



Trade Policies and Sustainable Development in the Context of Global Value Chains

ICTSD



International Centre for Trade
and Sustainable Development

Framework Paper

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International Centre for Trade and Sustainable Development (ICTSD)
 International Environment House 2
 7 Chemin de Balexert, 1219 Geneva, Switzerland

Tel: +41 22 917 8492
 ictsd@ictsd.ch

Fax: +41 22 917 8093
 www.ictsd.org

Publisher and Chief Executive:
 Managing Director:
 Programme Officers:

Ricardo Meléndez-Ortiz
 Deborah Vorhies
 Nicholas Frank, Kiranne Guddoy, and Simon Pelletier

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LIST OF ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
BPO	business process outsourcing
FDI	foreign direct investment
GATS	General Agreement on Trade in Services
GIN	global innovation networks
GVC	global value chain
ICT	information and communications technology
IT	information technology
ITA	Information Technology Agreement
LCR	local content requirement
LPI	Logistic Performance Index
MNC	multinational corporation
OECD	Organisation for Economic Co-operation and Development
RCEP	Regional Comprehensive Economic Partnership
RTA	regional trade agreement
R&D	research and development
RoO	rules of origin
SME	small and medium-sized enterprise
SDG	sustainable development goal
TTIP	Transatlantic Trade and Investment Partnership
TPP	Trans-Pacific Partnership
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

EXECUTIVE SUMMARY

Global value chains (GVCs) have become a major feature of the 21st century economy as a result of sharply reduced costs of transportation and communication, coupled with decades of trade liberalisation. The expansion and increased sophistication of GVCs has created a new “trade-investment-services-technology nexus.” This nexus involves not just the movement of final goods but also that of intermediates, capital, ideas, and data flows, as well as increasing demand for services to coordinate these dispersed production and distribution networks. As a result, GVCs have brought to the fore issues that were not as important in a world of trade in final goods and more discrete markets.

This paper explores the types of trade and trade-related policies that are the most relevant to support the development of country participation and upgrading in GVCs; it also explores the implications these policies may have for GVCs to contribute to sustainable development. It stresses the fact that appropriate policies, while crucial, are by themselves insufficient to achieve participation in GVCs and must necessarily be supplemented by a number of supportive and mutually reinforcing domestic policies.

Enabling policies dealing with trade, investment, and the distribution of gains must be set in the context of the new GVC trading framework. Today’s exports and imports are inextricably entwined in the globalisation of production. Open and predictable trade and investment regimes, accompanied by efficient logistics and supportive domestic policies, are all necessary to achieve sustainable development outcomes.

The present paper emphasises the following main findings with regard to GVCs, trade policy, and sustainable development:

- Foreign direct investment (FDI) is the driving force behind GVCs;
- There are many factors that determine competitiveness for participation in GVCs, of which trade policy is only one;
- Efficient services are critical components of GVC participation as they are the glue that links the supply chains together in fragmented production networks;
- Participation in regional trade agreements may help to shape GVC operations, as these agreements (and their rules of origin) provide a normative framework of rules within which firms can operate in a larger economic space;
- Openness is important as interventionist trade policies can affect the competitiveness of both goods and services, and divide markets;
- This applies equally to both tariffs and non-tariff measures such as subsidies and local content requirements; however, governments may choose to have recourse to these interventionist policies if they are pursuing goals other than economic efficiency (such as encouraging technology transfer, pursuing environmental clean energy objectives, creating employment, or promoting the economic development of particular sectors) and consider that these policies would be the best way to achieve such outcomes;
- There are many sustainable development considerations surrounding participation in GVCs, particularly for developing countries;

- These include questions over who captures value in supply chains; whether and under what conditions it is possible to upgrade and avoid being caught in low value tasks; the type of employment and social gains that GVCs may generate and whether they foster greater gender equality in the work place; and, lastly, whether GVCs increase the vulnerability and exposure of a country to footloose investors and external shocks.

As discussed in the paper, many of these questions are only now being explored in the literature. In a world of GVCs, trade policy needs to be understood in a different way. This begins with the recognition that exports are only a small part of the development equation. The existence of large and growing trade in intermediates and services inputs, associated with FDI and the globalisation of production, greatly raises the stakes for developing countries to have open and predictable trade and investment regimes, supported by efficient domestic services and logistics.

The paper underlines that while participation in GVCs can generate economic benefits, it does not automatically bring all of the desired developmental impacts such as the creation of more employment and better-paid jobs, the increased participation of women in the labour force, and a transfer of skills and technology. It may also increase the vulnerability of GVC participants to external shocks and a downturn in business cycles through greater dependence on production and demand links with third markets. Participation in GVCs is also not guaranteed to lead to an upgrading trajectory along the value chain.

All of these outcomes will be a function of a number of factors, some of which may lie outside the ability of a country to influence, such as geographical location, the sector in which the GVC operates, and the origin and characteristics of the lead firm and investor, among others. Nonetheless, many of these outcomes can be influenced by appropriate and proactive government policies, including policies of a horizontal nature, which have economy-wide effects.

The paper concludes that GVCs can be an important avenue for developing countries to build productive capacity, increase their participation in world markets, and help to create opportunities for manufacturing and services upgrading in their economies. However, such potential benefits from GVCs are not automatic. Policies matter and must include a set of coherent and mutually reinforcing trade, investment, and domestic enabling policies that will help generate sustainable development outcomes.

1. INTRODUCTION

Global value chains (GVCs) have become a major feature of the 21st century economy. Costs of transportation and communication have been sharply reduced. Decades of trade liberalisation through multilateral, regional, and unilateral efforts, combined with the transformative power of information technology (IT), have allowed firms to split up their production and source intermediate inputs and services throughout the global market in a seamless fashion to deliver final products. A GVC usually involves a collection of firms located in different countries that jointly form a production line. Depending on the location of a firm, participation may either involve forward linkages—where a firm produces an output that is used in production for export in another nation—or backward linkages where a firm uses imported parts or components used as input into production that is exported. While GVCs permit enterprises in different locations to concentrate on specific tasks, they also increase interdependence. Each link in the chain relies on upstream producers delivering their output on time and meeting the required quality and safety standards.

The origin of GVCs has been explained by Richard Baldwin (2006) as a process of “unbundling” or a transformation of the various constraints around the way in which goods are produced. While the “first unbundling” was caused by a rapid decline in transportation costs that removed the need for goods to be produced close to the point of their consumption, the “second unbundling” was caused by rapidly falling communication and coordination costs that have allowed producers to separate components of their production in various locations, not only within one country but also around the world. As Baldwin emphasised, the second unbundling opened up firms to global competition on a task-by-task basis, rather than on a firm-by-firm or sector-by-sector basis.

The application of low-cost information communication technology has thus transformed trade to the extent the flow of goods, services, people, investment, technology, and data now takes place across borders rather than just within borders. This new, fragmented production structure and the resulting GVCs have created a new “trade-investment-services-technology nexus” or an intertwining of trade in intermediates, of the movement of capital, of ideas and data flows, together with a demand for services to coordinate these dispersed production and distribution networks.¹ As a result of such a nexus, GVCs have brought to the forefront issues that were not as important under the “first unbundling” where the only separation, according to Baldwin (2006), was between markets and consumers.

The most critical among these issues is foreign direct investment (FDI), not least because GVCs remain largely driven by investment decisions of multinational corporations (MNCs), through their outsourcing and offshoring activities. Secondly, services play a key role in the operation of international production networks, especially transport, communications, and other business services. Services act as the “glue” that binds together the geographically dispersed production stages involved in GVC networks. They are both embodied and embedded activities across the whole value chain for manufactured, agricultural, and natural resource products. Thirdly, as firms unbundle their production processes, logistics costs and efficient border operations become crucial. This includes all aspects of clearance procedures, port operations, cargo handlers, storage facilities, as well as transport and trade-related infrastructure. Finally, another element often included in this new paradigm is information technology (IT), which allows the supporting data flows to be moved around the world at almost zero cost.

1 This nexus was highlighted in OECD, WTO and World Bank Group (2014).

This Issue Paper explores the types of trade and trade-related policies that are the most relevant to support the participation of developing countries and their upgrading in global value chains, as well as the implications of these policies for the sustainable development potential of GVCs. It stresses the fact that

appropriate trade and trade-related policies, while crucial, are by themselves insufficient for achieving participation in GVCs. It underlines the numerous supportive and mutually reinforcing domestic policies that must also be brought into play in order for GVCs to lead to sustainable development outcomes.

2. GVC PARTICIPATION FROM A SUSTAINABLE DEVELOPMENT PERSPECTIVE

The emergence of global value chains has created significant new opportunities from a trade and sustainable development perspective. Today, over half of all trade flows consist of intermediate products, many of which constitute intra-industry trade within large multinational firms (Dadusch 2011). Such intermediate products and services can be supplied by any producer in the world able to insert itself into a value chain network. As a result, countries no longer need to develop comparative advantages across the entire production chain and can specialise in one or a few specific components as part of the production line, thereby generating significant new opportunities for small and medium-sized enterprises (SMEs), smallholder farmers, or services providers to participate in the international division of labour. Capturing a “task”—as opposed to an entire product—requires much less capital and only the ability to create a niche supplier for just one component or services task fitting into the GVC.

Global value chains can provide a vital conduit to access foreign capital, knowledge, and technology through the channel of FDI. This is critical in order for developing countries to increase the sophistication of their domestic economies and to have the potential to upgrade their production basket. Under the appropriate conditions, this can also contribute to developing countries being able to progress towards several key sustainable development goals (SDGs), including the promotion of inclusive and sustainable economic growth and the reduction of inequality.

With these opportunities, however, also come challenges. First, GVCs have not spread evenly across the world. They tend to be concentrated in three regions, namely North

America, Europe, and East Asia. This is not to suggest the absence of truly global supply chains, but existing evidence tends to support the claim that the majority of international production networks are regionally oriented.² This has resulted in a differentiated pattern of connectedness to global markets. Some developing countries in East Asia and Central America participate in many value chains, as either the host country to lead firms or, more frequently, as suppliers of very specific tasks or inputs. But most developing countries find themselves on the periphery of the main GVC networks, and this unequal participation also impacts on their ability to reap potential benefits.

Secondly, GVCs are not uniform. Some are created by research-driven companies looking for high value-added research. Others are propelled by market-driven companies looking to source inputs in low-cost locations or by resource-seeking investment focusing on extractive industries and securing access to raw material. For governments of developing countries seeking to maximise benefits from value chain participation, these may or may not offer participatory or upgrading opportunities depending on their specific circumstances. Value chains in natural resource products exhibit very different types of characteristics and potential benefits than do value chains in light manufacturing such as electronics. Services tasks, particularly the offshoring of business processes and IT, represent other types of economic activities that go into value chains and will offer varying types of opportunities for developing countries, depending upon the service and the sector in question. These different types of value chains will impact differently on employment, gender equality, and environmental use, with some

2 This regional bias stems partly from transport and logistic costs that discourage value chains spanning long distances. Firms will only unbundle their production process as long as the saved costs arising from the fragmentation process compensate for the additional cost of coordinating remotely located production and the cost of moving inputs across borders.

