Global Value Chains and Developing Countries
An Introduction
The National Board of Trade is a Swedish government agency responsible for issues relating to foreign trade, the EU Internal Market and to trade policy. Our mission is to promote open and free trade with transparent rules. The basis for this task, given to us by the Government, is that a smoothly functioning international trade and a further liberalised trade policy are in the interest of Sweden. To this end we strive for an efficient Internal Market, a liberalised common trade policy in the EU and an open and strong multilateral trading system, especially within the World Trade Organization (WTO).

As the expert agency in trade and trade policy, the Board provides the Government with analyses and background material, related to ongoing international trade negotiations as well as more structural or long-term analyses of trade related issues. As part of our mission, we also publish material intended to increase awareness of the role of international trade in a well functioning economy and for economic development. Publications issued by the National Board of Trade only reflects the views of the Board.

The National Board of Trade also provides service to companies, for instance through our SOLVIT Centre which assists companies as well as people encountering trade barriers on the Internal Market. The Board also hosts The Swedish Trade Procedures Council, SWEPRO.

In addition, as an expert agency in trade policy issues, the National Board of Trade provides assistance to developing countries, through trade-related development cooperation. The Board also hosts Open Trade Gate Sweden, a one-stop information centre assisting exporters from developing countries with information on rules and requirements in Sweden and the EU.

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Today, the majority of world trade takes place within what can be referred to as global value chains (GVCs). Most products are produced not in one country but in several, and this geographical fragmentation of production affects all countries. Developing and developed countries benefit from participating in trade; this is true also in the new shape trade is currently taking.

This report focuses on developing country participation in global value chains. An overview is given on the new opportunities – and challenges – offered through the international division of production tasks. Trade related barriers to developing countries’ participation in the new production patterns are also discussed. GVCs are not a new theme for trade policy, nor are they a concept for trade development; instead, the term describes a new trade reality. Analysis of GVC structures can help policy makers and development institutions address the trade barriers most harmful to countries’ participation and competitiveness.

The Board has previously studied several different aspects of GVCs, and has published a number of reports on the topic. This report provides a developing country perspective to that series of reports. All reports can be downloaded from: http://www.kommers.se/in-english/global-value-chains/.

This report is written by Malin Gunnarsson Ljungkvist.

Stockholm in November 2013

Lena Johansson
Director General
National Board of Trade
Executive Summary

World trade is undergoing major changes. Emerging economies contribute to new trading patterns, in many cases gaining shares in the global trading system that better correspond to the sizes of their populations. Production is becoming more fragmented and at the same time more integrated; specialisation through geographic division of production is increasing, as is the service content in trade. Most products are produced not in one country but in several. Intermediate goods and services are traded across borders. One of the terms describing this modern trade reality is *global value chains* (GVCs), illustrating that production consists of different links originating in different countries.

All countries, even the least developed, are partaking in globalised trade, although the nature, extent, and gains from participation differ among nations. Even though data limitations make it hard to paint a detailed picture of how value added is distributed among countries, a general image can be portrayed for some developed countries, showing the importance of imports for exports and indicating that final consumption of exported products is often to be found at locations other than the destination shown in traditional statistics.

Developing and developed countries benefit from participating in trade; this is true also in the new shape trade is currently taking. The new production patterns offer opportunities for developing countries; mainly that fragmentation and specialisation give small countries opportunities to participate in advanced and complex production by entering into a limited segment of the production process without having to found entire national industries for, say, automobiles or computers. There are also challenges to be met, such as adapting to swift changes in innovation and consumer demand.

The main trade-related barriers harmful to developing countries’ participation are in many ways those that traditionally have been blamed as culprits in trade, but perhaps they are distorting in a different order and sometimes with even more harmful effects: restricted service markets, cumbersome trade procedures, tariffs, and disparate and non-transparent product standards and requirements are some of the most important to be tackled. Furthermore, difficulties complying with rules about how the origin of a product is determined can hinder and distort the potential of free-trade agreements to boost trade.

A number of national policies in developed and developing nations alike affect the opportunities companies have to participate in and gain value from trade, and supporting policies are needed in order for trade to contribute to development and poverty reduction. Aid for Trade makes an important contribution to allowing developing countries to better reap the benefits international trade has to offer.

