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This paper summarizes the investment-related research in the Global Value Chain Development Report 2017. [World Bank Group, IDE-JETRO, OECD, UIBE and World Trade Organization, *Global Value Chain Development Report 2017: Measuring and Analyzing the Impact of GVCs on Economic Development*, World Bank, 2017, https://openknowledge.worldbank.org/handle/10986/29593.] Wang acknowledges the financial support from National Science Foundation of China grants 71642002 and 71733002.

The Global Value Chain Policy Series was launched in 2018 by the World Economic Forum's System Initiative on Shaping the Future of International Trade and Investment. It consists of brief policy papers on various aspects of global value chains (GVCs). The aim of the series is to stimulate cross-policy discussion and thinking about GVCs and collect ideas from researchers and practitioners on how to help GVCs contribute towards development, sustainability and inclusiveness. These ideas can then be examined in more depth in the context of particular value chains, regions or public-private initiatives. The World Economic Forum is working to bring the relevant actors together to facilitate this multistakeholder, cross-policy undertaking, aimed at catalysing partnerships for impact.

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Introduction

Two-thirds of world trade now takes place via global value chains (GVCs) in which production crosses at least one border and typically many borders. GVCs break up the production process so that different tasks can be carried out in different countries. Many top-brand smart phones and televisions, for example, are designed in the United States, Japan or the Republic of Korea. They have sophisticated inputs, such as semiconductors and processors, produced in Korea or Taiwan, China, before being assembled in mainland China. Then they are marketed and receive aftersales servicing in Europe or the United States. These complex global production arrangements have transformed the nature of trade. Their complexity, however, has also created difficulties in understanding trade and in formulating policies that allow firms and governments to capitalize on GVCs as well as mitigate side effects.

The GVC phenomenon has prompted researchers to develop statistics and analysis based on the *value added in trade.* It also demands that researchers analyse how the production process is divided into discrete tasks or phases. Data is now available on the value added traded among major economies during 1995-2014. The first *Global Value Chain Development Report* summarized the expanding research using data on the value added in trade. This paper highlights some key findings on the changing nature of international trade that relate to foreign direct investment (FDI), as well as to domestic investment.

The role of investment in GVCs

FDI is critical to the formation and functioning of value chains. Over the past 30 years, production has become internationally fragmented, and specialized firms located in different countries take part in the production process of a product, but at different stages of the value-added chain. This globalized production allows more in-depth specialization. It also brings efficiency gains because countries specialize in the segments of the production process in which they have a comparative advantage.

The distribution of FDI along such a segmented production chain, according to changing comparative advantage of different geographic locations, is a central feature of economic globalization in recent decades. In theory, all transactions along a value chain – from design to financing to engineering to production to transportation to branding and to distribution – could be done as arm's-length exchanges among firms that each specialize in their activity. Just imagining this kind of economy, however, reveals the difficulties in doing everything at arm's-length. If the original technology and design involve something innovative, then sharing that outside the firm is risky, even with patent and copyright protection. If critical components are produced outside the firm, managers lose control over timing and delivery. An arm's-length supplier producing a critical component has the potential to "hold up" the firm to extract rent. As a response to these considerations, most GVCs are organized by multinational corporations that operate across borders. Multinational corporations (MNCs) internalize the activities that would be risky to devolve outside the firm, while still making use of arm's-length transactions for many standardized inputs. Which activities are done via the parent firm's subsidiaries and which are arm's-length will vary sector by sector. Competition should drive each industry to find the most efficient mix of internal and external transactions.

Reflecting MNCs critical role, attracting foreign investment is important to a country's GVC participation. In turn, GVCs offer the foundation for countries, especially developing countries, to diversify their exports. Before the advent of GVCs, developing countries were generally relegated to producing primary products such as agricultural goods and minerals. Moving up the value chain to produce and export manufactured products was difficult because countries had to produce a complete product, and this involved a full range of supporting institutions, infrastructure and human resources. The advent of GVCs has been a boon to developing countries because they can initially specialize in specific tasks rather than a complete product, which is a much easier way to break into manufactures trade. As a result, developing countries now mostly export manufactures rather than primary products. The case of China offers a prime example.