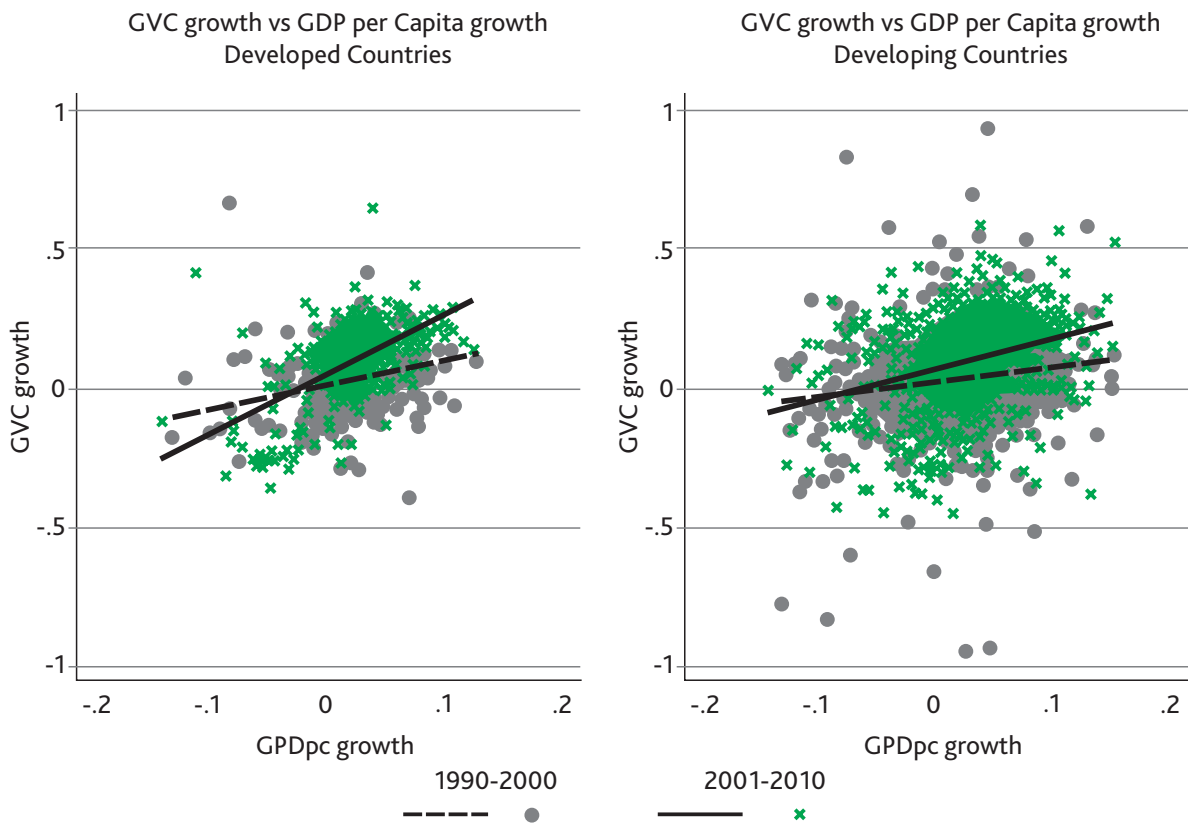
proving to be more beneficial than others and some carrying more challenges than others for governments to address.

The majority of value chains in the world economy are governed by lead firms from developed countries, usually MNCs. These lead firms determine the structure of the value chains and set the standards for all participants. Firms in developing countries are required to comply with the standards imposed by these lead firms when they provide product or service inputs into the value chain. Since these production and quality standards are often higher than those in their domestic markets, as a result some firms in developing countries find it challenging to engage in GVCs. Finally, not all value chains necessarily increase the transfer of skills and technology from lead firms to local suppliers; nor do all necessarily involve a great increase of employment opportunities. When the social aspects of value chains are considered, it is not always evident that they lead to higher-skilled and better-paid jobs, particularly if the requisite skills for upgrading are not yet present in the local economy. Thus, although greater employment in basic tasks and production operations may be generated, it may not always be possible to reap all of the desired benefits from participating in value chains.

Thirdly, GVCs are not static. Trade policy reforms, combined with falling transportation costs and the IT revolution, enabled the rapid expansion of GVCs in the 1990s and resulted in a surge in trade in parts and components. After the mid- 2000s, however, this process decelerated with the average share of intermediate goods in global non-fuel exports stagnating since then at around 50 percent. This slower pace of GVC expansion has been invoked as one of the structural causes behind

the trade slowdown observed after the 2008 financial crisis (see Hoekman 2015b). In China, the share of imports of parts and components in total exports declined from its peak in the mid-1990s of 55 percent to 35 percent in 2012, implying a diminished fragmentation of the production process. China also appears to have gradually generated a higher share of domestic value addition and reduced its dependence on foreign-produced inputs across a range of industries (see Francis and Morel 2015). Another explanation for this deceleration lies in the need to create efficiency gains and rationalise the cost of managing highly fragmented value chains by consolidating or grouping intra-regional chains. This does not mean, however, that the potential for fragmentation is exhausted or that all sectors are affected equally. The slowdown in vertical specialisation seems to have affected particularly the manufacturing sector but much less services where fragmentation is only beginning to happen. In a similar vein, information and communications technology (ICT) innovation might well result in further incentives for specialisation in the future.

Despite these recent trends, empirical analysis by the United Nations Conference on Trade and Development (UNCTAD) has shown a strong correlation between the degree of participation in GVCs and economic growth in both developed and developing countries over the two decades from 1990 to 2010, as shown in Figure 1. Furthermore, developing countries participating in GVCs have been shown to grow on average 2 percent faster than those outside of these global production networks. These results, however, only demonstrate a correlation between the two variables and do not necessarily prove causality. In order to establish causality, further research will be required, including the examination of case studies.

Figure 1: Correlation between GVC Participation and GDP per Capita

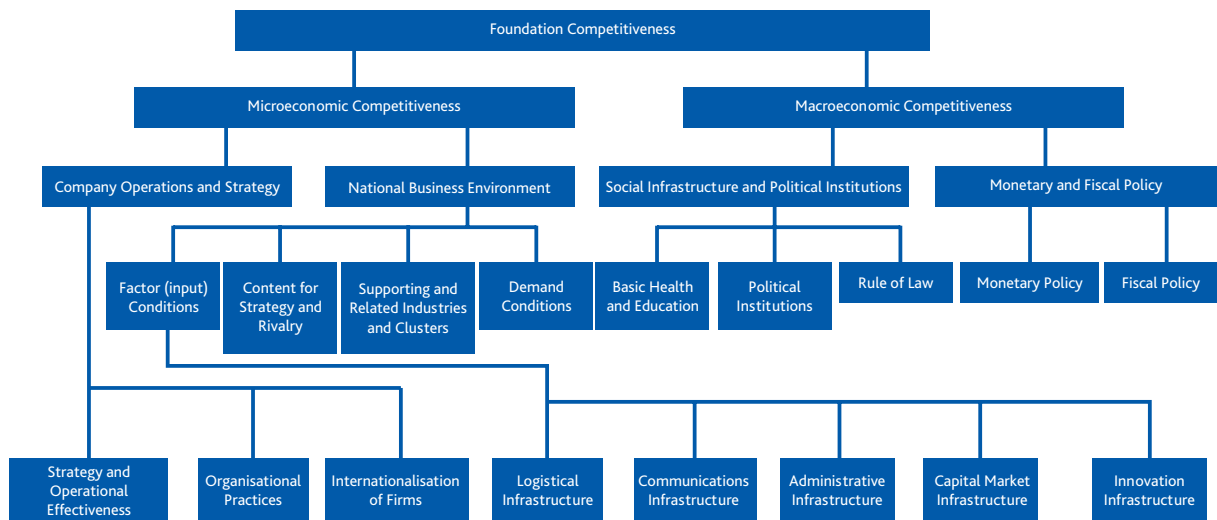
Source: Reproduced from UNCTAD (2013b, 21).

3. COMPETITIVENESS FACTORS DETERMINING PARTICIPATION IN GVCS

Numerous elements combine to create the possibility for developing countries to participate in value chains. Overall, these tend to be closely related to elements that determine international competitiveness and include a wide assortment of factors ranging from property rights and educational policy to the state of communications infrastructure or innovation. Porter's framework structure for assessing competitiveness, factors

affecting competitiveness can be loosely grouped into two primary groups: macro- and microeconomic factors (Delgado et al 2012). It is interesting to observe that trade policy is not included in the two groups of factors that define the envelope of possibilities of GVC participation in this framework structure, though it should arguably have been included as part of the underlying factors determining competitiveness.

Figure 2: Competitiveness: a conceptual framework



Source: Adapted from Delgado et al. (2012).

Macroeconomic factors encompass: i) political and social institutions, including educational services, the strength and health of political institutions, and the rule of law; and ii) the general macroeconomic environment (e.g. monetary and fiscal policy). Microeconomic factors are more numerous and include: i) the domestic business environment, with elements such as the nature of domestic competition, the presence of supporting industry clusters, and what Delgado et al. terms “factor conditions” such as logistical, communications, administrative, innovation, and capital markets infrastructure; and ii) firm level determinants, including the level of internationalisation, business sophistication, and operational effectiveness.

Low labour and production costs are among the factors that have economy-wide effects and where developing countries often are attractive to foreign investors looking for input sources into value chains; this may give them an advantage as potential suppliers of inputs and components. However, these factors can be offset by other horizontal factors that are less favourable, such as poor infrastructure, less efficient institutions and rule of law, and less skilled work force.

The competition framework of a country that determines the contestability of its domestic market is also an important consideration for potential investors and traders. An independent competition authority can

influence the degree to which anti-monopoly provisions are actually respected in law, with important trade-related impacts. For example, a telecommunications or energy sector open to foreign investment will not bring about investment interest, if there is no way to curb existing domestic monopoly power. Competition law in services sectors has the potential to improve competitiveness not just in services but also in other sectors of the economy that significantly use services as inputs, resulting in an increase in the efficiency of the whole economy.

A supportive environment for innovation, including business process innovation, is equally critical in the operation of GVCs. Innovative activities are often where the bulk of growth in labour productivity takes place and can have strong impacts on sustainable participation in production networks and particularly on the ability of developing country firms to move up the value chain towards higher value-added tasks. In recent years, the global innovation landscape has seen the emergence of global innovation networks (GIN) and other research and development (R&D) collaboration schemes. These refer to the establishment within a MNC of one or more research and development (R&D) affiliate facilities at different locations around the world, along with the consequent R&D management, specialisation decisions, and exchange of information among them and the parent company (see Maskus and Saggi 2014). These networks are the outcome of purposeful and strategic decisions, and their recent growth has largely paralleled that of vertical production networks. Such networks typically include a range of members such as MNCs (which may collaborate in R&D), high-tech start-ups, universities and public research laboratories, venture capitalists, specialised technology brokers, standard-setting organisations, and government agencies. These stakeholders have a mix of objectives, ranging from basic revenue generation through

efficient creation and use of knowledge to the solution of global public problems that require significant research investments. Both private firms and government policymakers increasingly see attachment to GINs as critical sources of competitiveness, growth, and technology transfer.

