shepherd (Forthcoming c) shows that global implementation of the World Trade Organization (WTO) Trade

Facilitation Agreement could lead to increased production sharing by an amount equivalent to 3 years' worth of average global growth in GVC integration from 2000 to 2019.

There is no comprehensive listing of policies that can promote GVC linkages. But by analogy with the tariff case, it would be important to take account of restrictions on FDI also. To do that, Figure 16 shows the association between the OECD's FDI Regulatory Restrictiveness Index and backward GVC participation. Again, the line of best fit is negative, which means that a more restrictive regulatory regime governing FDI is associated with a lower degree of GVC integration.

**Figure 16: Correlation between FDI Restrictiveness and Backward GVC Linkages**




FDI = foreign direct investment, GVC = global value chain.
Source: Author's calculations.

Beyond policies affecting FDI and those affecting trade directly, it is likely that broader considerations concerning the business environment also play a role in structuring GVC interactions. This linkage is particularly important where GVC interactions are not exclusively at arm's length, but also involve relationship-specific investment. Clearly, an investor needs to be assured that the investment will be protected by basic legal instruments. Contracts need to be enforceable reasonably easily and with certainty. Dealings with the government need to be transparent and predictable. An econometric study in OECD (2016) confirmed the importance of these kinds of factors, but again, the list is neither definitive nor exhaustive. It is intended to give a flavour of the types of policies that can be important from the point of view of facilitating GVC interactions.

Of course, GVCs are not only economic entities. They also have implications in other spheres, such as social and environmental conditions. In some countries, the GVC business model has been challenged because it is thought to exacerbate environmental problems, and put stress on social objectives like managing inequality. So, in addition to ensuring openness to trade and investment flows, it will be important to continue to work on developing social safety nets and redistribution mechanisms. Doing so will help ensure continued support for this development model in a political economy sense. The key challenge for low- and middle-income countries is to learn from successful examples of rapid income growth and sustained poverty reduction that have made strategic use of GVC integration in the service of broader development objectives. Viet Nam is perhaps the best case in point: it has

engaged rapidly with GVCs in a broadening list of sectors, and has succeeded in reducing poverty and moving a significant number of people into the global middle class (World Bank, 2018). Of course, backsliding on these advances is a real risk given the size of the economic shock associated with the COVID-19 pandemic. But there is nothing to suggest that recovery will be aided by restricting movements of goods, services, and capital across borders; rather, it is likely that supporting an open, rules-based trading system remains a key economic policy objective for smaller low- and middle-income countries in particular, as it provides them with a source of external demand to aid in the recovery effort.

It is also important to take notice of the large literature using micro-data, which shows that firms that engage with the international economy, including through GVC linkages, tend to be larger and more productive than firms that focus on the domestic market only, and that they also play higher wages to their workers than domestically focused firms (e.g. Brambilla, Depetris Chauvin, and Porto (2017)). There is also a recent literature showing that internationally engaged firms in developing countries tend to employ more women than firms that focus on the domestic market only (e.g. Shepherd (2018); Rocha and Winkler (2019)). Results like these suggest that international engagement can have benefits for workers through increased employment rates and higher wages, which in turn can translate into gains in human well-being and enhanced capability.

## 2. Reshoring: A Way of Promoting Resilience?

An additional issue that has arisen during the COVID-19 pandemic relates to the fragility of GVCs.[2] Anecdotally, important goods experienced shortages in the early days of the pandemic, with examples such as personal protective equipment and hand sanitiser standing out.[3] To some extent, the shock was amplified by restrictive trade policies, whereby producing countries restricted exports (Park, 2020). The debate is all the more salient with the need to distribute vaccines as widely and quickly as possible, but with production reliant on geographically dispersed facilities. Given this context, concerns over ensuring the continuity of the supply of critical goods has been transformed into a discussion about the merits of 'reshoring', or the shortening of GVCs to emphasize a greater amount of local content.

The reshoring debate gives rise to two important empirical questions, for which there is as yet no conclusive answer in the literature. First, how easily can the spread of GVCs be undone through the imposition of unilateral trade policies such as tariffs? Second, how desirable is it from a supply chain resilience point of view to use such measures to bring about a substantial reshoring of some activities currently undertaken through GVCs?

Shepherd (Forthcoming a) uses a global trade model with GVCs to provide an answer to the first question. The unilateral US tariffs, to which China responded in kind, are very high relative to baseline levels, up to 25% *ad valorem* in some cases. The trade policy shock is therefore very large. But while there is some unravelling of GVC linkages, there is by no means a wholesale disintegration of the model – at least in terms of the proportion of gross exports that is accounted for by GVC trade. While

[2] This section draws on a policy brief prepared by the author for the United Nations Development Programme (forthcoming).

[3] Association for Professionals in Infection Control and Epidemiology (2020).

GVC trade shrinks substantially in absolute terms, so too do other kinds of trade, so that the change in terms of proportions is much smaller. Shepherd (Forthcoming a) estimates that the tariff shock equates to 3–5 years' worth of undoing of GVC growth at the previous trend rate in the affected countries. So the effect is significant, but given the very large shock involved, it shows that in the absence of policies designed specifically to disrupt production sharing – for instance by targeting foreign input use rather than trade in general – it is extremely costly to radically alter the prevalence of GVC trade.

From the perspective of the desirability of reshoring, OECD (2020) used its own global trade model to look at the impacts of shifting to more domestically focused supply chains. They found that, far from decreasing volatility, this step increases it. The result should not be surprising given that most economic shocks are not perfectly correlated across countries, so diversifying suppliers allows countries to effectively diversify risk. Having a purely domestic supply chain means that if a shock hits the local economy, there is no shock absorber, and the result is increased volatility.

Putting these two results together suggests that using trade policy to promote reshoring may be both ineffective and highly inefficient. But despite this, the issue of supply chain resilience more broadly is an important one, in particular when GVCs are used to produce necessities from a public health or safety perspective. Indeed, there is evidence that the private sector is already concerned with improving resilience in light of the vulnerabilities exposed by the COVID-19 pandemic. But the focus is on diversification, supplier redundancy, and technology, rather than large-scale reshoring (McKinsey Global Institute, 2020). While policy intervention may be required at some point, the case for a broad-based policy response appears weak while the private sector is already taking steps that may go at least some way towards remedying the problem. In time, there may be a case for greater regulation of some GVCs on the grounds of assuring public health, but it will be important to assess these needs on a case-by-case basis rather than proceeding generally. In any case, any intervention will need to balance the efficiency advantages of GVC production against any possible social objectives that are not fully fulfilled.

Experience with past shocks is a useful guide to how the immediate future may involve some redesign of GVCs, without wholesale changes to the business model. The floods in Thailand in 2011 led to a global shortage of some electronics components, particularly hard drives. But technological change combined with private sector reassessment of risk has led to an effective diversification of suppliers, with countries specialised in alternative technologies such as solid state drives effectively assuming part of the global market (Sriring, 2016). Despite the strategic importance of the sector and the size of the shock, public policy changes generally did not follow.