Analytical work on GVCs and developing countries is continuously published by a number of actors, and the development aspect of globalisation is increasingly gaining focus in studies and research. These contributions will help shed more light on the issues discussed in this report: how developing countries participate in and benefit from 21st-century trade.
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1. Introduction

In recent decades the world’s production structure has become increasingly fragmented—it has been split more than ever before into different tasks and has been scattered geographically. The increasing importance of these global value chains (GVCs) is one of the most important features of international trade today. A GVC includes the full range of activities that firms undertake to bring a good or service from its conception to its end use by consumers. These activities include tasks such as design, production, marketing, and support.

Most goods are produced not in one country but in several. The same is increasingly true of services; their production is also often fragmented. Furthermore, the integration of services and goods is becoming more prominent. Manufacturing exporters provide an increasing range of services to customers, such as financing, insurance, maintenance, and support. In addition, services are essential for the production of goods, and sometimes it is difficult to distinguish one from the other—a concept perhaps easy to grasp when considering a product like a smartphone. Is it a good or a service or both?

While this structural shift has taken place, many developing countries have emerged as key players in international trade, rendering developing countries an increasingly heterogeneous group of economies. The size and direction of both trade and investment flows have shifted from North to South and from West to East at an accelerating pace.

The traditional perception of trade and today’s actual trading patterns have increasingly differed, and trade policies have somewhat lagged behind. Recently, attention has been devoted to the subject by many institutions and researchers, providing a better understanding of trade in the 21st century.

The purpose of this report by the National Board of Trade is to provide an overview of findings regarding developmental aspects of the new production patterns. The following questions are addressed:

• How do developing countries participate in GVCs?
• What opportunities and challenges do changing production and trade patterns offer developing countries?
• What are the key trade barriers preventing developing countries’ participation in global value chains?

In this report, the National Board of Trade aims to take stock of current literature and make use of available data in order to address these questions. Companies trade; countries do not. However, national governments create the conditions for trade, either through national trade policy regulations or through changed market-access conditions—for example, through international trade negotiations. This report lists some trade policy implications that might be derived from an analysis of GVCs and development.
2. What are Global Value Chains?

International trade has in many cases been the exchange of final products produced in one country and consumed in another—at least, this has been the perception of trade. Put simply, coffee was produced in one country, cars in another; the goods were traded between the two. Today, the majority of world trade takes place within what can be referred to as global value chains (GVCs).

GVCs are not a new theme for trade policy, nor are they a concept for trade development; instead, the term describes a new trade reality. However, GVCs bear implications for the design of trade policy, which needs to adapt to a changing business reality, a topic previously discussed by the National Board of Trade in *Business Reality and Trade Policy: Closing the Gap*. Analysis of GVC structures will help policy makers and development institutions address the trade barriers most harmful to countries’ participation and competitiveness.

Several factors have contributed to making today’s global trading patterns possible, patterns in which more goods and services than ever before are traded internationally. Modern communication, cheaper transport, trade liberalisation, and the shift in China and the former Soviet Union towards market economies have led to increased opportunities for firm specialisation, a fundamental driving force behind all trade. Fragmented production patterns emerge, leading to increased trade in intermediate goods and services. To some extent, comparative advantages lie no longer in sectors but in tasks, which are traded across borders. Goods and services might be ultimately “assembled in China,” but they are increasingly “made in the world”. Different links in the chained tasks and intermediates are dispersed geographically, and value is created in each segment—this is a global value chain. Not all industries are affected to the same extent by the emergency of GVCs. For example, high-technology industries are generally more internationalised than less technology-intensive industries.

The phenomena of dispersed production and outsourcing are not new to the world. Companies in developed countries that outsource product assembly to Taiwan, clothing manufacturing to South Korea, or IT support to India are nothing novel, but the scope and scale of sourcing goods and services internationally has increased significantly in recent decades, causing a need for a shift both in how trade is measured and in how trade policy is designed.