Immigration regimes, including provisions on temporary labour mobility, or mode 4 in services terms, are another critical factor. The ability of a firm to move its skilled personnel across borders is often critical to its investment decisions. Additionally, the temporary movement of professionals can be very important to the transfer of technology and knowledge within the operation of GVCs. For services firms (where human capital costs are often more than 70 percent of total cost), all matters related to recruiting, training, and deploying people can be critical, including bringing them in from abroad if required (Stephenson and Drake-Brockman 2014).

Overall, integration and upgrading in GVCs depends therefore largely on domestic policies. The quality of institutions and trade infrastructure, the level of education, the incentives in place for investors and firms operating in the local economy, and the level of corruption all play a role in investment and sourcing decisions. Affecting this requires a holistic approach and a coordinated set of mutually reinforcing domestic policies and properly functioning institutions. In fact, targeting successful participation in GVCs requires what the World Economic Forum and the World Bank Group have labelled a “whole-of-the-supply-chain” approach, meaning that governments must deal with a complex set of policy interdependencies to reach successful sustainable outcomes. All this calls for more effective strategic collaboration between governments and the private sector. It also accentuates the importance of government capacity to make and carry out effective and coordinated policies.

4. TRADE AND INVESTMENT POLICY FRAMEWORKS AND GVCs

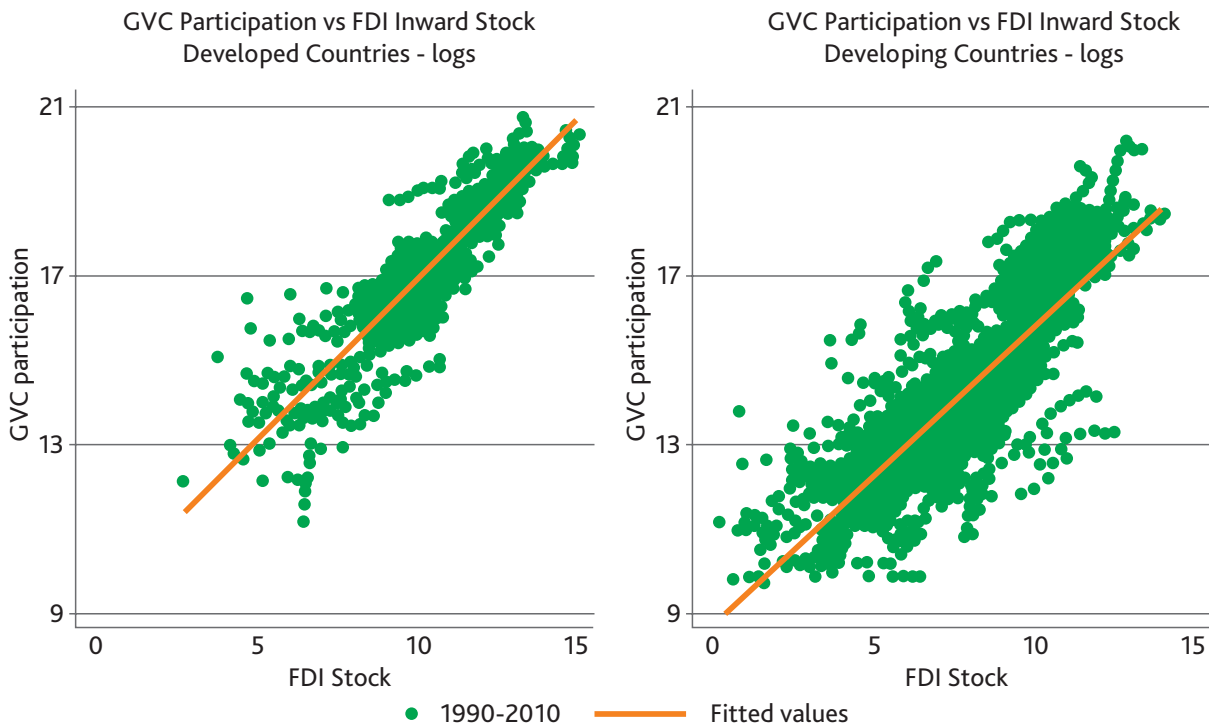
While GVC integration and upgrading depends largely on domestic policies, trade-related policies including international trade and investment policy framework also play an important role in shaping GVCs. For Aldonas (2013), international trade and investment agreements that have gone beyond the World Trade Organization (WTO) to embrace deeper trade-related disciplines in areas such as procurement, investment, competition policy, standards, and intellectual property rights have been able to set conditions of competition that have allowed firms to operate within a networked global economy. This section reviews some of the critical trade-related policy factors enabling GVC integration and upgrading, including investment policies but also services, trade facilitation, and preferential trade agreements.

4.1. FDI as the Driving Force Behind GVCs

In the 21st century, investment is said to be driving trade flows. As recorded by UNCTAD (2013a), the ratio between global FDI stock and trade has increased from 50 percent in the 1990s to more than 100 percent in 2010, with even higher growth rates in FDI to services trade ratio. Investment decisions of major firms determine which countries will participate in globalised production and trade networks through GVCs. In 2012, developing countries received greater inflows of FDI than developed countries for the first time and in early 2015 accounted for 54

percent of all FDI inflows (UNCTAD 2015). Over two-thirds of global FDI stock is in the services sector, which underscores the high importance that investment in services plays in supporting GVC operations. The quality and relative openness of the investment regime a country has in place will be one of the determinants of both the amount and type of inward FDI it receives.

UNCTAD has carried out an extensive study examining the relationship between investment and global value chains (2013b); Figure 3, taken from this study that uses their trade and FDI databases, shows the positive correlation between levels of FDI and GVC participation. The involvement of MNCs (responsible for the lion's share of global FDI) in generating value-added trade is confirmed by the statistical relationship between FDI stock in countries and their GVC participation rates. This correlation is strongly positive for both developed, as well as developing countries. UNCTAD also documents the fact that this correlation has grown over time, especially in the poorest countries, which indicates that attracting FDI may be an important way in which developing countries can gain access to GVCs. UNCTAD (2013) shows that the countries with the largest share of FDI relative to the size of their economies also tend to demonstrate higher foreign value added in their exports, higher GVC participation, and higher contribution of value-added trade to their GDP.

Figure 3: Correlation between Levels of FDI and GVC Participation

Source: Reproduced from UNCTAD (2013b, 19).

While recognising the critical importance of FDI, critics, on the other hand, point to several development challenges in this area such as the footloose nature of efficiency-seeking investments, especially those operating in the lower value part of value chains (e.g. clothing industry). Others caution against the risk for resource-exporting countries of being caught in the “resource trap” when the main purpose of FDI is to extract natural resources with limited incentives to invest in ancillary activities. Others still suggest that in the absence of active policies, low- and middle-income countries often lack sufficient absorptive capacity to benefit effectively from technology upgrading as a result of GVC integration.³ Finally, some

are concerned about a possible race to the bottom as countries compete to attract FDI by providing generous incentive packages such as tax holidays or even by eliminating regulatory requirements (e.g. environment, labour, safety). It is clear that one of the important elements in attracting GVCs is the type of policies that governments can offer and the dialogue that officials in developing countries may be able to engage in with the business executives in charge of making the decisions where to locate production for their respective MNCs. Governments need to engage with these lead firms to try and attract them to invest and create new productive opportunities in their home economies.

3 For a discussion on this point see Draper and Freytag (2014).

5. THE ROLE OF SERVICES IN GVCs

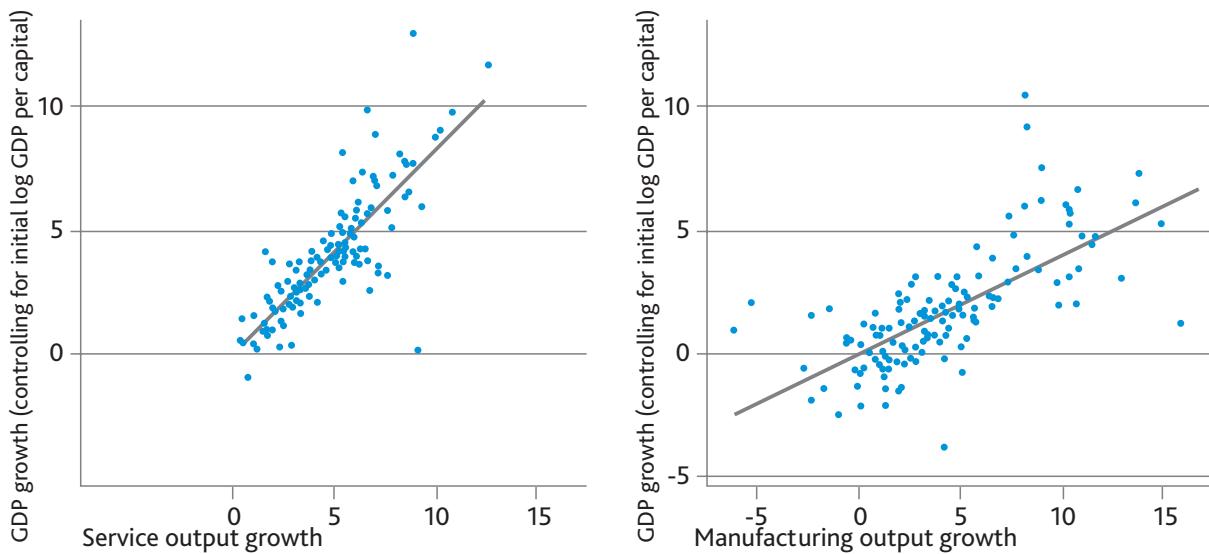
In a world of GVCs, goods and services are increasingly interdependent and inseparable. The failure to account for the intermediate value-added steps in the final output of a product has led to a distorted picture of world trade in the past. With the Trade in Value Added (TiVA) database recently released by the Organisation for Economic Co-operation and Development (OECD) and WTO, it is now possible to better measure the importance of services in world trade and to understand that services represented nearly half of world trade in value-added terms (46 percent, as opposed to 22 percent in gross) in 2008. According to the OECD (2013), services already make up a third of the total value of exports for transport equipment, textiles, chemicals, and food products for the countries in this database. This percentage will increase as outsourcing activities continue to grow in importance.