From the perspective of countries in East and Southeast Asia, a number of issues emerge from this discussion of reshoring. While there is some policy-related risk that large markets like the US may seek to increase the proportion of DVA in production, it has declined substantially with the new administration, and there is a strong case to make that such moves would be both ineffective and highly inefficient. Nonetheless, they would have the potential to disrupt trade and investment flows in East and Southeast Asia, given the role of countries in the region as suppliers within GVCs that ultimately export final goods and services to other markets, including the US. However, the risk at this point is deserving of vigilance and sustained criticism within multilateral forums, but should not be seen as an imminent threat to GVC development in the region.

The bigger risk to economies in East and Southeast Asia, which is not unrelated, is that recovery in the large, high-income markets of Europe and the US is slower than expected. The region has generally performed very well in terms of responding to the COVID-19 pandemic, but a sluggish recovery overseas would both directly hamper demand growth for the region's exports, and increase the political risks stemming from distributional tensions in the high-income markets.

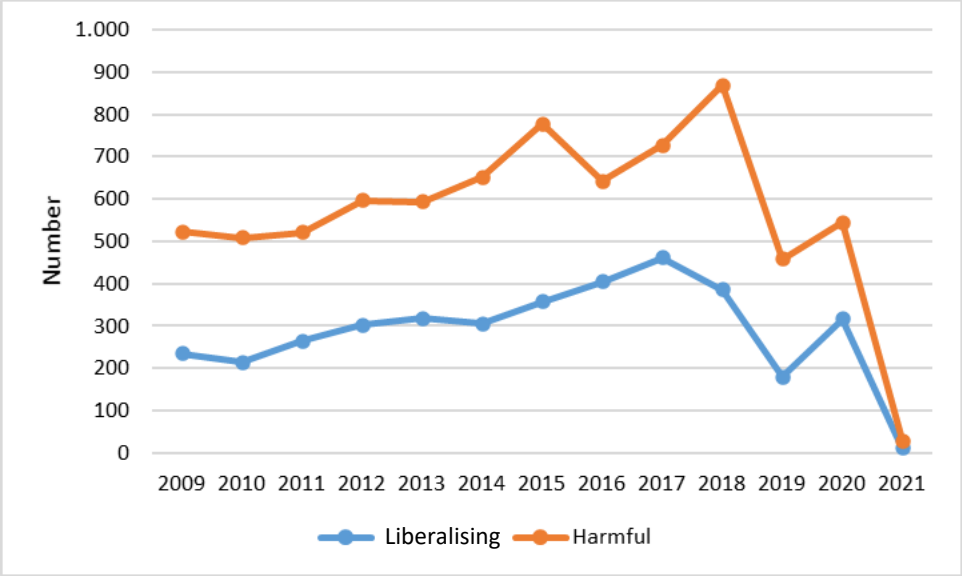
From an investment point of view, the picture is quite different. Robust social responses in Europe and the US, combined with reduced spending opportunities, have seen household savings increase substantially. As such, those funds will be available for investment, including in East and Southeast Asia. However, a necessary condition for that to happen is the existence of profitable opportunities, which in turn depends on expectations of future growth. But on the investment side, there is reason for optimism, as sustained easy monetary policy in the high-income countries could create a climate where investors seek out opportunities abroad, including in East and Southeast Asia. Given the region's strong position as a locus of GVC activity, including through investment linkages, it would appear well placed to take advantage of such a shift.

## 3. Emerging Policy Issues

As tariff rates have fallen, NTMs in general have become more important as determinants of market conditions. In recent years, however, there has been a noticeable move towards 'murky' trade policy measures, ranging from subsidies to various kinds of quasi-trade measures that discriminate against foreign producers, but which do not easily fall into the traditional categories analysed by trade economists.

The Global Trade Alert has been tracking trade policy interventions for more than a decade, casting the net as wide as possible in terms of the measures catalogued. Figure 17 shows the number of new interventions each year that affect ASEAN Member States, distinguishing between liberalising and harmful interventions. First, there has been a general increase in the number of interventions over time, although data for the most recent years do not fit the general trend; of course, data for 2021 are based on only a single month of data, and so are not representative. It is highly likely that the increase in interventions seen from 2019 to 2020 was due to the COVID-19 pandemic, which saw many countries turn to activist trade policy as part of their response. The second main finding is that while liberalisation and discrimination are both included in new trade policy measures, the balance is overwhelmingly in favour of harmful measures: the number is typically around double the number of liberalising measures in a year. So there is reason for concern as to the trade policy environment facing East and Southeast Asia going forward, in addition to the specific issue of reshoring discussed in the previous subsection.

**Figure 17: New Trade Interventions by Year, All Countries Affecting ASEAN, Count**




ASEAN = Association of Southeast Asian Nations.
Source: Global Trade Alert.

Table 1 extracts the top sectors for liberalising and harmful measures respectively, taking the total over the full sample period (2009–2021). The list immediately makes clear that the most commonly targeted sectors by both types of measures are typical GVC sectors such as motor vehicles, computers, electronics, and pharmaceuticals. The pattern is particularly striking in the case of harmful measures, which are almost exclusively focused on GVC sectors in the top 10 most targeted sectors. So while at a macro level the policy risk from extensive reshoring is likely relatively low, as argued above, the picture looks quite different at a micro level. There is good reason to be concerned about the continuation of this pattern, and what it implies for GVCs in East and Southeast Asia. While most of the measures are still in goods markets, there is increasing evidence of distortions to FDI as well. As such, these kinds of measures could be disruptive to the spread of GVCs. They may not unravel the business model substantially, or fundamentally alter its scope or extent, but they certainly have the capacity to result in sluggish growth in production sharing in the short to medium term. Combined with possible limits on demand in traditional target end-markets, the overall risk to GVC development in the region is not negligible.

**Table 1: Sectoral Breakdown of Measures, 2009–2021, Count**

| Sector | Liberalising | Sector | Harmful |
|---|---|---|---|
| Motor vehicles, trailers, and semi-trailers; parts and accessories thereof | 483 | Products of iron or steel | 991 |
| Other general-purpose machinery and parts thereof | 411 | Other fabricated metal products | 863 |
| Other special-purpose machinery and parts thereof | 406 | Motor vehicles, trailers, and semi-trailers; parts and accessories thereof | 853 |
| Electric motors, generators, and transformers, and parts thereof | 356 | Computing machinery and parts and accessories thereof | 466 |
| Pumps, compressors, hydraulic and pneumatic power engines, and valves, and parts thereof | 342 | Pharmaceutical products | 444 |
| Basic organic chemicals | 335 | Basic iron and steel | 418 |
| Other electrical equipment and parts thereof | 321 | Chemical products n.e.c. | 414 |
| Chemical products n.e.c. | 320 | Basic organic chemicals | 406 |
| Vegetable oils | 315 | Electric motors, generators and transformers, and parts thereof | 388 |
| Instruments and appliances for measuring, checking, testing, navigating, and other purposes, except optical instruments; industrial process control equipment; parts and accessories thereof | 312 | Other general-purpose machinery and parts thereof | 387 |

n.e.c. = not elsewhere classified.

Note: The table shows the top 10 sectors for each measure.

Source: Global Trade Alert.