To illustrate the impact of the new trading patterns, consider the following:

- Intermediate inputs account for over 50% of trade in goods and over 70% of trade in services in Organisation for Economic Co-operation and Development (OECD) countries.
- Almost half the imported intermediary goods in OECD countries are destined for exports; the proportion is even higher for some countries and sectors.
- Services as intermediate inputs represent over 30% of the total value added in manufactured goods.

Other terms used to describe the new trading pattern here referred to as GVCs are *global production networks*, *global supply chains*, *vertical specialisation*, and *global sourcing*, among others. They all aim at labelling the same phenomenon: increased trade across borders in tasks and parts in which sectors blend together and the origin of a product becomes increasingly difficult—and less relevant—to define.
GVC Examples: Barbie dolls, automobiles, and video games

A 1996 study of a Barbie doll shows that even such a seemingly simple product has been manufactured in a fragmented production chain. The doll was designed at Mattel’s headquarters in California. Oil from an oil-exporting country was refined into the ethylene plastics of which the doll was made at a factory in Taiwan. The nylon hair was manufactured in Japan. The cotton clothing was manufactured in China. The mould for the doll was made in the United States, as was the paint it was coloured with and the box that it was packaged in. Assembly of all these parts took place at factories in Indonesia and Malaysia. Quality testing took place in California.

Another example shows how un-American an apparently American product can be. A study conducted on an American automobile (General Motors) from 1998 shows that just 37% of the car’s value added was actually “made in the USA.” In fact, 30% of the value added came from South Korean inputs. The parts of a car are manufactured in many different countries. The image below shows where some of the components might be produced.

The Swedish video game Minecraft is an example of a global service value chain. The game is produced by Mojang in Stockholm and is sold digitally all over the world. The production and sale of Minecraft constitute a global service value chain in which different aspects are conducted by operators in various countries, such as the United States, Japan, and the United Kingdom. The National Board of Trade has mapped the GVC of Minecraft, dividing this global service value chain into five stages: (1) innovation and R&D, (2) production, (3) distribution, (4) marketing and branding, and (5) consumption of the service. In each of these stages, value is created; this is done both in Sweden by Mojang and internationally by other companies and actors. In the final part of the chain (consumption), the users create value, and this, in turn, influences continuous innovation and product development, creating an on-going cycle of ‘live’ service development.
2.1 How do companies participate in global value chains?

Trade within GVCs is generally linked to multinational corporations. That link can take many different forms, as shown by the examples in the following (far from exhaustive) list of GVC participation:

Table 1. Examples of company participation in GVCs

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-house chains</td>
<td>Trade between subsidiaries; product development, production, sales, and marketing within the conglomerate.</td>
<td>Medical companies (e.g., AstraZeneca), telecom corporations (e.g., Huawei)</td>
</tr>
<tr>
<td>Supply networks</td>
<td>Comparative advantage in meeting customer demand and sourcing, such as fashion items or home-decorating items often sold under own brand name. Placing orders with more or less continuity to producers in many countries, good knowledge of consumer preferences in end markets, no or few production facilities.</td>
<td>IKEA, South African supermarket chain Pick n Pay (with stores in southern Africa and Australia)</td>
</tr>
<tr>
<td>Subcontractor</td>
<td>More or less tied to one or many clients, providing inputs to production, such as car parts, garments, and call-centre services.</td>
<td>Bijouterie or software producer in India, Swedish supplier of seat-belt devices</td>
</tr>
<tr>
<td>Producer of raw materials</td>
<td>Producing crops, timber, oil, or metals used to manufacture other goods</td>
<td>Canadian oil producer, Malay timber producer</td>
</tr>
</tbody>
</table>

Source: National Board of Trade

2.2 The importance of services

The importance of services in international trade is mirrored by the fact that 60% of global foreign direct investment stock in 2012 was in service activities.10

Traditional trade statistics indicate that roughly 30% of Swedish exports consists of services, and the remaining 70% consists of goods. Adding the value of the service input during the manufacturing of goods increases the importance of services to more than 50% of gross exports. Figure 1 shows the services’ value-added content in gross exports for 10 countries, developing and developed, large and small.