Efficient services are the key to GVCs as they provide the links to supply chain operations both in-country, as well as regionally and internationally. In world services trade, the enabling services in global value chains are those that have grown the fastest. This is the category of “other commercial services,” which have increased in importance from 40 to 53 percent of total services trade over the 15 years from 1995 to 2010. These other commercial services support the creation of value chains in both goods and services and include a variety of key enabling services such as communications,

insurance, finance, computer and information services, and other business services. According to Cernat and Kutlina-Dimitrova (2014), a “growing share of manufacturing goods can no longer be simply referred to as ‘goods’ but should be regarded as a complex bundle of products and services interactions.” The authors emphasise the importance of services embodied in goods and label these as “mode 5” for services trade, suggesting that it might be useful to think of negotiating a set of rules for services embodied in goods, to complement the rules that have been negotiated under the General Agreement on Trade in Services (GATS) for the other four modes of service supply.

There has been a strong relationship between services and GDP growth for many years, as shown in Figure 4. It is generally true that, around the world, GDP growth goes hand-in-hand with services sector growth and this correlation is stronger than that for manufacturing growth. Figure 4 includes data for 134 economies from 2000 to 2005. Economists have also provided evidence that services contribute positively to the ability of firms to export, as well as to higher export intensity for firms in some industries (Lodefalk 2014). Both the OECD and individual analysts have drawn positive correlations between services intensity and total factor productivity growth. Thus, services play an important role in GVCs, and bring greater competitive advantages to firms that use them intensively within supply chain networks.

Figure 4: The Services Sector is Driving Global GDP Growth



Source: Reproduced from Ghani and Kharas (2009, 18).

The services that are part of GVCs are often provided in the form of “tasks” that constitute business process or IT offshoring activities. Capturing a services task may allow SMEs in developing countries to participate more easily in production networks, as they are not required to have a cost advantage across an entire product range but in only one “task” along the value chain. Services inputs may thus be more accessible exports for developing country firms from smaller-sized markets than manufactured inputs, as they are less capital-intensive in general and do not require economies of scale to produce.

The OECD case study (2013) has underlined the importance of services in determining overall competitiveness and the fact that barriers to goods trade will also affect the competitiveness of services suppliers and services exporters. This is because the effect of the tariff on prices and demand is magnified for upstream services providers, as well as for goods producers, given that services are inputs into the production of goods. The study calculates the cost of tariffs that is supported by services value added, since services that are embodied in goods will bear a part of the duties.⁴ It shows the degree of

restrictiveness for certain countries and sectors that is imposed on service producers at home by the tariffs imposed on goods using these services and the costs that are then passed on to intermediate and final goods being exported.

The study also calculates the cost of the indirect tariffs on services exports themselves (such as tourism services such as hotels and restaurants, transportation, health care and education services, and any other service that is potentially or actually exported). It shows that the highest burden in this regard is borne by the major emerging developing countries in the OECD database (India, China, Brazil, Indonesia, Korea, among others), although this cost has been cut over the decade 2000 to 2010 as a result of these countries lowering their trade barriers. These indirect costs on services constituted by tariffs are highest in the sectors of construction, hotels and restaurants, and transport services. Such high indirect costs make it more difficult for service suppliers to be competitive in world markets.

Overall, services play a critical role in production networks. They are also increasingly embodied in manufactured and other products.

⁴ The impact of the tariff on the services inputs will depend not only on the share of services in the total value-added in a given industry, but also by the structure of the value chain (that is, if services are used).

Examining the Services Trade Restrictiveness Indices in the databases of the World Bank and the OECD can help to provide an indication of how efficient the services sectors might be in various countries depending upon the degree of restriction in place on the sector in question. Policies directed at improving the efficiency and competitiveness of services will be important. In a world of GVCs, tariffs on goods will also have an indirect impact on services, through affecting decreasing the demand and increasing the cost of the services that provide value added into the manufacturing process in each industry. This impact can be very important, depending upon

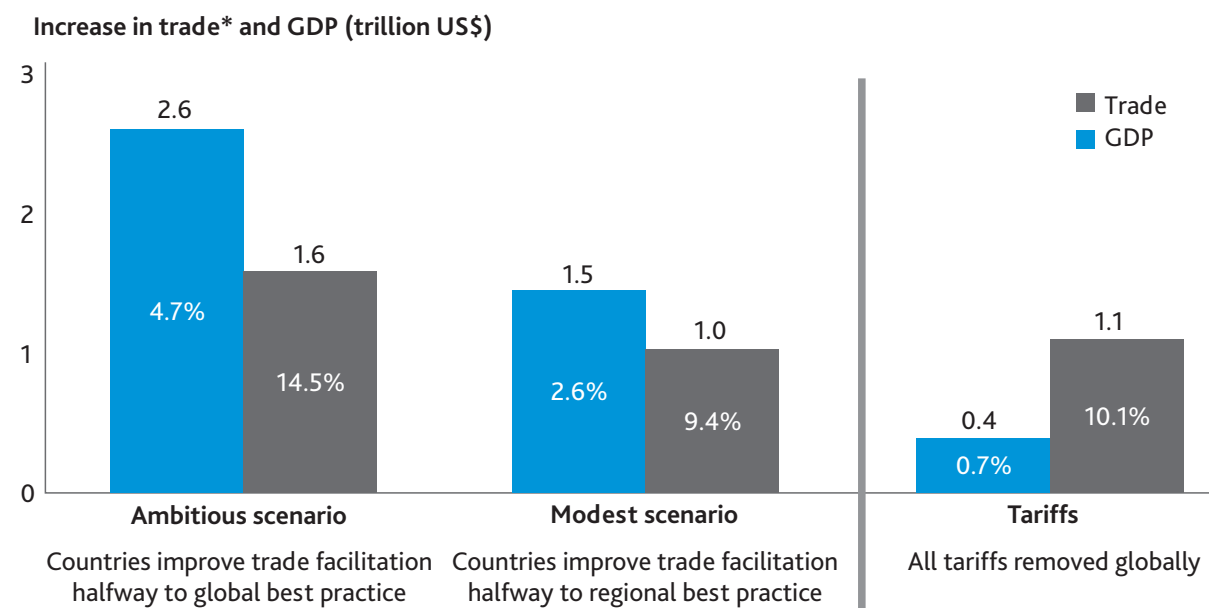
how many services are used in the production process and where they are located—upstream or downstream. Tariffs on goods will also have an indirect effect on services exports and will serve to penalise services suppliers in protected economies. Finally, for services to play the most effective role possible and act as competitive inputs to supply chain networks, it is important that producers be able to choose which of the avenues for producing and exporting their service activity along the value chain is the most cost-efficient (that is, freedom for cross-border trade, as well as commercial presence, and movement of labour).

6. TRADE FACILITATION AND LOGISTICS

The rise in trade in intermediates underscores the importance of not overlooking logistics in the context of GVCs and global production networks. The costs of trade delays are even higher and more detrimental for countries that trade more time-sensitive goods. This is often the case for intermediate imports of manufactures that have high time value because they depreciate quickly or have high inventory cost. There is no simple correlation between the share of intermediate imports in a country's exports and the quality and efficiency of its logistics. However, those countries that are significantly involved in the functioning of GVCs and thus show high import content in their exports are also those showing

the highest scores in the World Bank's Logistic Performance Index (LPI).⁵ It is interesting to note that the overwhelming majority of countries that perform best in the logistics score are also those with the highest participation in world trade (40 out of the top 50).⁶ Bringing about more efficient customs procedures in the form of the WTO Agreement on Trade Facilitation was one of the main outcomes of the Ninth WTO Ministerial Conference in December 2013. The Agreement must be ratified and implemented by two-thirds of WTO Members before it comes into effect. Once this happens, logistics costs should be lowered for all participating countries, thus contributing positively to GVC operations.

Figure 5: Potential Increase in Trade and GDP to be Derived from Improvement in Logistics



The GDP effect of reducing supply chain barriers is much higher than for tariffs

Source: Reproduced from WEF (2012).

⁵ See Dadush (2012, 33). The World Bank's LPI report lists 155 countries.

⁶ The LPI ranks countries according to their logistics performance in activities such as transport, warehousing, border clearance, and payment systems (the latter two being very IT-dependent). See Sherry Stephenson (2012, 20).

The World Economic Forum published the results of a study that examined logistical impediments to trade (2013, together with the World Bank and Bain Company). As illustrated in Figure 5, the report shows that a potential improvement in logistics under an ambitious scenario could result in a gain to world GDP more than six times greater than the gain to be derived from removing all tariffs worldwide (4.7 percent versus 0.7 percent). This scenario would involve bringing all countries up to the halfway level of global best practice in terms of transport and telecommunications infrastructure and customs procedures. The potential gain for trade from an ambitious removal of logistics barriers is also higher than that from the removal of all tariffs (14.5 percent versus 10.1 percent; WEF 2013).

The report also finds that potential GDP growth (under the ambitious scenario of logistics improvement) could be much higher in developing regions than in developed ones. For sub-Saharan Africa, the non-oil Middle East, North Africa, and SouthEast Asia, the increase in potential GDP would be greater than 8 percent (reaching 12 percent for sub-Saharan Africa).

It is of note that the Trans-Pacific Partnership (TPP) trade agreement, concluded on 5 October 2015 among 12 countries in the Asia Pacific (of which seven are developing countries), contains a chapter on “Competitiveness and Business Facilitation” that is primarily focused on promoting the development and strengthening of supply chains between the parties to the agreement with the objective to “...integrate

production, facilitate trade and reduce the costs of doing business within the free trade area.” (Article 22.3.1).⁷ This is the first time that a free trade agreement has explicitly included the improvement of logistics and the promotion of GVCs as a key objective of its members, and contained a chapter to help proactively to achieve this objective. Some analysts have expressed the view that the TPP was negotiated primarily to underpin the operation of supply chains among its participants in the Asia Pacific region. Among the steps envisaged in the relevant chapter is the establishment of a Committee on Competitiveness and Business Facilitation that will:

- i) develop recommendations and promote seminars and other capacity-building activities to assist participation by SMEs in supply chains in the free trade area;
- ii) work with other committees established under the TPP to identify and discuss measures that will strengthen supply chains;
- iii) identify and explore best practices and experiences relevant to the development and strengthening of supply chains between the Parties;
- iv) carry out a review of the objectives to develop and strengthen the operation of supply chains among TPP Parties four years after the agreement enters into force and every five years thereafter. (*Article 22.3 on Supply Chains*)

⁷ The 12 members of the Trans-Pacific Partnership Free Trade Agreement are: Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, United States, and Vietnam. The TPP members represent approximately 40 percent of the world’s GDP and one-third of world trade. The full text of the agreement can be found at: <https://ustr.gov/sites/default/files/TPP-Final>. Several developing countries have expressed interest in joining the TPP following its conclusion, including Korea, Indonesia, Costa Rica, and Colombia.