Box 1: Experience and lessons learned from China's GVC integration

China's rapid emergence as a world trade power in manufacturing products in less than three decades is the result of a combination of its comparative advantages, the rapid development of global production fragmentation, and its government's preferential policies. Integration in various manufacturing GVCs was central to this emergence. Special economic zones (SEZs) and foreign invested enterprises (FIEs) have played a leading role in this globalization process. The significant dependence of manufacturing production on imported intermediates and FDI enabled China to quickly integrate into various GVCs and made it the fastest-emerging world trade power in human history. The large amount of FDI inflows to China (about $1.6 trillion between 1990 and 2014), especially after China's WTO entry, represents the relocation of the downstream labour-intensive stage of manufacturing production to China. It facilitated China's integration with international production networks. With a large pool of low-wage unskilled labour, China first became the location of choice for the final assembly of an array of manufactured goods and specialized in the downstream segments of manufacturing production in which it has a comparative advantage, relying on imports of intermediate goods and components. Goods assembled from imported parts and components, known as "processing exports", accounted for more than one-half of China's manufactured exports in the 1990s. FDI combined with segmented production processes not only facilitated China's integration into various global production networks, but also helped it upgrade along value chains.

Government policies in favour of GVC integration mainly include:

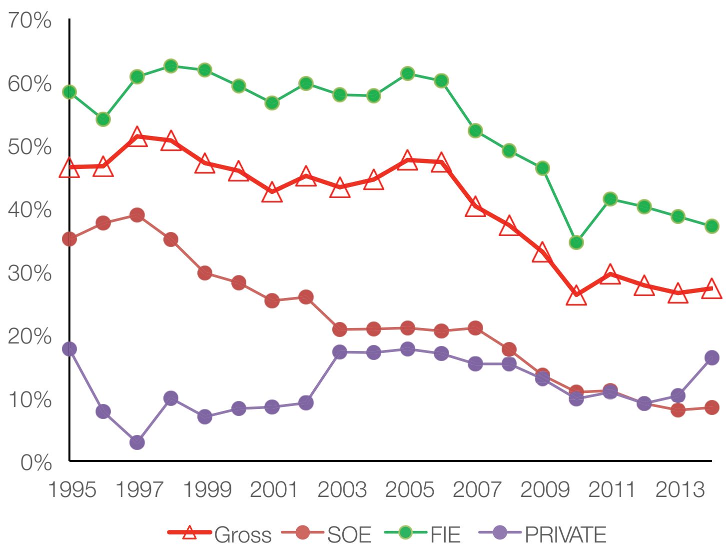
- Duty exemption and value-added tax (VAT) rebate for intermediate and equipment imports in favour of imports for exports over normal imports for domestic market
- Attracting FDI by various tax and other incentives, and encouraging export-oriented FDI over domestic market-oriented FDI
- Setting up SEZs to attract foreign investment through exemption of customs duty and VAT on intermediate and capital goods
- Implementing large-scale public investment in infrastructure to create the environment to attract foreign investment and to provide support for trade and economic growth

Under the stimulus of the above-mentioned economic policies, China's foreign trade development shows the following features and trend:

- More than 50% of China's exports and imports are conducted by FIE firms. More than 90% of China's advanced technology products (ATPs) exports to the US were produced by FIEs in China
- Approximately one-half of China's total exports are processing exports. In recent years, more than 90% of China's ATP exports were processing exports
- About 60% of China's ATP exports to the US were from government policy zones