Figure 1. Services’ value-added content in gross exports 2009

Source: Trade in Value Added (TiVA) Database, OECD/WTO

2.3 Are global value chains really global?

What determines the geographical distribution of tasks within a production chain? It is not simply a matter of finding the cheapest alternative. Differences in wages might explain why shrimp harvested in Norway are peeled in Morocco or Thailand and then transported back to the European Union (EU) market for consumption, or why booking a Paratransit (Färdtjänst) taxi in Stockholm involves a
telephone operator in Moldova—trained in Swedish for this specific purpose. However, there can be numerous other driving forces behind the diversification of sourcing and production. Other parameters contribute to decisions on investment and sourcing; for instance, the availability of certain credentials, such as the level of education and language skills of IT engineers in India; meeting the quality requirements of high-tech producers, such as vehicle manufacturers; flexibility in adapting to customer demands and being able to deliver sufficient quantities, either for garments in Bangladesh or computer hard drives in Thailand. Such factors affect sourcing decisions and have helped create geographical hubs of excellence and productivity. Gaining entry to new markets is yet another reason behind some investment decisions—sometimes giving larger economies a slight advantage when attracting foreign direct investment. The ability to move goods “continuously, safely and economically” is of greater importance to global chains of supply and production than labour costs are.11

For some products and sectors, the different tasks involved in production are truly spread all over the world. But in many cases the chains are more regional than global. Countries traditionally tend to trade with their neighbours. The three most integrated regions are North America, Europe, and Asia, to some extent supported by regional trade agreements that have led to or followed from increased integration of production and the creation of international value chains—namely, the EU and the North American Free Trade Agreement (NAFTA) in the former case, and the Association of Southeast Asian Nations (ASEAN) in the latter.

Regional trade among developing countries is often encouraged as a means of economic development. Better market access regionally enables the creation of regional value chains through increased specialisation and economies of scale, enabling growth and increasing competitiveness. Here trade procedures are key, often constituting a barrier too costly to overcome. For example, it is often less costly for countries in Africa to trade with EU member-states than with neighbouring countries, owing to costly trade procedures, high tariffs, and a lack of proper infrastructure.

Regional integration through trade liberalisation can facilitate growth and promote the harmonisation of technical regulations and safety standards. Regional liberalisation is most likely preferable to no liberalisation, but compared to multilateral or unilateral concessions it can lead to suboptimal sourcing decisions. Artificial competitive advantages might cause a loss of sales from more efficient companies in, for example, Ukraine, compared to a less efficient producer in Romania when the customer is Polish and prefers trading within the EU—it is not only tariffs that affect such trade decisions but also customs procedures, access to information, and the legal enforcement of contracts and payments. Through NAFTA, Mexico became the main hub for the production of television sets for the US market. However, when China entered the World Trade Organization (WTO), investors swiftly moved production there because the new agreement changed the stakes and enabled sourcing from a more competitive location.12

2.4 Where in the chain is the greatest gain? Is the curve always smiling?

Figure 2 is a simplified presentation of some of the main tasks that might be performed during the production of a good. Discussions about where in the production chain the largest value is generated have often been based on the assumption that the highest value is created at either end of the chain. Initial research and development, on one hand, and final distribution and sales, on the other—both

Figure 2. Examples of tasks in a production chain

Innovation Design Assembly Marketing

R&D Manufacturing Logistics Support

Source: National Board of Trade
mainly performed in developed countries—have been assumed to render a larger portion of value than the assembly in the middle, often performed in developing countries. Control over customer preferences also presumably has an impact on the possibilities of reaping profit from trade. If one measures value on a vertical axis, the distribution of value added along a production chain would then make the ends higher than the middle, depicting as a smiling face, a “smiley.”

Although this might be true for some products, there is no evidence supporting that this “smiley” necessarily depicts the true distribution of value for all sorts of production. As shown in a study by the National Board of Trade (Minecraft Brick by Brick, 2013), digital services might exhibit a different distribution of value along the production chain. The smiling mouth might possibly tilt in many ways, depending on sector and product. The distribution of value may also change abruptly if innovation creates new, cheaper ways of providing a task; for example, industrial 3D-printers might replace more labour-intensive means of manufacturing. Instead, there might be reason to believe that productivity is a more important key to profit than the nature of the task performed is.