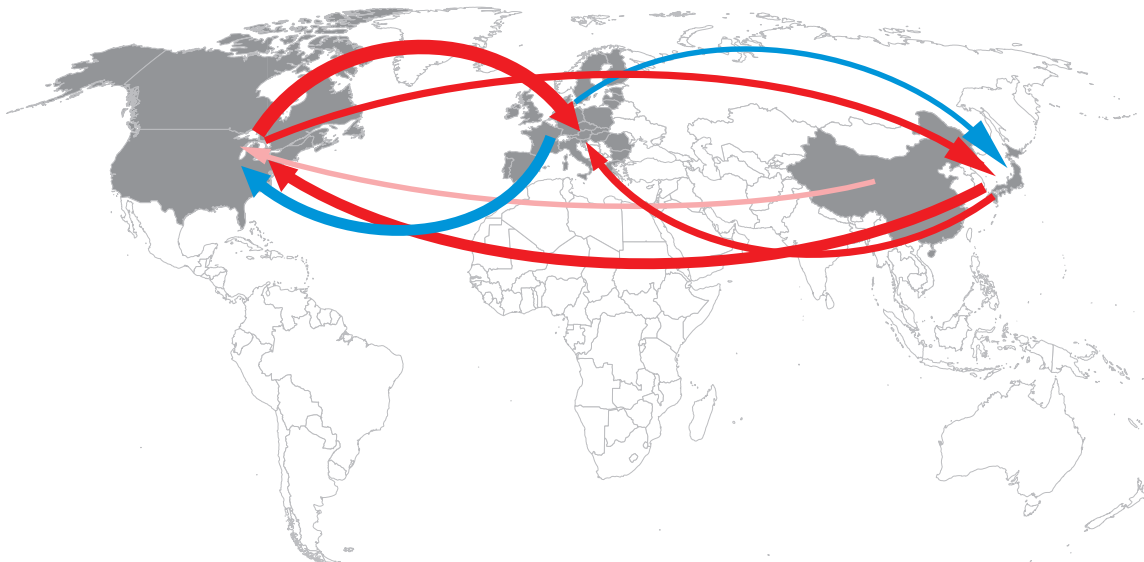
7. THE ROLE OF REGIONAL TRADE AGREEMENTS IN SHAPING GVCS

Many developing countries, notably in Africa and Latin America, have remained on the sidelines of cross-border production sharing. Part of the challenge is the fact that GVC operations tend to be more regional than global in nature. Figure 6 shows the evolution of trade flows between major regions in the world from 1995 to 2005. In only a decade, the trade flows have intensified between the three regions that demonstrate the highest concentration of GVC operations, namely North

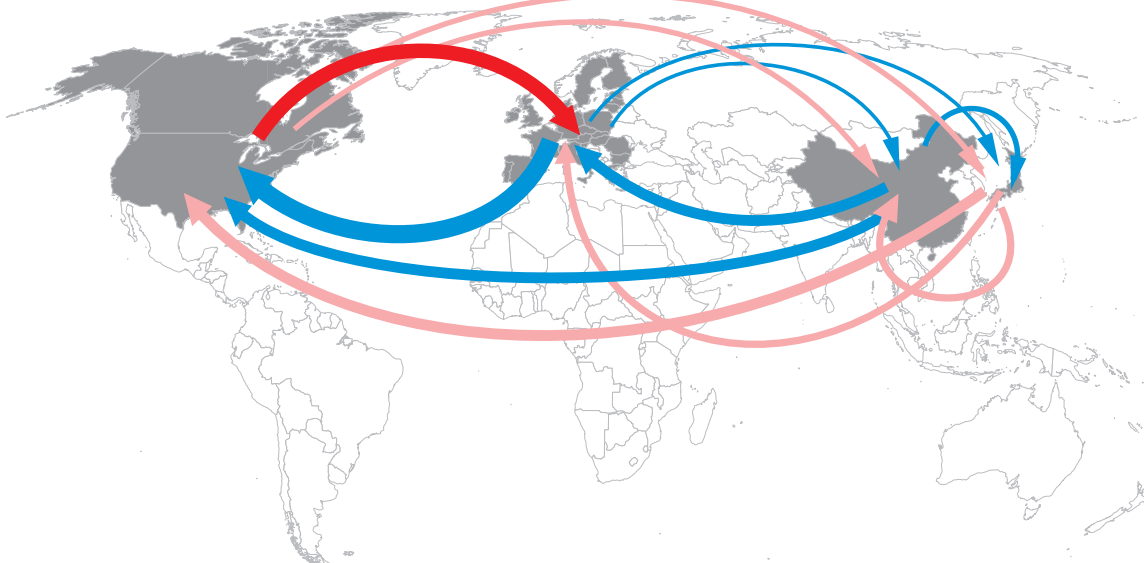
America, Europe, and East Asia. By 2005, most trade flows between the three regions showed domestic value-added shares of 80 percent or less, with 20 percent or more constituted by GVCs or intermediate trade. However, what is striking is that a significant part of the developing world lies outside of these GVC hubs and is not participating actively in this pattern of trade, making it both harder to break into the networks, as well as to derive the benefits they offer.

Figure 6: Domestic Value-Added Content in Exports between Major Regions

1: Exports (of domestic value-added and gross) between major regions, 1995



2: Exports (of domestic value-added and gross) between major regions, 2005



➔ Domestic value added shares 90% or more
 ➔ Domestic value added shares between 80-90%
 ➔ Domestic value added shares 80% or less

Source: WTO and OECD (2013)

Factors such as distance, communication, and differences in languages and cultures may explain part of the difficulties that developing countries have experienced in linking up to GVCs in other regions. Several economists, however, believe that a large part of the explanation may be attributed to the regional trade agreements (RTAs) that have been negotiated, particularly with major trading entities, and the way that their rules of origin (RoO) and cumulation provisions have influenced investment flows and production sharing. The fact that trading across borders in the same RTA does not add extra duties creates an incentive to source part of the production process from countries within that RTA. More specifically, Estevadeordal et al. (2014) estimate, after controlling for the effect of distance, that, on average, countries will source 15 percent more of their foreign value added from members of the same RTA than from non-members.

Economists at the OECD have also studied this phenomenon and have concluded that, although it is difficult to assess the direction of any causal relationship, there is a correlation between the increase in RTAs and the operation of GVCs (as measured not only by the existence, but also the depth of RTAs); this provides further evidence of the alignment between regional agreements and production networks. These correlations are particularly strong in the case of “deep” RTAs that address trade liberalisation in services and investment and cover other trade-related issues as well (Miroudot et al. 2013, 30-38). As mentioned previously, this is the case in the TPP agreement, where many of the chapters are designed to create an enabling environment for firms to carry out fragmented production operations, although no chapter targets GVCs *per se*. Likewise, one of the stated objectives of the Pacific Alliance trade

agreement in Latin America, concluded in 2013 between Chile, Colombia, Mexico, and Peru, is to create an enlarged economic space that will enhance the ability of firms from its members to engage in GVC operations linking with the Asia Pacific. Reinforcing GVC networks through a focus on enhanced regulatory cooperation and coherence is also one of the stated objectives of the Transatlantic Trade and Investment Partnership (TTIP) negotiations between the United States and the European Union. A similar theme is discernible in East Asia in the Regional Comprehensive Economic Partnership (RCEP) negotiations between the 10 Association of Southeast Asian Nations (ASEAN) members and the six priority trading partners of China, Japan, Korea, India, Australia, and New Zealand, who wish to reinforce their GVC networks in the region through a deeper trade agreement.

The current skewed structure of GVC patterns puts many countries in developing regions at a disadvantage, since countries in Africa and South Asia, and many countries in Latin America and Central Asia, have not concluded trade agreements with “deep provisions” that have linked them to developed markets and included behind-the-border trade-related issues which impact on FDI flows and GVC operations. If the “new generation” of deep trade agreements is influencing investment decisions and trade patterns to such a significant degree, then it is clear that the current configuration of RTAs is not favourable to the insertion of developing country firms in GVCs. At present the unequal pattern of participation in GVCs raises the questions to what extent this is the result of the type of RTAs that have proliferated in international trade, drawing attention not only to the trade and trade-related policies of individual countries but also to their decisions on engagement in “deeper” regional and preferential trade agreements.

8. THE CHANGING IMPACTS OF TRADE POLICY TOOLS IN A WORLD OF GVCs

One of the main differences compared to 20th century trade is that in a world of GVCs imported inputs account for a significant proportion of exports, blurring the line between exports and imports, as well as between domestic products and imports. Trade in intermediate inputs going into supply chains now represents more than half of the goods imported by OECD economies and close to three-fourths of the imports of large developing economies (see Shimelse and Dadusch 2011). In many countries, imports may also contain a significant portion of inputs—including intellectual property and brand development, among others—that were originally sourced at home and are being reimported.

Secondly, many of the consequences of the use of traditional trade policy measures are also magnified in a globalised world of production networks. Empirical evidence and various case studies illustrate the ways in which choices concerning the application of tariffs and non-tariff measures (NTMs), as well as policies towards services and logistics, have influenced these outcomes. These results are helpful to review. This section discusses the use of trade policy measures—both tariffs and NTMs—in the context of GVCs.

8.1. Tariffs and GVCs

In a world of GVCs, tariffs on inputs into the supply chain trade do not protect, as former WTO Director General Pascal Lamy often stated and as the pioneer 2011 report by the WTO-IDE-JETRO points out.⁸ As part of globalised production chains, products at different stages of value added may be imported and re-exported multiple times, increasing the size of reported exports and imports relative to global and national value added. Tariffs on inputs actually result in negative protection for downstream

industries when they raise the production cost of the users of imported inputs, thus resulting in higher rates of effective protection than of nominal protection.⁹ For some economists, the case for imposing tariffs on final goods for industrial policy reasons remains unchanged, as Singh and Jose (2016, forthcoming) discuss in their overview of the resurgence of new industrial policy instruments. Nunn and Trefler (2010) argue that tariffs can be used to raise national income and skills levels, provided the appropriate industry is chosen for protection. However, it is often challenging both to select the appropriate industry, as well as to draw a clear distinction between inputs and the final goods protected.

As the joint OECD, WTO, and UNCTAD 2013 report on GVCs prepared for that year's G20 Leaders Summit points out, nominal tariffs on manufactured products in developed economies are generally low after more than half a century of trade liberalisation. Tariffs have also come down considerably in developing countries. However, in a world of GVCs, low final tariffs are not the final story and provide only a very partial picture. Tariffs cumulate each time that intermediate inputs are traded across borders, and their impact can be multiplied significantly by the time a finished good reaches customers. Thus even low tariffs can have significant impacts on trade, when their cumulative effect is taken into account. This scenario would have a dampening effect on all stages of the value chain, including production, investment, and demand, as well as on the ability of firms from protected economies to participate in these networks.