Table 2 goes further into the data by categorising the type of measure involved, again focusing on those that have an effect on ASEAN Member States. Amongst liberalising measures, by far the most common measure is import tariffs, i.e. reductions in applied tariff rates. But other types of measures are also significant, such as financial grants and liberalisation of tariff rate quotas. Amongst harmful measures, the key interventions are again import tariffs (increases in applied rates), various kinds of financial and tax incentives, and limitations on public procurement. On the harmful side of the ledger, there is evidence of increased movement towards 'murky' trade policy measures, as mentioned above. In particular, the use of direct financial interventions, including through tax policy, is an area that is currently only partly regulated at the international level, through subsidy rules. Similarly, public

procurement has some level of WTO regulation, but there is still clearly considerable scope for importing markets to introduce discrimination in different ways. From a GVC perspective, these types of measures are important, as they affect what was referred to above as the 'enabling environment' for the GVC business model. To function properly, GVCs need legal and commercial certainty surrounding movements of goods, services, people, ideas, and capital. These kinds of measures upset that equilibrium to some extent, so continued vigilance is warranted. To the extent that they respond to protectionist pressures in other countries, there is good reason to expect that the observed patterns may be maintained or even intensified in the short to medium term if the post-COVID-19 recovery proves slower than desired.

**Table 2: Interventions by Type, 2009–2021**

**(number)**

| Type of intervention | Liberalising | Harmful |
|---|---|---|
| Anti-circumvention | | 304 |
| Anti-dumping | 1 | 533 |
| Anti-subsidy | | 50 |
| Capital injection and equity stakes (including bailouts) | | 304 |
| Competitive devaluation | | 23 |
| Consumption subsidy | 1 | 4 |
| Controls on commercial transactions and investment instruments | 1 | |
| Export ban | 134 | 412 |
| Export licensing requirement | 361 | 489 |
| Export quota | 259 | 232 |
| Export subsidy | 125 | 409 |
| Export tariff quota | 6 | 2 |
| Export tax | 861 | 801 |
| Export-related non-tariff measure, nes | 139 | 75 |
| FDI: Entry and ownership rule | 46 | 21 |
| FDI: Financial incentive | 3 | |
| FDI: Treatment and operations, nes | 6 | 17 |
| Financial assistance in foreign market | 7 | 361 |
| Financial grant | 5,262 | 8,906 |
| Import ban | 163 | 226 |
| Import incentive | 92 | 34 |
| Import licensing requirement | 703 | 580 |
| Import monitoring | 8 | 29 |
| Import quota | 279 | 130 |

| Type of intervention | Liberalising | Harmful |
|---|---|---|
| Import tariff | 9,778 | 7,302 |
| Import tariff quota | 1,196 | 547 |
| Import-related non-tariff measure, nes | 371 | 380 |
| In-kind grant | | 51 |
| Instrument unclear | | 40 |
| Intellectual property protection | | 1 |
| Interest payment subsidy | 7 | 191 |
| Internal taxation of imports | 469 | 175 |
| Labour market access | 796 | 549 |
| Loan guarantee | | 411 |
| Local labour | | 6 |
| Local operations | 7 | 104 |
| Local sourcing | 29 | 251 |
| Localisation incentive | | 145 |
| Other export incentive | 197 | 304 |
| Post-migration treatment | 63 | 42 |
| Price stabilisation | 368 | 424 |
| Production subsidy | 56 | 237 |
| Public procurement access | 4 | 113 |
| Public procurement localisation | 181 | 4,044 |
| Public procurement preference margin | | 69 |
| Public procurement, nes | | 12 |
| Safeguard | 5 | 234 |
| Sanitary and phytosanitary measure | | 6 |
| Special safeguard | | 6 |
| State aid, nes | | 42 |
| State aid, unspecified | | 4 |
| State loan | 1 | 1,253 |
| Tax or social insurance relief | 109 | 1,733 |
| Tax-based export incentive | 177 | 1,107 |
| Technical barrier to trade | 1 | 8 |
| Trade balancing measure | | 11 |
| Trade finance | 9 | 1,188 |

| Type of intervention | Liberalising | Harmful |
|---|---|---|
| Trade payment measure | 6 | 15 |

FDI = foreign direct investment, nes = not elsewhere specified.
Source: Global Trade Alert.

The overall picture that emerges from the available policy data is that GVC development in East and Southeast Asia rests on a stable foundation of trade and investment links. To the extent that there are risks, they are not primarily at a macro level: wholesale costly reshoring of activity seems unlikely. But there are still significant risks at a micro level, related to continued efforts in many countries to use non-traditional trade policies to introduce *de facto* discrimination against international suppliers. As such, this development poses some risk to GVC growth and development. If the slowdown observed since 2009 is related in part to these kinds of policies, then it seems likely that GVC development in the region will not return to the rapid pace of integration seen in the early 2000s, at least in the short term.

# CHAPTER 4

# POST-COVID-19 GVCS IN ASIA

The COVID-19 pandemic has caused major changes in the global economy. Although data for the full year of 2020 are not yet available, the most recent WTO forecast is for a 9.2% decline (WTO, 2020), which is large in historical context. But even this sharp drop is considerably less than what had been forecast earlier in 2020, and so shows that mitigation measures and economic support helped ease the global economy through a period of extreme stress. While the WTO expects trade to rebound sharply in 2021, it is likely to stay below the previous trend for some time to come.

Importantly, it is not only countries that have struggled to manage the public health crisis that have seen major economic consequences. Given that the large markets of Europe and North America have been particularly hard hit by the pandemic and have had difficulty in containing the spread and limiting public health consequences, they have seen sharp falls on the demand side. In many places, consumer spending remains depressed due in part to lost income as a direct result of the crisis, but also through changes in preferences and risk assessment associated with in-person activities, as well as fallen demand as consumers engage in precautionary saving when possible, and defer purchases that require in-person interactions.

East and Southeast Asia has, in general, been very effective at containing COVID-19 from a public health perspective. But the economies of the region are generally very integrated into global movements of goods, services, ideas, people, and capital. As such, the reduction in consumer spending in most high-income countries has had an effect through the channel of reduced demand for exports, which has in turn put pressure on companies' cash reserves and has led to some shedding of labour, with attendant social costs from unemployment and lost income.