Even if a company engages in a part of the chain that adds a relatively low share of value to the product, there is profit to be made by making large numbers and doing it in a cost-efficient manner with low rates of defective items. Every second sock sold in the world today is said to be manufactured in the Chinese city of Yiwu, in one of the 1,600 sock factories there. Even though the value added there per pair of socks is low, the combined value added of all socks is high. The Swedish company Autoliv sells safety equipment to the automotive industry. Though a seat belt adds low value relative to the end price of a car, Autoliv is still a profitable business.

The assumption that developing countries enter chains in the middle section, performing assembly and providing raw materials, can also be questioned. When baking ingredients from Sweden are sold to the Middle East, when Swedish chicken feet are sold to China, or when cars are sold by Chinese manufacturers to African countries, the distribution of value along a value chain probably reveals a different pattern.

Regardless of where the highest value is created, increased participation in value chains is sought. The United Nations Conference on Trade and Development (UNCTAD) has shown indications of better GDP per capita growth for countries that participate more than others in GVCs. Staying in the same part of the chain but increasing the scale of participation is one approach—assembling a larger number of smartphones, for example, or servicing a larger number of companies through call centres. Adding items is another; sock factories in Yiwu might find new customers or add T-shirts to their production, and Autoliv might develop night-vision systems to sell to existing clients. A third way to increase participation could be to cover a larger portion of the chain; like garment manufacturers in Madagascar designing clothes (in a subsidiary in Paris) or automotive manufacturers providing financing and leasing services, thus in a sense consolidating/refragmenting production.

Currently, some studies focus on the issue of what is called upgrading in value chains. Caution might be voiced against governments trying to identify better—or worse—segments for companies to engage in. The OECD states that as a result of fragmented production, investment facilitation and promotion should consider specific activities in GVCs rather than aiming to attract entire industries. Furthermore, the OECD warns against trying to target “high-value stages” of a chain, thus running the risk of creating “incentive wars.” However, there is a need to seek further knowledge about production-pattern characteristics and governance—for example, the driving forces behind the construction and consolidation of networks, divisions of risk and gains among parties—as well as about how the driving forces in the networks are distributed among companies and geographically.
3. Developing Countries’ Participation in Global Value Chains

Over the past decades, many developing countries have increasingly participated in international trade. Some emerging economies, in particular in Asia, have become more important players, both as exporters and as importers. The differences between countries have increased rapidly.

But to what extent are they integrated in global production networks? How much of the production in developing countries is assembly, and is what looks like trade in final products actually trade in intermediates?

The degree of integration, of course, varies between sectors and between countries. Many case studies give examples of sectors and companies in developing countries participating in GVCs such as manufacturing, labelling, and packaging garments in Madagascar, manufacturing microchips in Costa Rica, and producing vehicle brakes in Samoa. But on an aggregated level, it is a rather complex task to measure participation. In order to discuss participation, we first need to touch briefly upon statistical methodology.

3.1 How to measure participation

Since imported intermediate goods often are used for exports, traditional statistics tend to “double count” trade flows. There is limited distinction in import statistics regarding whether a product is an intermediate, and even less information is available on whether an intermediate will be used for production that is consumed locally or exported abroad. Simply looking at gross trade flows will not reveal the distribution of value created within countries. Therefore, a new approach to statistics is sought whereby value added in trade gives a view on trade that is complementary to that of traditional gross imports and exports.

Several new approaches to measuring trade flows have emerged lately. A recent example is that the OECD and the WTO have compiled a database called TiVA (Trade in Value Added) covering OECD members, BRICs, and a few other countries. Using detailed information on international trade and national accounts, the database allows calculations regarding where value is created and consumed—often showing very different patterns than those that meet the eye when considering gross trade flows alone.

One way of estimating a country’s participation in global networks is to measure how much imported value is contained in exports. For example, more than one-third of the exports from the Philippines consists of goods and services imported from other countries. As illustrated in figure 3, the share of imported value in countries’ exports varies greatly.