Figure 7 illustrates for ten selected countries how nominal duties on gross exports are an

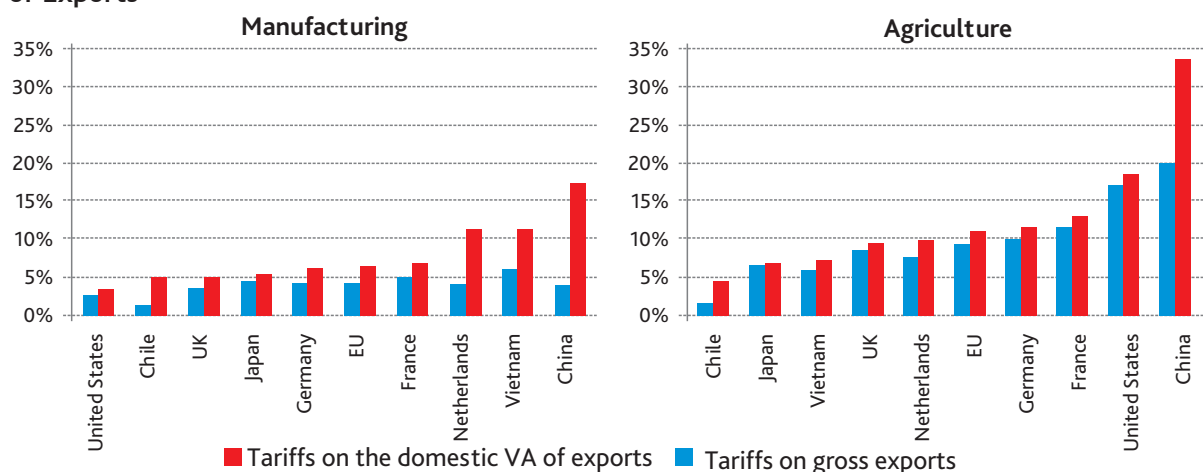
⁸ WTO and IDE-JETRO (2011) coined the now common phrase “made in the world.”

⁹ Effective rates of protection are generally higher than nominal rates of protection on a given product as the use of intermediate inputs magnifies the protective effect of a given tariff when the protection is measured relative to value added rather than output (given that nearly all producers use some proportion of imported inputs).

incomplete measure of effective tariff barriers. In the two broad sectors of manufacturing and agriculture, the effective burden for the exporter is more accurately understood by looking at the tariff incidence on the domestic value added of exports, which represents the

cumulative total cost of all of the inputs used in the production process. Notably, domestic value added in exports faces much higher effective tariffs than the nominal rates. This is because tariffs punish the suppliers of the domestic value added content of traded goods.

Figure 7: Comparing the Incidence of Tariffs on the Gross Value and the Domestic Value Added of Exports



Source: OECD, WTO, and UNCTAD (2013, 13).

Several studies have examined the effects on competitiveness and productivity of liberalising trade barriers on intermediate inputs, as cited in Miroudot et al. (2013). Amiti and Konings (2007) find that a 10 percentage point decrease in the tariff rate on intermediate inputs in Indonesia results in a 12 percent productivity gain for importing firms, and that these gains are twice as large as the gains from removing output tariffs. Similarly large productivity gains are shown to occur in several other developing countries when tariffs on inputs are lowered or removed and access to foreign intermediates is improved. This phenomenon has been observed for several other developing countries, including Brazil by Schor (2004), Chile by Topalova and Khandelwal (2011), India by Halpern, Koren, and Szeidl (2011), China by Bas (2012), and Argentina by Stone and Shepherd (2011). A general study covering many developing countries by Goldberg et al. (2010) finds similar significant positive impacts on productivity gains through the lowering of input tariffs.

The OECD study by Miroudot et al. (2013) indicates that there are several ways in which the positive effects arising from lower tariffs

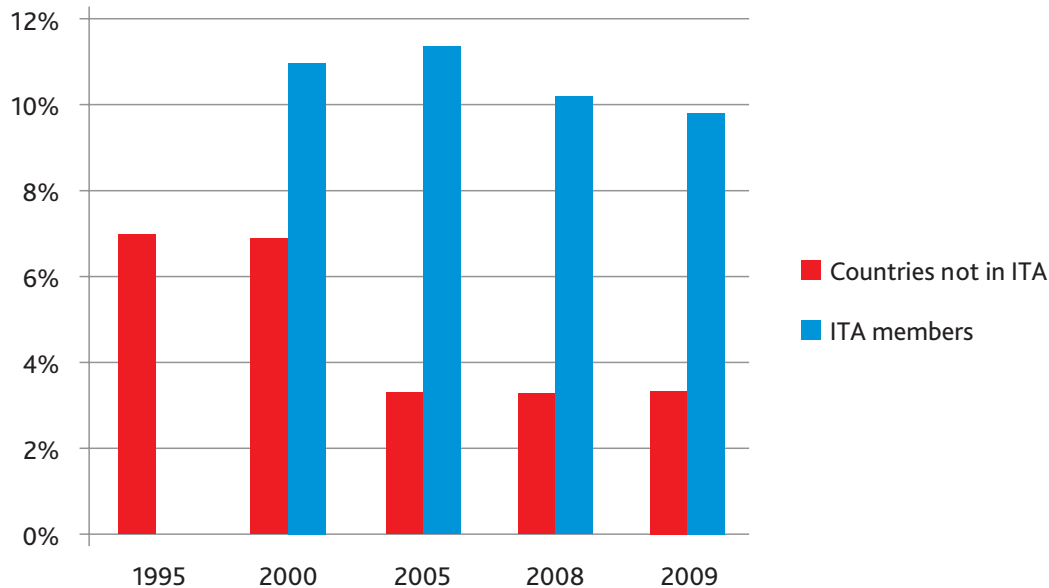
on imported inputs impact on manufacturing productivity. In the first instance, this provides developing country firms with a greater choice of input sources at a competitive cost. In the second instance, better access to foreign intermediate inputs allows firms to benefit from the technology embodied in these inputs. Lastly, the shift in resources this brings about is expected to generate productivity gains for both upstream and downstream industries, thus benefiting not just the firm in question but the entire economy.

Empirical studies of the impact of the lowering of tariffs under the Information Technology Agreement (ITA) have documented its beneficial effect on productivity and trade. Under this plurilateral agreement negotiated at the WTO, participants have removed tariffs and other charges on a list of 190 products, nearly half of which (42 percent) correspond to intermediate inputs in the IT sector. The ITA now includes 78 countries covering 97 percent of trade in ITA products, but is applied to all WTO members on a MFN basis. Studies have shown that the expansion of IT global value chains has coincided with when the ITA

came into force in 1997 (Anderson and Mohs, 2011). Significantly, the OECD has shown that countries that have joined the ITA have, on average, a participation index in GVCs that is

three times higher than for those countries that are not parties to the agreement (Miroudot et al. 2013, 24-25). This relationship is shown in Figure 8.

Figure 8: ITA Participation Index in GVCs as a Percentage of Gross Exports



Source: Miroudot et al. (2013).

The OECD has also documented the interesting fact that developing country members of the ITA show a higher participation index in IT value chains than do OECD countries (13 percent versus 8 percent). This finding supports the argument that for those developing countries that have removed intermediate tariffs in the IT sector the impact has been both positive and significant in terms of their participation in global production networks. This is because removal of tariffs on IT products which often serve as inputs into other finished products (such as computer chips, integrated circuits, etc.) lowers the final cost of production and stimulates the competitiveness of all final products that use these components.

Overall, what is often overlooked is that exports depend on imported inputs, whereas exported inputs feed into other countries' imports. Furthermore, imports are a critical channel through which developing countries absorb technology. In a GVC world, the cost of protection may therefore be higher than understood and appreciated because so many products use imported parts and components that are sourced from different locations. This is especially

important for smaller economies with a large share of intermediate imports in exports and for developing countries with relatively higher tariffs. For those countries that choose to lower their tariffs on intermediate inputs, the impact on productivity, as well as participation in GVCs, should be positive and significant, as illustrated by the example of the ITA, since it will have the effect of increasing their competitiveness for all products that use these intermediate inputs.

8.2. Non-Tariff Measures and GVCs

With tariffs declining as a result of autonomous liberalisation, trade preferences, or RTAs, the policies that inhibit international trade flows are increasingly of a non-tariff nature. Differences in objectives, implementation, and enforcement in regulatory regimes or behind-the-border policies may imply additional costs for foreign firms desiring to enter global markets. This is particularly the case for developing countries who often find it difficult to comply with stringent technical barriers to trade or sanitary and phytosanitary standards. One of the major difficulties in dealing with NTMs, however, is their

broad nature, making a typology challenging and by definition incomplete (see Deardorff and Stern 1997, App.I, 54-58). Furthermore, while several NTMs (such as non-automatic licensing, trade remedies, or price control mechanisms) are clearly protectionist measures, others—such as standards and technical regulations for

consumer health and safety and environmental protection—are designed to pursue critical public policy objectives, although they may have deterrent impacts on trade flows. Table 1 provides an overview of the different kinds of NTMs as defined by the UNCTAD international classification system.

Table 1: International Classification of Non-Tariff Measures to Trade

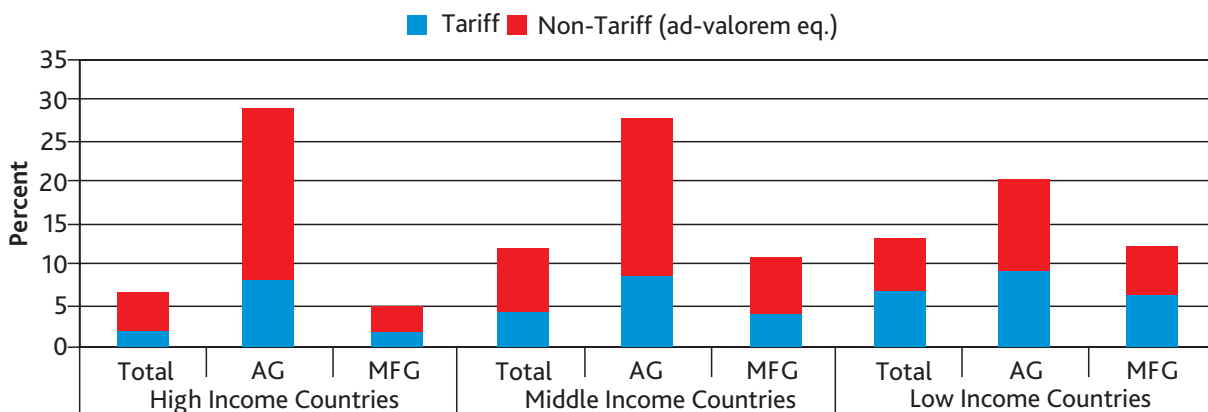
Import measures	Technical measures	A. Sanitary and phytosanitary measures (SPS) including conformity-assessment such as certification, testing inspection.
		B. Technical barriers to Trade (TBT) including labeling, standards on technical specifications and quality requirements.
		C. Pre-shipment inspections and other customs formalities
	Non-technical measures	D. Contingent trade protective measure (antidumping, countervailing, and safeguard measures)
		E. Non-automatic licensing, quotas, prohibitions and other quantity control measures (e.g. TRQ)
		F. Price-control measures (e.g. additional taxes and charges)
		G. Finance measures (e.g. when the access and cost of foreign exchange is regulated)
		H. Measures affecting competition (e.g. State trading, sole importing agencies or compulsory national insurance or transport)
		I. Trade-related investment measures (e.g. local content requirements)
		J. Distribution restrictions including restrictive measures related to the internal distribution of imported products.
		K. restrictions on post-sales services (e.g. restrictions on the provision of accessory services)
		L. Subsidies
		M. government procurement (e.g. restrictions bidders may find when trying to sell their products to a foreign government)
		N. Intellectual property measures
		O. Rules of origin
Export measures	P. Exports measures (including export restrictions, taxes or prohibitions)	

Source: UNCTAD (2012).