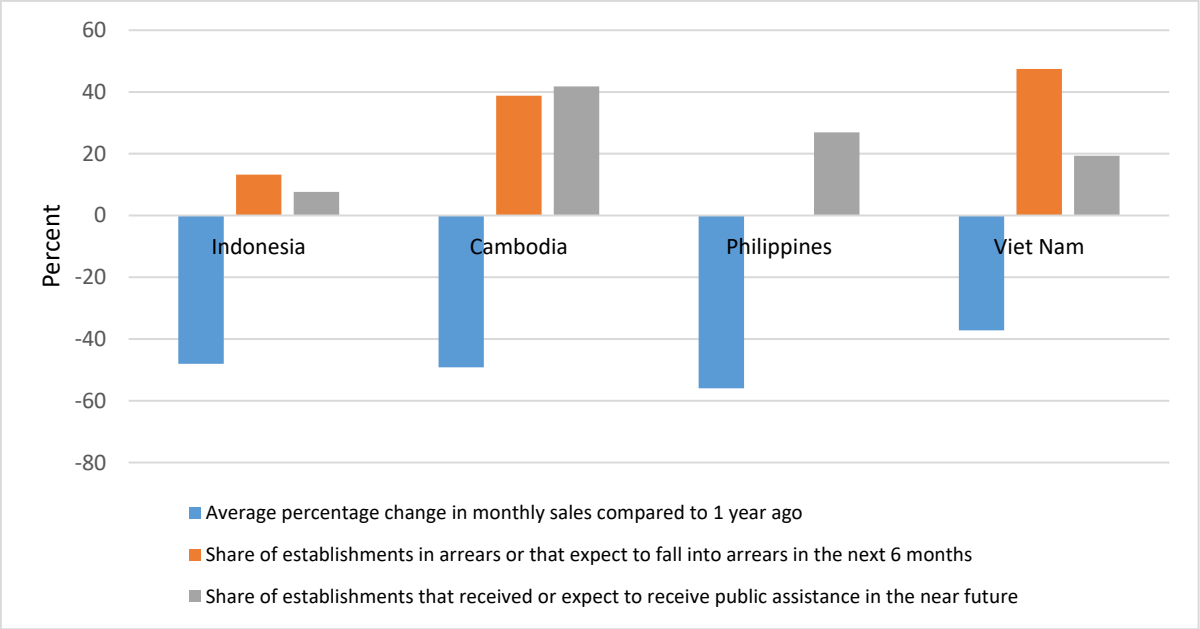
Information on the economic effects of the COVID-19 pandemic is still highly incomplete, as the situation is continuously evolving on the ground. Nonetheless, the World Bank's Business Pulse Survey provides a systematic picture of impacts and responses, including in East and Southeast Asia. It is a firm-level survey, covering 18 indicators of operations, financial risk, and policy. It covers 46 countries, including four in East and Southeast Asia. As such, it provides the best available picture of the situation on the ground, albeit one that is still only partial in scope.

Figure 18 shows how firms have been affected by the pandemic in each of the countries in the region for which data are available. Falls in monthly sales have been large – about 40% or more. Firms in the Philippines have seen somewhat larger losses, while those in Viet Nam have seen somewhat smaller ones. Although data are scarce, there is good reason to believe that the ability to contain the virus and manage the public health consequences has helped provide firms with a less hostile environment. Nonetheless, the picture is more complex than that, as up to 40% or more of firms are already in arrears on payments or expect to become so in the next 6 months. Interestingly, the figure is highest in Viet Nam, and lowest in Indonesia; data are unavailable for the Philippines. Finally, a significant number of firms have already received or expect to receive public support: about 20% in Viet Nam and the Philippines, 40% in Cambodia, but less than 10% in Indonesia. Overall, the data suggest that

the crisis has been felt as a major negative shock in countries in the region, even those that have performed very well in terms of managing the public health side of the crisis.

**Figure 18: Business Pulse Survey Results for East and Southeast Asia**

**(firm conditions, latest available data)**

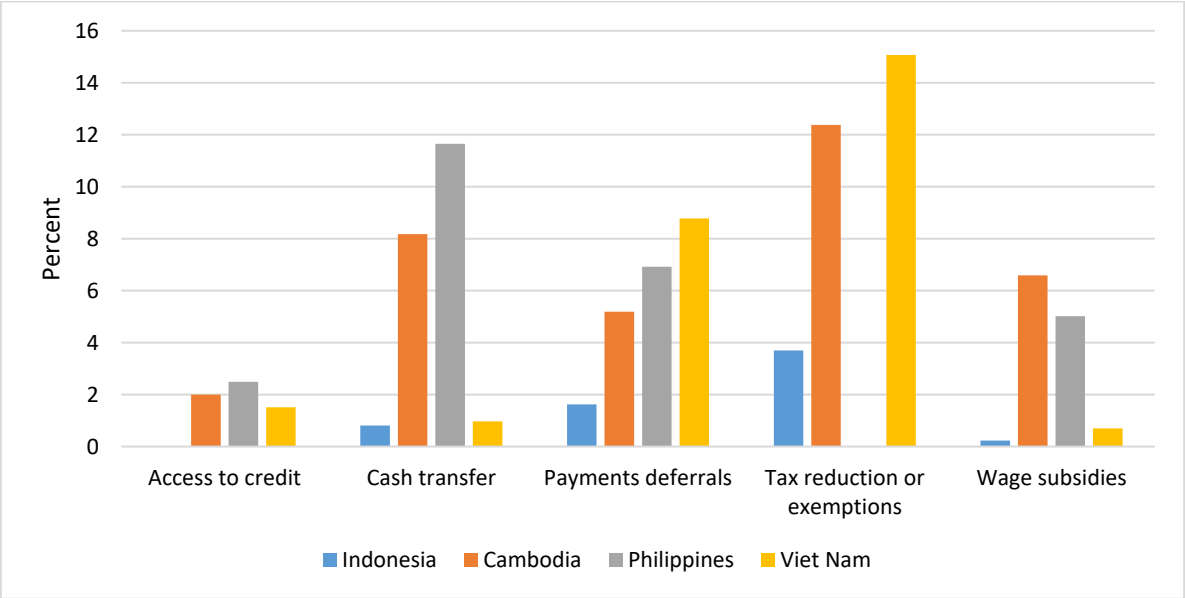



Source: World Bank.

Figure 19 shows that policy responses have been different in important aspects across the countries for which data are available. Relatively few firms have received policy assistance in terms of access to credit, but tax reductions and exemptions – as well as cash transfers, payment deferrals, and wage subsidies – have been more common. Amongst the countries included in the survey, Indonesian firms have the lowest prevalence of policy support, while the other three countries have much higher levels of assistance. Still, the scale of the figure is important: no more than 15% of firms report having received a particular policy response. So, comparing this with the figures for firm-level financial stress reported above suggests that many firms have not yet received assistance to deal with the pandemic shock.