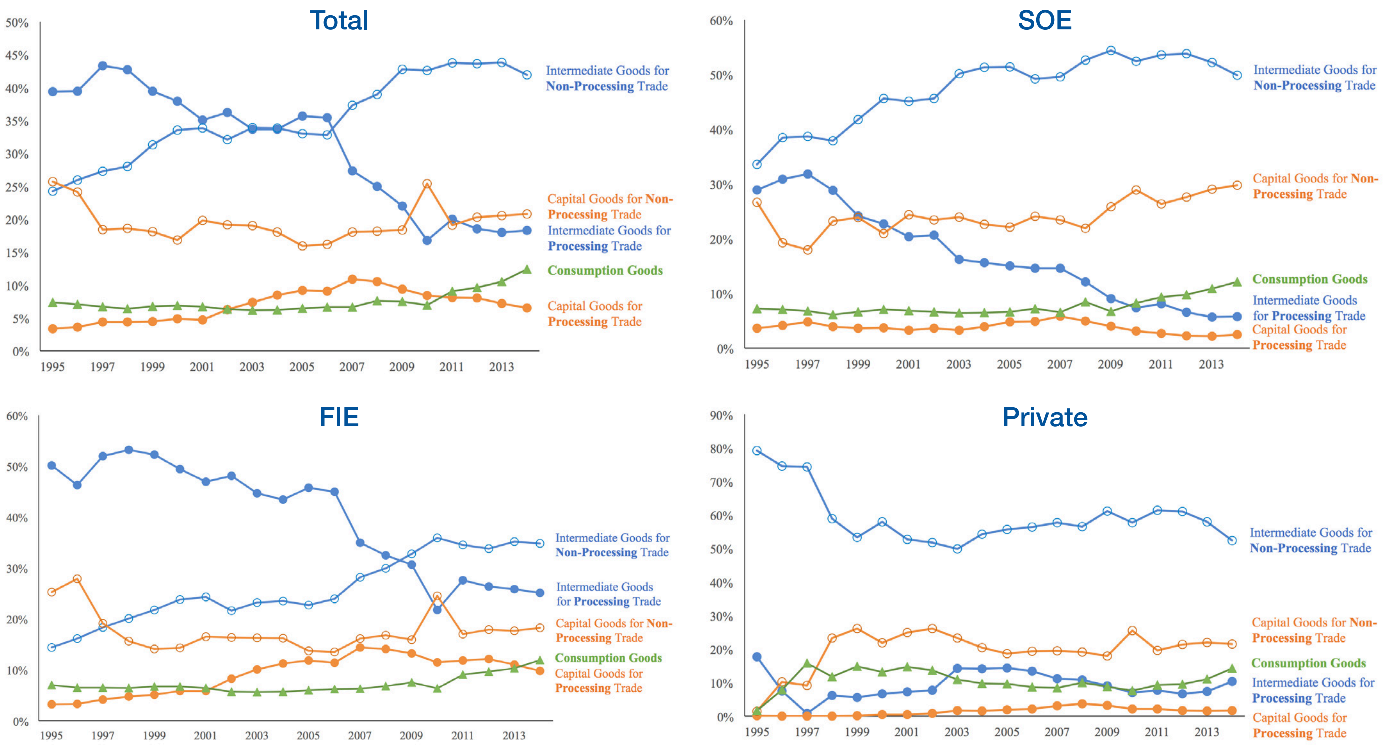
However, the effects of this type of partial liberalization in intermediate inputs are diminishing over time as Chinese labour and land costs rise. The share of processing trade is in decline, and instead, normal trade accounts for an increasing portion of imports in China today. As shown in Figure 1, the share of processing trade in manufacturing imports has decreased by almost 20 percentage points between 1995 and 2014.

Figure 1: Share of Processing Trade in Manufacturing Imports



In the meantime, the importance of non-processing trade is continuously increasing. As shown in Figure 2, shares of intermediate and capital goods used for processing trade have been rapidly decreasing since 2006, while those for non-processing trade show the opposite pattern. The above trends can be clearly observed for state owned enterprises (SOEs) and FIEs. As for private firms, the changing trends for different trade types are not as clear as they are for SOEs and FIEs, but it remains clear that non-processing trade dominates private firms' imports (always above 80% of its total imports during the entire period for which there is data). These facts indicate that the incentive provided by China's processing trade policy (duty exemption) has not benefited private firms as it did SOEs and FIEs, although private firms provide the largest portion of China's employment today. In addition, the effectiveness of these incentives, which previously strongly stimulated China's trade growth, has been diminishing swiftly in recent years. This constitutes one of the important factors that weaken China's trade growth.

Figure 2: Share of Intermediate, Capital and Consumption Goods in Manufacturing Imports, by Trade Types



Based on the evidence discussed above, it might be necessary and beneficial for China to follow what Canada did in 2011 and extend the scope of intermediate goods tariff exemption policy from processing trade to non-processing trade.