Given their extensive nature and their ability to impact on trade, NTMs can have considerable influence on the operation of global value chains. When these NTMs adversely affect intermediate products, they may create high rates of effective protection and handicap domestic producers trying to participate competitively in global markets. Figure 9, calculated from data in the UNCTAD TRAINS/WITS database, shows that the average level of restrictiveness

imposed on imports by NTMs, as calculated by their tariff equivalents, is overall much more significant than traditional tariff barriers. In developing countries such barriers are relatively higher on manufactured products than for high-income countries. However, the reverse is the case for agricultural products. Such NTMs can potentially have an impact on trade costs and on GVC participation that is of a much greater magnitude than tariffs.

Figure 9: Average Level of Restrictiveness Imposed on Imports by Tariffs and NTMs



Source: UNCTAD (2013b) based on UNCTAD TRAINS/WITS database.

NTMs can take a large variety of forms, as illustrated in Table 1, with differing impacts on supply chain trade. The following sections highlight some of the GVC-related considerations associated with a subset of NTMs that are particularly relevant including rules of origin, local content requirements, subsidies, and countervailing duties.

8.2.1 Rules of origin

Empirical evidence tends to suggest that strict rules of origin under preferential free trade agreements discourages the sourcing and use of cheaper parts and materials from third countries. In this sense, strict rules of origin could serve to augment production costs to the point where their compliance costs exceed the benefit of the agreement-conferred preferences. As a result, rules of origin can have significant implications for the way firms choose the location in which they fragment production, typically restricting

outsourcing to those countries that share a preferential trade agreement. Yet, with the number of RTAs growing fast, firms seeking to participate in production networks spanning various trade agreements will find it increasingly complex to retain an overview of all the differences in the rules governing them. In this context, Estevadeordal et al. (2014) have underlined the current sub-optimal functioning of GVCs and the potential to increase efficiency through multilateral solutions or, alternatively, more flexible rules of origin. Preliminary evidence suggests, for example, that instruments like diagonal cumulation across RTAs—that allow for cumulation with third parties with which both trading partners have RTAs in force—can be quite effective in reducing the strictness of rules of origin and in spurring cross-border production sharing among RTA members. Other options to reduce the constraints generally presented by rules of origin include for instance, higher *de minimis* levels, or allowing for duty drawback.

8.2.2 Local content requirements

One form of non-tariff barrier that is becoming increasingly prominent in trade and that can affect GVCs through altering levels of FDI is that of local-content requirements (LCRs).¹⁰ In recent years these have been used, among other purposes, as policies to encourage the production of renewable energy or to encourage the development of local IT industries. While the effectiveness of such measures remains hotly debated, the recourse to LCRs continues to increase in both developed and developing countries. The report on GVCs prepared for the 2014 G20 Trade Ministers Meeting (2014) shows how, in a context of GVCs, local content requirements can deter downstream investment by raising the cost of inputs and ultimately lead to the opposite of desired consequences. It can also lead to sub-optimal levels of investment. The potentially high cost of localisation policies is especially pronounced in relation to the imposing country's own economy. This is true both of the sector itself where the LCR is imposed, as well as other related sectors that also experience decreased exports and potential growth, together with a dampening effect on participation in GVCs. The negative impact of LCRs has been estimated by an OECD study (2015) that shows quantitatively how economies imposing LCRs experience a decrease in their own trade, as well as substantial welfare losses. Although some LCRs are implemented with the purpose of developing internationally competitive industries, the study emphasises that in reality they generally lead to the opposite result.¹¹

Others argue that LCRs can be welfare-enhancing in the long term but this will depend on a set of broader factors including the size and stability of the market, the restrictiveness of LCRs, the extent to which they are provided in conjunction with broader support schemes such as subsidies,

the domestic potential for “learning-by-doing”, or the degree of current technological knowledge (see Kuntze and Moerenhout 2013).

8.2.3 Subsidies and countervailing duties

The international fragmentation of production networks changes the incentive structure confronting firms and thus the impact and effectiveness of government interventions. While it attenuates the incentives to use traditional instruments like tariffs, the emergence of GVCs may increase the rationale for government to use subsidies and subsidy-like instruments to target specific domestic activities.

According to Hoekman (2015a), the growing interdependencies and linkages between the various activities involved in the unbundling of production processes may call for proactive policies to ensure the smooth functioning of value chains. While many of these are well-known horizontal policies focusing on the investment climate, rule of law, skills, or infrastructure; targeted “market correcting” interventions in the form of subsidies may be needed to address specific information asymmetries or coordination failures. However, the impact that such interventions might have will be difficult to assess in a context of highly fragmented production networks. Will the whole chain benefit or only one specific segment? At the same time, the scope for interventions to be market-distorting or to result in negative international spillovers is likely to be significant. Investment incentive schemes to attract FDI for example—which are very common—may result in fierce competition between national jurisdictions, ultimately leading to a race to the bottom. Such investment incentives are so far not disciplined under WTO rules. Yet they may result in investment diversion by attracting FDI to less efficient locations at the expense

10 See Kuntze and Tom Moerenhout (2013) and Stephenson (forthcoming 2016).

11 Among the key messages of the study are the following: i) LCRs reduce an economy's international competitiveness: in almost all cases where LCRs are introduced, final goods exports are reduced from 0.05 percent to as much as 5.0 percent; (ii) LCRs undermine domestic economic diversification by reducing input availability and output in non-LCR industries; (iii) overall, LCRs distort input markets and potentially inhibit innovation by removing access to technologically advanced inputs, thereby undermining efficiency gains from global value chains.

of others. Given the critical role of investment in the functioning of GVCs, this issue might deserve further attention. In a similar vein, the importance of services in the functioning of GVCs may call for some international disciplines to address services subsidies, an area still unregulated under WTO rules.

As the notion of injury resulting from subsidisation in third countries becomes blurred, the effectiveness of a trade remedy such as countervailing duties (CVDs) also needs

to be questioned. It has always been recognised that a CVD will affect domestic consumers and downstream industry. In the context of value chains, however, a CVD may have no effect on the firms bringing the case, given the complex relationships and inter-connections within the chain. As a result, domestic suppliers that are not part of a GVC that imports parts or components may not benefit from the CVD imposed on imported inputs. The lead firm may ultimately either absorb the cost of the CVD if it is not too high or simply move production elsewhere.

9. SUSTAINABLE DEVELOPMENT CHALLENGES AROUND GVC PARTICIPATION

Global value chains represent a relatively new vehicle in the international economy that holds promise for developing countries in their quest to achieve the 17 SDGs adopted in September 2015.¹² Under the appropriate conditions, GVC participation could provide the opportunity positively to impact the ability of developing countries to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all (Goal 8);, to end poverty in all its forms (Goal 1); and to reduce inequality within and among countries (Goal 10). Other SDGs relating to improved education (Goal 4) and gender equality (Goal 5) could also be indirectly positively impacted by developing countries' participation in GVCs. For a full discussion of this important question, see Kaplinsky (forthcoming 2016).

The nature of a value chain will vary by the product or economic sector in question, as well as by the participating firms, particularly the lead firm, carrying with it developmental implications. And while the growth benefits for GDP and exports of countries participating in GVCs have traditionally been emphasised, the long-term development benefits are less well understood and have been questioned.¹³ The following sections discuss the sustainable development challenges concerns around GVCs. Many of these questions are only now being addressed in more focused research and examination, meaning that we should have a better understanding of these issues in the coming years.

9.1. Who Captures the Value in GVCs?

One of the critical questions in the development debate around GVCs is the concern about who captures the value in these chains. There has been considerable scepticism as to the possibility that most of the value in GVCs may be captured

by the large multinationals that determine the pattern and the inputs of the value chains, and control their operation. For a developing country firm, it is important to differentiate between entering the value chain and "capturing value" in the chain. Currently, not enough evidence appears to exist to help make such decisions. However, it does seem that the ability to capture value will depend upon where the firm is able to enter and produce along the GVC; the value captured should increase the higher up the chain the firm's input is located. This will depend upon upstream and downstream links in the value chain. So the answer to this question will vary, depending upon where the task or input provided by the developing country firm will fall along the chain, as well as upon the type of value chain in question (natural resource versus manufacturing or services value chain). There is not yet a sufficient number of empirical studies to be able to catalogue different types of situations that result in different types of gains and to determine how these have been shared.

9.2. Can Firms Upgrade Along a Value Chain and Avoid Being Caught in Low-Skill Tasks?

Concerns exist whether firm in developing countries are able to benefit from a transfer of skills and technology possessed by the lead firm in the value chain, and to upgrade along the network. When the backward linkages to the local economy are not well developed, the production input into the value chain can remain very much a concentrated, export-oriented activity. This is particularly the danger with value chains in the natural resource sector but it can also be the case in other sectors. This is one of the reasons given for the use of directed industrial policies by developing countries (see Box 1).

¹² The Official Agenda for Sustainable Development adopted on 25 September 2015 by the United Nations has 92 paragraphs, with the main paragraph (51) outlining the 17 SDGs and their associated 169 targets. There also are 304 proposed indicators to show compliance.

¹³ For a discussion of the doubts raised by developing countries in terms of their GVC participation, see Draper and Freytag (2014).

Box 1: GVCs and industrial policy considerations

From a development perspective, a major challenge often associated with participation in GVCs consists in moving progressively to higher value-added segments of the chain through upgrading or by engaging with other supply chains. Therefore, some policymakers and analysts have stressed the need for active policies to promote development outcomes through GVC integration and upgrading. Contrary to the standard classical economic theory of market openness, this school of economic thought embodied in the writings of Stiglitz and Rodrick, among others, argues that industrial policy can play a big role in promoting economic development, as “development is fundamentally about structural change: it involves producing new goods with new technologies and transferring resources from traditional activities to these new ones” (Rodrick 2008).

In this context, much of this new industrial policy is directed at providing either specific protection or incentives for the development of particular sectors or productive activities. A taxonomy of the various types of industrial policies available to governments can be found in Singh and Jose (2015). The authors mention that, while historically industrial policies have been adopted to promote strategic industries, promote technology enhancement, and influence the structural evolution of the economy, in more recent times they have focused on other objectives as well, including those of moving up the activity ladder within specific value chains and developing segments of the economy with large positive impact on employment and skills. The more recent, wider focus of industrial policies can also include preservation of the environment, promotion of green technology, development of alternative or new energy options, preservation of cultural identity, promotion of SMEs, and promotion of high-tech research, prototypes and innovation, as well as addressing privacy, cyber security, and data ownership issues.