**Figure 19: Business Pulse Survey Results for East and Southeast Asia**

**(policy responses, latest available data)**

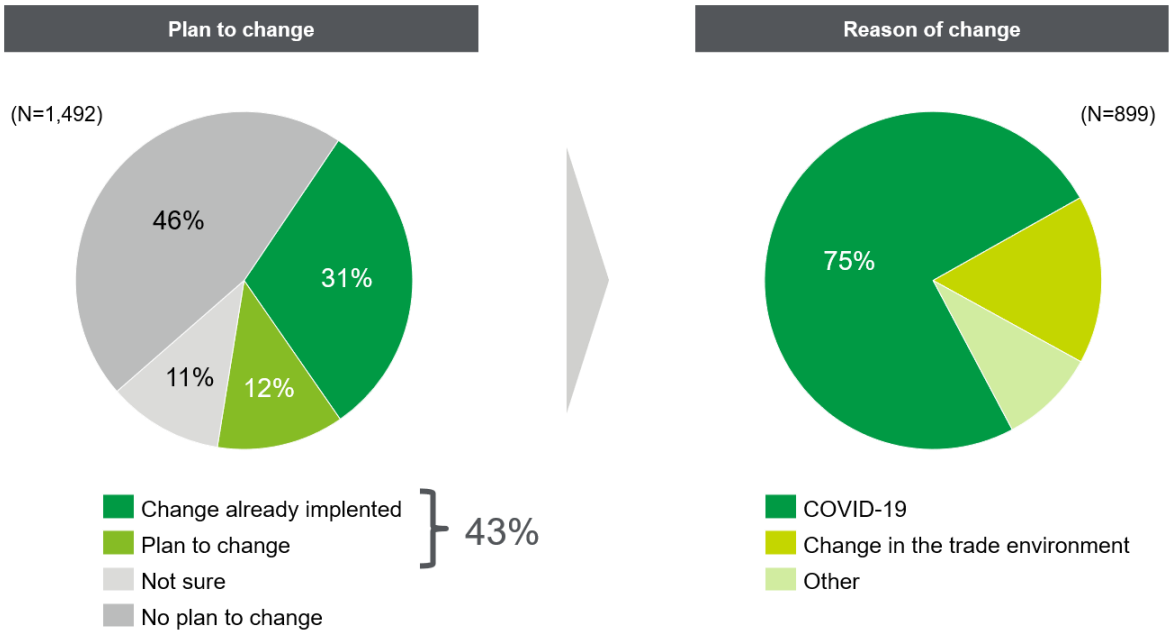



Source: World Bank.

It is impossible to know what the effect of the pandemic has been on GVCs in East and Southeast Asia because the necessary data only become available with a lag of some years. But the available indications suggest that the subdued growth in production sharing seen since 2009 is a trend that has likely been reinforced by the COVID-19 pandemic. As already noted, trade has fallen substantially, and is likely to remain below trend for some time. FDI in developing Asia is also projected to fall by up to 45% in 2020 (UNCTAD, 2020). Given that trade and FDI are two of the main underpinnings of GVC development, the available evidence suggests that in the short term, GVC expansion will be more muted than in the 'golden age' of the early 2000s.

The Economic Research Institute for ASEAN and East Asia (ERIA) conducted a questionnaire survey of business activities of 2,083 local and foreign companies in ASEAN and India from October 2020 to January 2021 to understand the impact of COVID-19 on corporate activities and supply chains, with the objective of utilising the results for policy recommendations to national governments and international organisations. Overall, the surveyed firms – especially large and medium-sized firms – have withstood the shocks to both customer and supplier activities in 2020, with an expectation of improved results in sales, profits, and exports in 2021. A large number of firms (Figure 20) answered the question on plans to change their production location, and the survey revealed that COVID-19 has been a greater motivator of changes in the location of production than the US–China trade tensions.

**Figure 20: Survey Results for Plans for Change in Production Locations Due to COVID-19**




COVID-19 = coronavirus disease.
Source: ERIA Survey, 2021.

Beyond the very short term, it is only possible to speculate as to the fate of GVC development in East and Southeast Asia. On the one hand, GVCs deliver important efficiency benefits, and many are backed by specific and costly investments that tend to promote resilience. Seen from that point of view, there is good reason to believe that global and regional production sharing will continue to expand over time, though probably no faster than the somewhat tepid pace seen just before the COVID-19 pandemic. The main risk to this scenario, as noted above, comes from policy. Political economy pressures to pursue reshoring, as well as reassessment of risk in the private sector, could combine to favour shorter supply chains, at least in some sectors. The extent of this phenomenon is still an open question, however. The economic costs imposed by policies designed to reshore in a major way appear to be very high, and it is unlikely that major economies will engage them in a context where recovery is a key objective for the medium term. The most likely scenario is therefore not a wholesale reshoring of GVC production, but rather a continuation of the pre-existing trend towards slightly shorter value chains, and more tepid growth in production sharing than was seen in the early 2000s.

From the upside, the major potential change in conditions facing GVCs is the rise of new sectors and modes of delivery. The digital economy (see box) looms large in this regard. But so too do environmental products, like renewable power generation equipment such as solar cells, as well as electric vehicles. Consumer tastes have been shifting in this direction for some time, and it is plausible that recovery programmes in the high-income markets will favour this shift through incentives and other measures. Provided that markets remain relatively open, East and Southeast Asia is well positioned to take advantage of these opportunities, given its established base in related sectors, such as electronics and motor vehicles. While retooling will be necessary, the existence of an effective supplier network and integrated GVCs could be an important advantage in developing GVCs further in the future.

**Digital Economy**

The Southeast and East Asia region is the 'factory of the world'. The effect of the digital economy is, however, advancing in corporate applications and industrial systems; therefore, in investments, hiring, skills training, and trade facilitation policies. The Asian labour force is projected to grow by 0.5% annually from 1.9 billion in 2015 to 2.1 billion in 2030 and 2.2 billion in 2050 (ADB, 2018). India is projected to account for 30% of the regional total labour force by 2030, and countries with relatively young current populations, such as Nepal and Pakistan, will experience larger increases in their labour force and need policies to ensure an adequate number of productive jobs.

Structural transformation policies in developing Asia must understand, prepare for, and respond to the new digital economy, which will affect the patterns and geographical location of industries, employment, trade, and economic growth. Industrialisation and participation in global value chains are important for growth and employment generation. The traditional approach to gradual industrialisation and employment for a young population has been affected by Industry 4.0 and the new digital economy, which have abruptly arrived in developing Asia (Prakash, 2019).

Manufacturing is at the heart of industries integrated in the global value chains (GVCs) in Asia. Foreign direct investment facilitated East Asia's industrialisation and structural change, and its integration in the GVCs. While manufacturing activities and deeper integration in GVCs still matter in the digital economy, suitable policy focus and skill adaptations are required to participate in the GVCs of the digital economy.

Manufacturing will not diminish in the digital economy. The geographic span of the GVCs will expand and their concentration may also shift from current locations. Production and consumption of goods and services will occur in newer locations and platforms. Countries in Asia can resolve the important issue of engaging human capital, employment, growth, and industrial development in the digital age through three important policy actions.

**Investment facilitation**: Attracting investments in manufacturing *per se* helps in acquiring technology capacities and capabilities to move up the value chain of production or expand into digital technology. Additionally, the dynamic application of technology and skills between agriculture and industry, the digital economy, and agriculture will reduce any adverse impacts of the digital economy and automation on low-skilled labour.

**Higher education and skills training**: Robots and automation enhance the productivity of high-skilled labour, but they can replace low-skilled labour. Countries attracting investments in labour-intensive industries must continuously upgrade the skills of their workforce for better absorption in the workplace. Access to higher quality education should be made universal as it helps people to acquire the advanced skills and knowledge required in a digital economy. Higher education spending is a more efficient policy option as it adds to the human capital of low-skilled workers and allows them to profit from technological progress. It also makes low-skilled workers scarcer, boosting their wages (IMF, 2018).

Appropriate social security policies and social safety nets complement education policies and help bridge the income gaps between high- and low-skilled workers. Incentives for the domestic relocation of labour also help in the absorption of low-skilled labour in the job market.