Sources: General Administration of Customs of the People's Republic of China, 2017; Yu, Xinding, Run Wang, Jun Yang and Zhi Wang, "Policy Options on Intermediate Goods Trade under the Era of Global Value Chains", Research Center of Global Value Chains, University of International Business and Economics, 2016.

Developing countries generally perform the labour-intensive tasks in a value chain, but having a large amount of labour and correspondingly low wages is insufficient to ensure that a developing country gets involved in GVCs as China's experience shows. There are large numbers of poor countries that are simply not involved at all. These countries have low wages, but they have even lower productivity, making unit labour costs high. The developing countries that are deeply involved (such as China, much of South-East Asia, Mexico, to name but a few) have created reasonably good investment climates through investment in infrastructure and streamlining administrative processes. On paper, most countries are open to direct investment in manufacturing, a necessary first step. If, however, infrastructure is deficient and/or corruption and red tape stifling, then few investors will take advantage of the open policies. For GVCs, *trade costs* are particularly important. These include tariffs on imported parts, delays at ports or in customs, and any impediments that make it expensive to move goods. A distinguishing feature of GVCs is that parts and components cross borders many times so that trade costs cascade. There are no developing countries with high trade costs that have a significant role in GVCs.

In addition to these factors, which are particularly relevant for GVCs, there are a host of more general investment climate factors that are important if countries want to attract foreign investment. One key factor is macroeconomic stability and balance of payments management. If a country has high inflation and a wildly fluctuating currency value, then it is difficult to do business. Most developing countries have policies on paper that indicate openness for currency account transactions; in other words, if a firm needs to buy foreign exchange to pay for imports or to repatriate profits, on paper this is typically allowed. However, in many cases, it is difficult in practice to get access to foreign exchange and that makes normal conduct of business difficult. Aside from these macroeconomic considerations, there are also more microeconomic factors that are important. Developing countries tend to have a lot of labour relative to capital or natural resources, but workers need to have good basic education to work in modern production chains. All of these factors can be thought of as the fundamental foundations for investment: Macroeconomic stability, foreign exchange management, basic education and the infrastructure and trade facilitation issues mentioned earlier. Without getting the fundamentals right, it will be hard to attract foreign investment or even domestic investment.

Investment and trade are more restricted in service sectors

One of the key perceptions of international trade that changes when the analysis switches from gross value to value added concerns the relative role of goods and services. In 1980, the split between trade in goods and direct trade in services was 80:20. By 2008 that ratio had barely changed. Most of the goods trade was manufactures, with the remainder agricultural and mining products. Economists refer to many services as “nontradables”, meaning that they cannot be directly traded internationally. Haircuts and dry cleaning would be classic examples. Higher-end services, such as healthcare and legal advice, are also hard to directly trade internationally. That is starting to change with some remote services trade, but statistically it is very small.

However, when the analysis is in terms of value added, it turns out that the share of services in trade nearly doubled between 1980 and 2008. Another way of looking at this statistic is that much of the value in manufactured goods comes from inputs of service industries. The reasons for these developments are variants of the older arguments for why the share of services in GDP tends to grow:

- The splintering or outsourcing of service activities from manufacturing firms
- The growing importance in a GVC world of connecting services like telecommunications and transport
- The growing service component in sophisticated manufacturing goods, such as software in cars
- The increase in relative prices of service tasks because manufacturing tasks are easier to offshore to lower-cost locations

This tendency for value-added exports of services to be greater than the direct export of services is true in all major economies, and the share of services in value-added exports varies considerably by country. In general, developed countries have especially high shares of services, typically above 50%. For example, about 55% of the value added exported from the US come from service sectors. European economies are similar to the US, but the percentage is higher. For the Netherlands – well known as an exporter of agricultural products and manufactures – nearly 70% of the value of its gross exports comes from services.