Under this vision, industrial policy can involve many different types of instruments, potentially including trade policies in the form of varying tariff rates across industries and NTMs that discriminate against imports, as well as the active use of trade remedy actions. Trade-related industrial policies can include the offer of incentives to attract investment in specific sectors. Many of the horizontal or economy-wide measures included within the framework of the new industrial policy discussion involve support for skills development and human capital formation, stimulus for research and innovation, support for entrepreneurship and SMEs, and public procurement. These horizontal policies are generally not discriminatory (although procurement policies may be) and offer economy-wide benefits to all firms.

How well a firm in a developing country may be able to upgrade along a value chain will again depend upon the type of value chain in question and the quality of skills and technology the supplier can bring to the process. Moving up within a production network requires the ability to increase the technological or workplace skills content of the product or service offered. Many developing countries enter value chains at the low-skill or low-technology end of the spectrum, given their domestic skill sets. This often means capturing a task in the lower-skilled business process outsourcing (BPO) activities, such as call

centres or back-office administrative processing tasks, or in a standardised processing activity in a manufacturing chain. Moving up requires workers with a more advanced educational background or additional training to obtain more sophisticated skills. Being able to achieve this will depend upon factors that are both endogenous and exogenous to the developing country. Endogenous factors will depend upon the educational and training programmes that the country can put in place to assist the formation of human capital at home in areas required, particularly the IT sector, as well as

professional services, and skilled manufacturing. Exogenous factors will depend upon the type of technology transfer and skills training that the lead firm in the value chain will offer to local employees.

Costa Rica provides an example of a combination of both of these factors, where foreign investment by Intel in the computer chip sector was combined with a staff training programme, while at the same time the government encouraged engineering classes to be set up at the universities to train IT specialists. Both measures allowed Costa Rica to move up within the value chain, as documented in an International Trade Centre case study (Marín-Odio 2014). Another example is that of Senegal, where both of these factors came together in a very similar way through a combination of FDI and external skill transfer from French investors with targeted government policies to create training classes for computer engineers at the universities; this moved the country up the value chain from exporting BPO tasks to IT tasks, as described in a case study by Doumbouya, Ndiaye and Primack (2015). However, it is unclear whether or not these successful examples have extended to a wider range of developing countries. More in-depth research through case studies is needed to document any such experiences.

9.3. Can Participating in GVCs Create Beneficial Jobs?

Whether participating in production networks will have a positive impact on employment may again not have a straightforward answer and will depend upon the sector in which the value chain operates and how embedded it is in the domestic economy.

In a world of GVCs, the relation between trade and employment is no longer as simple and straightforward as it was in a world with no or little trade in intermediates. Few studies have been carried out that empirically link changes in employment to a country's participation in global production networks. Timmer (2012) and

Jiang (2013a) have focused on the employment effect of countries' participation in GVCs, the latter using the newly published World Input Output Dataset that provides data on not only final but also intermediate goods, as well as services bilateral trade by sector. Both find that participation in GVCs has not led to a loss of GVC jobs in advanced countries and has actually resulted in the net creation of jobs at home for several countries, as well as the creation of jobs in emerging economies that are a part of the value chain networks.

However, the studies also suggest that GVC participation has resulted in very different country experiences with respect to job creation. Unfortunately, neither study examined the employment impact of GVC participation in developing countries, other than for the larger emerging economies (Brazil, China, India, Indonesia, Mexico, and Turkey). So the answer to the employment impact of GVC participation on the domestic economy in developing countries is still both an open and an important question.¹⁴

9.4. Do GVCs Generate Desired Social Gains?

As lead firms in GVCs (most often multinationals from advanced countries) are concerned with making profits, the social dimensions of participating in these production networks for developing country firms are not always prioritised by them. Thus, it may not be the case that capturing tasks in GVCs necessarily leads to higher-skilled and better-paid jobs. As indicated in the previous section, evidence suggests that GVC participation has resulted in very different country experiences with respect to job creation. Also, it is not obvious that GVCs allow developing countries to move up the value chain and capture more skilled and better-paid tasks. As previously discussed, this will depend upon a number of endogenous and exogenous factors.

The way in which participation in value chains will affect women in the labour force (and thus in the economy and at home) is another key question

¹⁴ Timmer (2012) and Jiang (2013a), cited in Jiang (2013b).

that remains open. This is likely to depend again upon a number of factors, including the economic structure of the country. Female employment is particularly prominent in jobs in the services sector. It has been documented that many of the BPO offshoring services tasks are undertaken by women, particularly in call centres, but also in the form of other back-office tasks that are input into value chains (see Philippine Statistics Authority 2010). This is not necessarily the case, however, for assembly processes that provide intermediates into value chains where male employment may be dominant. So part of the answer with respect to the gender impact of GVCs may depend upon the relative services intensity of the developing country in question and what type of inputs (services or intermediate manufactures) it provides into international production networks. This question is even more complex, however, because many services will also go into manufacturing intermediates that are exported as part of production networks, so the impact on gender from GVC participation may be felt through several channels, both direct and indirect.¹⁵ Further empirical research is needed in this area to obtain a more complete picture of how GVC participation can impact on potential social gains for developing countries, particularly in the area of female employment and gender equality.

Some economists have suggested that positive spillover effects and social gains to developing countries from GVC participation will depend upon a combination of factors including: i) the characteristics of the foreign investor (degree and structure of foreign ownership; intensity of technology use; the sourcing strategy and

motivations behind FDI); ii) the recipient country's absorptive capacity (as demonstrated by its skill level, firm size, geographical location, R&D, and the gap in technology between investor and host country); and iii) transmission channels (such as the demand effect, diffusion effect, quality effects, and other).¹⁶ This is a complex list of factors that will influence how much of the development gains (as opposed to the pure income or economic gains) will be realised from participating in GVCs. But clearly in order for developing countries to capture more of the value added along a given supply chain, it is necessary to strengthen the linkages back into the domestic economy.

9.5. Do GVCs Increase Exposure to Footloose Investors and External Shocks?

There is a concern that lead firms in GVCs—most often large MNCs—can quickly shift their demand and their sourcing strategy to change suppliers quickly. This makes much of the input supply into GVCs potentially footloose activities and imparts a dynamic but also a potentially unstable quality to supply chain operation. This is particularly the case around GVC operations in the electronics and light manufacturing fields, where firms are able to disinvest fairly quickly in host markets. In order to retain GVC activities, it is usually necessary continuously to innovate, a challenge for many developing country firms. GVC participation may also increase the vulnerability of participants in these networks to external economic shocks and the downturn in business cycles through greater dependence on production and demand links with third markets.

15 For a discussion of the direct and indirect channels through which services can impact on economic development and social welfare, see Hoekman and Fiorini (2015).

16 OECD and WTO (2013), chapter 3, *Value Chains and the Development Path*.

10. CONCLUSION

This Issue Paper has shown that developing countries can derive important potential economic benefits from participating in global value chains. It has highlighted the fact that, for many developing countries, participation in value chains offers access to global markets that they could not otherwise achieve, or not nearly as quickly. For developing country firms, it is generally easier and less costly to capture one or more of the goods “inputs” or the services “tasks” of a value chain than to try and compete along the entire line of activities. This may allow smaller firms in developing countries in particular the opportunity to participate more readily in international trade, as they are not required to have a cost advantage in a final product and can focus on supplying only one activity along the value chain. Through GVC participation, these smaller firms can enter the international market in a risk-sharing manner by capitalising on the market research and branding that have been carried out by the MNCs.

In a globalised trading environment, crafting appropriate and supportive policies to foster participation in value chains from an economy-wide perspective is critical, given the nexus between trade in goods, services, investment, and know-how or technology. An enabling investment and business environment is key for enhancing value chain participation. The government has an important role in shaping this enabling environment through its policy decisions. The government may also play an important role in the discussions it carries out with some of the lead firms in GVC networks, as to the type of investments and the conditions of operation of these activities in their home markets.

For countries willing to use the “GVC technology” as an engine for development, an open and predictable import regime becomes more important, particularly for intermediate goods, as competitiveness is increasingly defined by both country imports and exports. The effects of restrictive trade policies will be magnified in a GVC context. Restrictive tariffs and NTMs will

effectively penalise both domestic producers and exporters, since intermediates can cross borders several times before being included in final products. The costs imposed by tariffs will be felt not only by goods producers but also by domestic services suppliers, given the role that services play as inputs into manufacturing processes. Minimising trade frictions such as delays in border clearance or low quality distribution facilities is critical. Another key factor is connectivity, including transport, logistics services, and ICT networks. From a perspective of attracting FDI, policies have to address constraints that impede FDI entry while targeting, at the same time, first-tier suppliers of lead firms and providing support for the creation of backward linkages. In short, trade policy must be viewed as including all of the policies relevant to the functioning of the “trade-investment-services-logistics-technology” nexus that provides the basis for GVC operations.

On the other hand, while participation in GVCs can generate economic benefits, it does not automatically bring with it all of the desired sustainable developmental impacts, such as the creation of more employment and better-paid jobs, an increased participation of women in the labour force, and a transfer of skills and technology. It may also increase the vulnerability of GVC participants to external economic shocks and a downturn in business cycles through greater dependence on production and demand links with third markets. GVC participation is also not guaranteed to lead to an upgrading along the value chain. All of these outcomes will be a function of a number of factors, some of which may lie outside the ability of the developing country to influence, such as geographical location, the sector in which the GVC operates, and the origin and characteristics of the lead firm and investor, among others. The ability of governments to influence the actions of lead firms in production networks in certain situations, such as international production cartels, can also be minimal. Nonetheless, many of these outcomes can be influenced by

appropriate and proactive government policies, including policies of a horizontal nature, which have economy-wide effects.

In conclusion, GVCs can be an important avenue for developing countries to build productive capacity, increase their participation in the world market, and help to create opportunities for manufacturing and services upgrading in their economies. However, such potential benefits from GVCs are not automatic. Policies matter a great deal and must include a set of coherent and mutually reinforcing trade, investment, and domestic enabling policies. Internal policies to distribute the gains from trade at home are also important and can contribute to generating a positive impact for lasting sustainable development.

In a world of GVCs, trade policy needs to be understood in a different way. This begins with the recognition that exports are only a small part of the development story. The existence of a large and growing trade in intermediates and services inputs, associated with FDI and the globalisation of production, greatly raises the stakes for developing countries to have open and predictable trade and investment regimes, supported by efficient domestic services and logistics in order to achieve sustainable development outcomes. At the international level, this emerging debate calls for a comprehensive reality check of existing trade governance frameworks, assessing their ability to respond to the new reality of GVCs, while providing opportunities for participation and upgrading.

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