**Leapfrogging and feedback of technology**: With an appropriate set of skills, the digital economy enables possible leapfrogging from the pre-globalised world to active participation in trade through

technology and connectivity. For example, in Africa, the export of cut flowers and horticulture is made possible through air transportation and commercial connection. Likewise, leapfrogging is possible in developing Asia through software outsourcing (Kimura, 2018). With the right amount of human capital and digital connectivity, software-related jobs can be created even in remote areas. These opportunities may be limited in size, but countries/regions should capture any new business opportunities and employment avenues made possible by the feedback and leapfrog of technology. These opportunities will, however, be possible when some moderate levels of trade facilitation, an investment enhancing policy environment, infrastructure, and human resource capacities are in place.

Employment in the digital economy is also possible through the feedback of new technologies to old industries. This is especially important for the structural transformation of labour, where even if the existing industrial structure is not fully transformed, new piecemeal technologies can be used for upgrading old industries. The development of food value chains, use of smartphones, and remote sensing in agriculture are some examples.

A calibrated combination of trade and investment facilitation measures, preparing the job market (especially the youth) with the skill sets and social security measures required for a new digital economy – along with flexibility in the domestic policy ecology to skip certain stages and leapfrog to a higher stage of development – is key to developing greater Asian participation in the GVCs of the digital economy. Closer partnership between governments and the private sector will be important, though the quality of human resources will likely become the decisive factor in a digital economy.

# CHAPTER 5

# CONCLUSION AND POLICY IMPLICATIONS

Trade and investment in East and Southeast Asia from a GVC perspective reveal important changes in the GVC dynamics, especially in light of the COVID-19 pandemic, as well as other economic and social changes. The fragmentation of production across borders that is implied by the GVC business model, in particular the large-scale flow of intermediate goods and services, is not captured by traditional standard trade data, which overstate the value of trade, are incompatible with the system of national accounting systems that operate on a value-added basis, and do not identify the sources of value added. DVA, FVA, and PDC from domestic and foreign sources are the tools to assess changes in GVCs.

GVCs have a network of investment relationships underlying them. The taxonomy of investments in the GVC context is well understood from a policy standpoint, but the available data do not allow analysts to distinguish amongst the different motivations for an investment in GVCs.

In 2019, East and Southeast Asia accounted for 18.4% of the global inward FDI stock, concentrated at the country level, with China, Hong Kong, and Singapore each accounting for just over 25% of the regional total. Some small economies stand out as having very high rates of growth in inward FDI, such as Mongolia, Cambodia, and the Lao PDR.

FDI data that disaggregate both by country and by source are difficult to obtain, and when available, as in case of the OECD, most of the contents are suppressed for reasons of confidentiality in the case of receiving countries in East and Southeast Asia. Most countries do not make this kind of data public, even if they track it.

This study uses easily available data of stocks of US origin investment in certain sectors in countries in ASEAN and East Asia. The distribution of US FDI is across the three main economic aggregates − manufacturing, services, and mining. Indonesia is the only country in the region where mining is a major source of inward FDI. By contrast, manufacturing predominates in Thailand and the Philippines, but FDI is mainly in the services sector in other economies. The balance between services and manufacturing is relatively close in Taiwan, Korea, and China. But in the remaining countries in Southeast Asia, the services sector is largely dominant in terms of hosting inward FDI.

In countries such as Thailand, where manufacturing is dominant, efficiency-seeking FDI is more prevalent. Comparative advantage effects predominate and the FDI in manufacturing GVCs is designed to serve the broader world market rather than the local market.

Countries where services dominate inward FDI represent an interesting middle case. GVCs are becoming increasingly important in the services sectors, although they are still less developed than in manufacturing. Inward FDI in services is linked to both efficiency-seeking and market-seeking rationale. Hong Kong or Singapore, which are technologically advanced but smaller markets, offer additional motivation – to acquire intellectual property.

While FDI data for manufacturing are not easily obtainable, in broad terms they show considerable heterogeneity across countries. Chemicals and computers, however, stand out as two sectors that are

relatively important in all countries for which data are available, as they are regarded as classic GVC sectors – attracting higher investments.

FDI in services also shows considerable heterogeneity across countries. Finance stands out in the higher-income countries as having a large share of the total FDI. Financial investments can, however, be influenced by macroeconomic forces, and tax and regulatory laws for holding companies. Nevertheless, finance is a service industry that has been relatively successful in internationalising its production process over recent years.

FDI in the wholesale sector could be linked to GVC activity too. Distribution itself is a GVC sector in terms of logistics.

Inward FDI is overwhelmingly concentrated in larger firms in all countries for which data are available. While the proportions of small firms receiving inward FDI differ across countries, they are nearly always much smaller than the proportion of medium-sized and large firms. A partial exception is the Philippines, where a relatively large number of small firms has received inward FDI. From a GVC perspective, this pattern is normal as lead firms seek efficiency gains from suppliers that can work at scale. Smaller firms most commonly participate in GVCs only indirectly, as second-tier suppliers of larger firms that participate directly in GVCs. From an equity and inclusion point of view, it is important to be aware of the concentration of inward FDI on larger firms in the region, as well as the challenges that can pose for smaller firms.

## 1. Emerging Issues for FDI in GVCs

The period following the global financial crisis has seen slower growth of trade relative to GDP, and while GVC integration has continued to increase, it has done so more slowly than in the previous period. The economic shocks associated with the COVID-19 pandemic have put stress on GVCs in various sectors, including some high-profile ones, such as personal protective equipment, vaccines, and other goods needed for responding to the pandemic.

It is still too early to say to what extent GVC integration has been affected by the COVID-19 pandemic as rigorous data will only come out with a delay of some years. But the available trade data show that there has predictably been a major drop in trade, particularly in services requiring personal contact. It is still unclear why recovery is happening at radically different rates in different countries. Even in those countries where recovery is lagging, it is unclear whether the proportion of GVC trade in the total has been affected. It is plausible that trade has fallen by a certain amount, but the fall was distributed over GVC and other types of trade roughly in proportion to their initial shares, which would mean that the relative prevalence of GVC trade would not change significantly. The ERIA-led survey of domestic and international firms in ASEAN and India largely confirms that supply chains have been impacted to some degree across the sectors, but the business outlook amongst firms remains cautiously optimistic.

Value chains are relatively robust to unexpected changes in trade costs. The proportional degree of cost increase required to cause GVCs to unravel is very high. While the economic shocks related to COVID-19 are indeed severe, it is unlikely that they are sufficiently focused on input markets to change firm sourcing decisions fundamentally. The implications of the pandemic are more macroeconomic in nature, with some difference across sectors. The incentive to source goods locally versus using foreign suppliers has not been fundamentally altered.

GVC activity will rebound rapidly as the global recovery takes hold. East and Southeast Asia is particularly well placed to take advantage of improved global demand later in 2021, given that these countries have generally managed the pandemic response very well, and thus have seen fewer and shorter restrictions to economic activity than in other parts of the world, in particular Europe and the US.

The policy risk in some countries related to the debate over reshoring and the change in production locations may be low. A more likely scenario is targeted interventions in sectors that have assumed particular importance during the pandemic, such as health-related goods. These may not be of the same order of magnitude as reshoring large amounts of manufacturing activity.