Emerging markets that are major exporters of manufactured products have somewhat lower service shares, but they are still surprisingly high. For example, China, Mexico and Viet Nam have very little direct export of services, but in value added terms about 40% of their exports come from service sectors. They can expect that share to rise as they develop further and move up the value chain. There is also evidence that increasing the *foreign services* share of gross exports improves the quality of exports for developing countries. In other words, using foreign services via imports or direct investment leads to a higher quality of production of manufactured products. This makes sense in a world in which services are key to managing the supply chain.

The links between manufacturing and services are deepening, but many developing countries continue to carry out dual policies between manufacturing and services. They tend to have stronger protection against imports of services, even though more open policies would help them develop more competitive and productive service sectors, which in turn would feed into more competitive and productive manufacturing sectors. As the benchmark, Organisation for Economic Cooperation and Development (OECD) economies are very open to imports of financial, telecommunications and retailing services, and moderately open to trade in transportation services. Professional services such as law, medicine and architecture, by contrast, remain relatively protected. For many services, it is difficult to trade internationally without investments enabling a firm to establish a local presence. These OECD economies are also very open to direct investment in these service sectors, contributing to their competitive character and high productivity outcomes.

Developing countries have embraced import openness for manufactured products, especially machinery and parts that enable them to participate in the international division of labour. They are also, in general, open to FDI in manufacturing. Developing countries, however, continue to protect imports of services and inward direct investment in the service sectors. Even the relatively open economies of East Asia tend to maintain more protection for service sectors than for manufacturing. For developing countries seeking greater participation in GVCs and to move up the value chain, one obvious measure is to open service sectors to import competition and FDI. Improved access to finance, communications, transport and other services, either through reform in general or FDI in particular, enhances manufacturing firms’ productivity and other aspects of the performance of downstream firms.

Deep trade agreements strengthen institutions

Another way to think about products that have complex value chains is that they are contract-intensive goods. That is, they often involve many exchanges among different firms, each facing some risk of contract nonperformance by others in the chain. It was noted earlier that some exchanges along the value chain are within multinational companies because the companies want to maintain control over key technology and components. However, there are also numerous transactions along the value chain that are between arm's-length firms. GVC research shows that, other things equal, countries with better institutions such as stronger property rights and rule of law participate more in GVCs. Research has found a similar result *within China.* Across a large number of Chinese cities, the ones with better contract enforcement, faster customs clearance and deeper financial systems tend to participate more in GVCs.

The idea of improving institutions and lowering trade costs across the board through better infrastructure, control of corruption, reduction of red tape and zero import tariffs on imported inputs (including services) is clear. Leaders of developing countries, however, naturally wonder how to pursue this agenda. It turns out that one effective route is through "deep" trade agreements. A deep trade agreement is one that goes beyond simple tariff cutting and involves legal commitments on laws and regulations. The different rounds of agreements within the framework of the World Trade Organization (WTO) have primarily involved reduced import tariffs on merchandise and these have had the most effect on trade in manufactures. It has proven more difficult to go beyond tariff-cutting in the WTO. With the notable exception of the Trade Facilitation Agreement, progress has stalled on new multilateral agreements. Preferential trade agreements (PTAs) have proliferated and proved more congenial for deep integration. In PTAs, a group of like-minded countries make agreements on policy areas that go beyond WTO commitments. In practice, the most important areas concern services trade, investment, competition policy and intellectual property rights protection.

Between 1958 and 2014, 279 PTAs were notified to the WTO. Research at the World Bank rated the "depth" of each PTA based on the number and share of legally enforceable provisions in the agreement. The North American Free Trade Agreement (NAFTA) among Canada, Mexico and the US is an example of a deep agreement, as is the Trans-Pacific Partnership (TPP), which was initially negotiated among 12 Asia-Pacific economies, but is now being pursued as the TPP11 following the withdrawal of the US. Reflecting the fact that deep integration often involves opening and levelling the playing fields for investment, intellectual property and competition policy, it turns out that participation in deep PTAs is an effective way to expand involvement in GVCs. The new areas covered in these agreements facilitate the operations of complex production structures that span multiple borders. Participating in deep PTAs increases a country's trade in parts and components, an important measure of GVC activity.