From a GVC integration standpoint, technology (digital, robotics, and automation) has the potential to move production closer to the location of final consumption, but existing production locations are still preferred. At the level of firm decision-making, the pandemic experience will likely lead to a reassessment of the risks associated with dispersed production and just-in-time management practices, at least in those sectors that suffered stress. But it is important to note that while some GVCs experienced shortages and severe disruptions in the early stages of the pandemic, anecdotal evidence and limited surveys suggest that they resolved those problems rapidly and retooled to meet increased short-term demand for pandemic-related products. The private sector's reassessment of risk is unlikely to lead to a wholesale unravelling of the GVC business model. A likely scenario is the introduction of increased redundancies in supplier networks, to deal better with bottlenecks created by over-reliance on single sources.

In developing policy responses to the COVID-19 pandemic, policymakers would do well to be mindful of the unique nature of the shock: it hit all countries at essentially the same time, and had broadly similar effects in each of them, at least in its early stages. As such, most countries saw a combined supply and demand shock because of the pandemic. But this pattern is extremely unusual. Finding the right balance between the efficiencies that come from concentrated sources and the need to mitigate risk is being evaluated. But there is no strong evidence of the need for policy intervention to supplant the normal course of decision-making within private businesses.

Trade and investment policies have come under review, nevertheless, as they determine the ability of firms to contest foreign markets or to source intermediate inputs from foreign suppliers. In the GVC context, trade facilitation can increase backward and forward linkages.

Similarly, restrictions on FDI can impair backward GVC participation. A more restrictive regulatory regime governing FDI is associated with a lower degree of GVC integration. Broader considerations concerning the business environment also play a role in structuring GVC interactions.

## 2. Resilient GVCs

Reshoring or shortening the spread of GVCs can be done through the imposition of unilateral trade tariffs and restrictive FDI policies, but are they useful or even required?

The unilateral US tariffs, to which China responded in kind, are very high relative to baseline levels, and have led to some unravelling of GVC linkages, but not a wholesale disintegration of the model. In the absence of policies designed specifically to disrupt production sharing – for instance, by targeting

foreign input use rather than trade in general – it is extremely costly to radically alter the prevalence of GVC trade.

OECD (2020) showed that a more domestically focused supply chain, far from decreasing volatility, may increase it, as most economic shocks are not perfectly correlated across countries. Having a purely domestic supply chain means that if a shock hits the local economy, there is no shock absorber, and the result is increased volatility.

However, the issue of supply chain resilience is an important one, in particular when GVCs are used to produce public goods and necessities from a public health or safety perspective. There is evidence that the private sector is concerned with improving resilience in light of the vulnerabilities exposed by the COVID-19 pandemic. The focus, however, is on diversification, supplier redundancy, and technology, rather than large-scale reshoring. There may be a case for greater regulation of some GVCs on the grounds of assuring public health, but it will be important to assess these needs on a case-by-case basis rather than proceeding generally. Any intervention will need to balance the efficiency advantages of GVC production against any possible social objectives that are not fully fulfilled.

From the perspective of countries in East and Southeast Asia, there is some policy-related risk that large markets such as the US may seek to increase the proportion of DVA in production, although this risk has declined substantially with the new administration. There is a case for guarding their roles as suppliers within GVCs that ultimately export final goods and services to other markets, including the US.

The bigger risk to economies in East and Southeast Asia is that recovery in the large, high-income markets of Europe and the US is slower than expected.

High savings and reduced spending opportunities may make funds available for investment, including in East and Southeast Asia, if profitable opportunities and expectations of future growth prevail. Sustained easy monetary policy in the high-income countries could create a climate where investors seek out opportunities abroad, including in East and Southeast Asia. Given the region's strong position as a locus of GVC activity, including through investment linkages, it would appear well placed to take advantage of such a shift.

## 3. Emerging Policy Issues

As tariff rates have fallen, NTMs in general have become more important as determinants of market conditions. Available policy data show that GVC development in East and Southeast Asia rests on a stable foundation of trade and investment links. Macro-level risks are lower because wholesale costly reshoring of activity seems unlikely. But there are still significant risks at a micro level, related to continued efforts in many countries to use non-traditional trade policies to introduce *de facto* discrimination against international suppliers. The slowdown observed since 2009 is related in part to these kinds of policies, and it seems likely that GVC development in the region will not return to the rapid pace of integration seen in the early 2000s, at least in the short term.

## 4. Post-COVID-19 Perspective

East and Southeast Asia has, in general, been very effective at containing COVID-19 from a public health perspective. But the economies of the region are generally very integrated in global movements of goods, services, ideas, people, and capital. A reduction in consumer spending may lead to reduced demand for exports. Information on the economic effects of the COVID-19 pandemic is still highly incomplete, as the situation is continuously evolving. The World Bank's Business Pulse Survey shows that falls in monthly sales have been large – up to 40% or more. In addition, up to 40% or more of firms are already in arrears on payments or expect to become so in the next 6 months (from June 2020, when the survey was conducted). For all ASEAN Member States, which have performed well in terms of managing the public health side of the crisis, COVID-19 has been a major negative shock to the economy.

Policy responses have been different in important aspects across the countries. Relatively few firms have received policy assistance in terms of access to credit, but tax reductions and exemptions – as well as cash transfers, payments deferrals, and wage subsidies – have been more common.

Subdued growth in production sharing seen since 2009 is a trend that has likely been reinforced by the COVID-19 pandemic. Trade has fallen substantially, and is likely to remain below trend for some time. FDI in developing Asia is also projected to fall by up to 45% in 2020. Given that trade and FDI are two of the main underpinnings of GVC development, the available evidence suggests that in the short term, GVC expansion will be more muted than in the 'golden age' of the early 2000s.

The main risk to GVC development in East and Southeast Asia comes from policy. Political economy pressures could combine to favour shorter supply chains, at least in some sectors. Reshoring in a major way appears to be very high-cost, especially where recovery is a key objective for the medium term. The most likely scenario is therefore not a wholesale reshoring of GVC production, but rather a continuation of the pre-existing trend towards slightly shorter value chains, and more tepid growth in production sharing than was seen in the early 2000s.

The major potential change in conditions facing GVCs is the rise of the digital economy, environmental products like renewable power generation equipment such as solar cells, and electric vehicles. Recovery programmes in the high-income markets will favour this shift through incentives and other measures. East and Southeast Asia is well positioned to take advantage of these opportunities, given its established base in related sectors such as electronics and motor vehicles. While retooling will be necessary, keeping markets relatively open, an effective supplier network, and integrated GVCs could be an important advantage for Southeast and East Asia in developing the GVCs of the future.

# REFERENCES


ADB (2018), Asian Development Outlook 2018: How Technology Affects Jobs. Manila: Asian Development Bank.

Anderson, J. and E. van Wincoop (2004), 'Trade Costs', Journal of Economic Literature, 42(3), pp.691–751.

Association for Professionals in Infection Control and Epidemiology (2020), 'National Survey Shows Dire Shortages of PPE, Hand Sanitizer Across the US', 27 March. https://apic.org/news/national-survey-shows-dire-shortages-of-ppe-hand-sanitizer-across-the-u-s/ (accessed 1 January 2021).

Brambilla, I., N. Depetris Chauvin, and G. Porto (2017), 'Examining the Export Wage Premium in Developing Countries', Review of International Economics, 25(3), pp.447–75.

Cattaneo, O. and B. Shepherd (2014), 'Quantitative Analysis of Value Chain Strength in the APEC Region', Report Prepared for the APEC Policy Support Unit, https://www.apec.org/-/media/APEC/Publications/2015/3/Value-Chain-Resilience-in-the-Asia-Pacific-A-Synthesis-Report/15_cti1_051_VCR-synthesis-report-2015-9-march-clean.pdf (accessed 1 January 2021).

De Backer, K. and S. Miroudot (2013), 'Mapping Global Value Chains', OECD Trade Policy Papers, No. 159. Paris: OECD Publishing. http://dx.doi.org/10.1787/5k3v1trgnbr4-en (accessed 18 March 2021).

Dunning, J. (1980), 'Toward an Eclectic Theory of International Production: Some Empirical Tests', Journal of International Business Studies, 11(1), pp.9–31.

ERIA (2021), 'Survey of the Impact of COVID-19 on Business Activities and Supply Chains in East Asia and the ASEAN Region'. Jakarta: Economic Research Institute for ASEAN and East Asia.

Freund, C., A. Mulabdic, and M. Ruta (2019), 'Is 3D Printing a Threat to Global Trade? The Trade Effects You Didn't Hear About', Policy Research Working Paper, No. 9024. Washington, DC: World Bank.

Iacovone, L., B. Javorcik, W. Keller, and J. Tybout (2015), 'Supplier Responses to Walmart's Invasion in Mexico', Journal of International Economics, 95(1), pp.1–15.

IMF (2018), 'Technology and the Future of Work', IMF Staff Note, 11 April. Washington, DC: International Monetary Fund.

Javorcik, B. (2004), 'Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers Through Backward Linkages', American Economic Review, 94(3), pp.605–27.

Johnson, R. and G. Noguera (2012), 'Accounting for Intermediates: Production Sharing and Trade in Value Added', Journal of International Economics, 86(2), pp.224–36.

Kimura F. (2018), 'Unbundling Regimes and Development Strategies in ASEAN: Old Issues and New Challenges', Journal of Southeast Asian Economies, 35(1), pp.13–21.

Koopman, R., Z. Wang, and S.-J. Wei (2014), 'Tracing Value-Added and Double Counting in Gross Exports', American Economic Review, 104(2), pp.459–94.

McKinsey Global Institute (2020), 'Risk, Resilience, and Rebalancing in Global Value Chains' https://www.mckinsey.com/business-functions/operations/our-insights/risk-resilience-and-rebalancing-in-global-value-chains (accessed 1 January 2021).

OECD (2016), OECD Economic Surveys: Turkey, July 2016. Paris: Organisation for Economic Co-operation and Development.

OECD (2020), 'Shocks, Risks and Global Value Chains: Insights from the OECD METRO Model'. Paris: Organisation for Economic Co-operation and Development. http://www.oecd.org/trade/documents/shocks-risks-gvc-insights-oecd-metro-model.pdf (accessed 1 January 2021).

Park, C.-Y. (2020), 'Global Shortage of Personal Protective Equipment amid COVID-19: Supply Chains, Bottlenecks, and Policy Implications', ADB Briefs, No. 130. Manila: Asian Development Bank.

Prakash, A. (2019), 'Industrialization and Growth in Digital Age: Disruptions and Opportunities for Employment Led Growth in Asia and Africa', Task Force 7: Future of Work and Education for The Digital Age, T20, G20 Japan.

Rocha, N. and D. Winkler (2019), 'Trade and Female Labor Participation: Stylized Facts Using a Global Dataset', Policy Research Working Paper, No. 9098. Washington, DC: World Bank.

Shepherd, B. (2018), 'Global Value Chains and Women's Labour: Firm-Level Evidence', Paper Prepared for the Economic Research Institute for ASEAN and East Asia.

Shepherd, B. (2020a), 'Measuring Participation in Global Value Chains and Developing Supportive Policies: A User Guide'. Bangkok: UNESCAP. https://www.unescap.org/resources/gvc-analysis-guide (accessed 1 January 2021).

Shepherd, B. (2020b), 'Value Chain Development for Deeper Integration of East Asia and Latin America', ARTNeT Working Paper Series, No. 199. Bangkok: UNESCAP. https://www.unescap.org/resources/value-chain-development-deeper-integration-east-asia-and-latin-america (accessed 1 January 2021).

Shepherd, B. (Forthcoming a), 'Come Undone: Tariffs, Trade Wars, and Cross-Border Production Sharing', Working Paper.

Shepherd, B. (Forthcoming b), 'Death by Digital? Evidence from the Global Book Market', Working Paper.

Shepherd, B. (Forthcoming c), 'Trade Costs and Production Sharing in General Equilibrium: Evidence from Trade Facilitation', Working Paper.

Sriring, O. (2016), 'Thai Hard Disk Drive Exporters See Silver Lining in Cloud Storage – For Now', 24 April, Reuters. https://www.reuters.com/article/thailand-technology/thai-hard-disk-drive-exporters-see-silver-lining-in-cloud-storage-for-now-idUSL3N176035 (accessed 1 January 2021).

UNCTAD (2019), World Investment Report 2019: Special Economic Zones. Geneva: United Nations Conference on Trade and Development. https://unctad.org/webflyer/world-investment-report-2019 (accessed 16 April 2020).

UNCTAD (2020), 'Investment Flows to Developing Asian Countries to Fall 30% to 45% due to COVID-19, Says UN Report', Press release, UNCTAD/PRESS/PR/2020/018, 16 June. https://unctad.org/press-material/investment-flows-developing-asian-countries-fall-30-45-due-covid-19-says-un-report (accessed 1 January 2021).

Wang, Z., S.-J. Wei, and K. Zhu (2013) (revised 2018), 'Quantifying International Production Sharing at the Bilateral and Sector Levels', NBER Working Paper Series, No. 19677. Cambridge, MA: National Bureau of Economic Research.

World Bank (2018), 'Vietnam Continues to Reduce Poverty, According to WB Report', Press release, 5 April. https://www.worldbank.org/en/news/press-release/2018/04/05/vietnam-continues-to-reduce-poverty-according-to-world-bank-report (accessed 1 January 2021).

World Bank (2019), World Integrated Trade Solution. https://wits.worldbank.org/CountryProfile/en/Country/WLD/Year/1996/TradeFlow/EXPIMP/Partner/all/Product/Total (accessed 21 May 2020).

World Bank (2020), World Bank "COVID-19 Business Pulse Survey Dashboard". The World Bank Group, Washington D.C. https://www.worldbank.org/en/data/interactive/2021/01/19/covid-19-business-pulse-survey-dashboard (accessed 2 March 2021).

WTO (2019), World Trade Statistical Review 2019. Geneva: World Trade Organization.

WTO (2020), 'Trade Shows Signs of Rebound from COVID-19, Recovery Still Uncertain', Press release, No. 862, 6 October. https://www.wto.org/english/news_e/pres20_e/pr862_e.htm (accessed 18 March 2021).

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