Strengthening institutions and reducing trade costs (perhaps through deep PTAs) offers an effective route for developing countries to become more involved in GVCs, but some sobering research shows that in addition to one's own institutions, the institutional quality of neighbours matters as well. In contract-intensive sectors (such as those with complex value chains), countries with "bad neighbours" show fewer exports, even after controlling for the country's own institutions. This result implies that deep agreements would be more effective if a group of neighbouring economies all sign up for the same agreement. In the case of the TPP, several Association of Southeast Asian Nations (ASEAN) countries (such as Malaysia, Singapore and Viet Nam) are members, as are several Latin American countries (such as Chile, Mexico and Peru). The benefits would be greater if all ASEAN and Pacific countries in Latin America signed up.

For developing countries, the agenda of reform needed to participate more deeply in GVCs is challenging. Moreover, access to finance remains an issue in less advanced countries that are prone to market and public governance failures. Joining GVCs improves the likelihood of attracting private FDI, the poorest countries may still require substantial additional financing, if only to improve the public transport and telecommunication infrastructure, as well as trade facilitation. In this respect, the 2015 Addis Ababa Action Agenda provides a new global financing framework to mobilize and deliver the resources, technology and partnerships required for improving many of the structural and institutional conditions that are necessary for fostering export-oriented industrial activities.

Towards more inclusive globalization

Recent research provides insights into how GVCs are assisting in the development process, and also reveals that the expansion of GVCs creates distributional conflict, especially in advanced countries. The rapid productivity growth within GVCs shows that it is an efficient form of production. In particular, it has enabled developing countries to move into new activities and rapidly raise their productivity. To be sustainable, however, globalized production needs to become *more inclusive* in at least three dimensions.

First, in developing countries deeply involved in GVCs, virtually the whole population is benefiting from expanded trade and faster growth, though not all to the same extent. In developed countries, by contrast, the benefits of expanded international trade and investment are highly concentrated among the very skilled in the workforce and the owners of capital. Both groups are already high up in the income distribution, and globalization increases their share of the pie further. There is no simple agenda to spread the benefits more widely.

Clearly, a protectionist sentiment is developing in several developed countries, particularly the US and UK. Cutting themselves off from the global market through import restrictions will almost certainly backfire. It is likely to lead to slower global growth and poor results all around.

Instead what is necessary are active labour market policies to provide training and retraining to ensure that workers have the skills demanded in the market, a stronger safety net of minimum income support, and support to communities hard hit by changes in production arising from trade or technological change. Also important is developing more detailed official national data to inform policy-makers in this regard. Considerable improvements have been made on the data front in recent years, notably through the development of Trade in Value Added (TiVA)-type measures. With few exceptions, these provide a macro view; a yet more granular view is increasingly needed, at least a view that focuses on workers, occupations and skills.

Second, although GVCs have enabled many developing countries to increase their participation in global trade and increase their productivity, too many countries and regions of countries are still left out. East Asia has taken advantage of the opportunities provided by globalization. Increasingly, however, the world's remaining extreme poor are concentrated in South Asia and Africa. Countries in these regions can help themselves through further trade and investment liberalization as well as trade facilitation measures that improve infrastructure and import or export processes so that goods can move easily around the world. One of the interesting trends identified in GVC research is that increasing amounts of the value added traded in the world comes from service sectors. Opening service sectors to foreign trade and investment is a smart strategy for deepening integration. Participating in deep trade and investment agreements can help with that agenda, and they will be most powerful if they involve several countries clustered together.

A third dimension of inclusion concerns small firms and the informal sector. Most job creation in the world is in small and medium enterprises (SMEs), so SME involvement in GVCs is crucial for getting the maximum positive impact from trade. Poor infrastructure, corruption and red tape significantly curtail SMEs. Special zones can be a way for a developing country to begin to participate in GVCs, but for the benefits to spread throughout the economy, the zones must be seen as stepping-stones to economy-wide improvements.

Some countries put a lot of effort into promoting themselves as attractive locations for FDI. This kind of investment promotion has mixed results. If a country has actually strengthened its investment climate through sound institutions and policies, then publicizing that is useful. Investors are not always well informed about the differences between neighbouring countries. However, without first improving the investment climate, a publicity effort is largely a waste of resources. Promotion is no substitute for the hard work of reform.

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