Figure 3. Share of imported value in gross exports for nine countries in 2009

There are several explanations for the differences: the United States, China, and to some extent Brazil are large countries with large domestic markets from which they can obtain goods and services. In the case of Brazil, raw materials constitute a relatively large share of exports, which naturally creates a large domestic value added. Smaller countries, like Sweden and the Philippines, are generally more trade dependent and purchase more goods and services needed for production on the international market. The data for Luxembourg and Singapore illustrate that small countries can depend heavily on international trade. Thus, are countries better off or worse off having a large share of foreign value added in their exports? The answer is probably neither—or: it depends. The share of foreign value added might give an indication of how integrated a country is in global production and of the degree of its specialisation, but the products exported differ,
Figure 4. Final markets for exports creating value in the Philippines 2009

<table>
<thead>
<tr>
<th>Country</th>
<th>Value Added</th>
<th>Gross Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>United States</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Japan</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>Singapore</td>
<td>10%</td>
<td>5%</td>
</tr>
<tr>
<td>Germany</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Thailand</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Brazil</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Mexico</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Canada</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>France</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Share of exports from the Philippines to main partner countries, in % of total exports.

Source: OECD/WTO TiVA

and therefore the potential for integration. For example, services and natural-resource exports generally contain less imported content of value added. More detailed data and analysis are needed in order to examine developing countries’ participation, clarifying which tasks are performed in developing countries and for which products, as well as who the trading partners are for various products.

The OECD/WTO database also helps reveal where the final demand markets for export are when measured in domestic value created from exports. For instance, gross exports from the Philippines are mainly destined for China, but as shown in figure 4, the final destinations that create the highest value within the Philippines are mainly the United States and Japan. The figure illustrates that export value in the Philippines is created from exports through China and other countries in the region, such as Malaysia, Taiwan, Singapore, and South Korea, and ultimately consumed in other countries. This illustrates the regional importance of international production networks.

If this tool were available for all countries, then a more complete picture could be given of how developing countries participate in international trade. However, defining trade in value added requires detailed data on imports and exports as well as national accounts; this information is not available for most developing countries, thus limiting the coverage of the OECD/WTO database.

In order to understand how a larger number of developing countries participate in GVCs, UNCTAD has created a dataset covering all countries. The data for most countries are based only on gross levels of trade. Assumptions were then made about how different input products are used for consumption or exports. There are thus uncertainties embedded in the results, but this is to date the only attempt at estimating all developing countries’ participation in GVCs. The following are some of UNCTAD’s preliminary findings:

• Developing countries’ share in trade measured in value added has doubled in recent decades, as illustrated by figure 5. (Presumably, large and rapidly growing developing economies like China, India, and Brazil, to name a few, account for a hefty portion of the increased share of trade. Smaller countries’ level of participation is therefore not clear.)
• A majority of developing countries, including the poorest, are increasingly participating in GVCs.
• Trade within GVCs, shaped by transnational corporations, accounts for 80% of global trade.
3.2 Are some countries not participating?

According to UNCTAD, most developing countries participate in GVCs, even the least developed ones, with few exceptions. Although countries’ participation might not be taken for granted, it is worth noting that even a country like North Korea (for example through the Kaesong Industrial Region) is part of international chains of production. And even countries that mainly provide the raw materials used in later segments of various production chains are affected by the demand for and further trade of products that use those materials.

Instead of asking if a country participates or not, it might be more relevant to discuss the degree of participation in—and benefits from—GVC-related trade, as well as the constraints holding back trade. Reasons behind low participation in value chains range from a geographical location far from production networks, a lack of infrastructure or appropriate labour skills, and a business environment that fails to attract investment, for instance, to insufficient natural resources. Being landlocked—that is, lacking a coastal location—might also lower a nation’s chances of attracting export-oriented investments. Many policy issues affect a country’s ability to participate, among them trade-related barriers. Such issues are further discussed in chapter 6.

3.3 Increasing investment flows to—and from—developing countries

Trade and investment are complementary flows. Foreign direct investment in developing countries therefore provides a complementary view to that of trade flows regarding changes in the geographical structure of production.

In 2012, for the first time ever, foreign direct investment flows to developing countries exceeded those to developed countries. The level of inflows sharply declined globally (by 18% compared to 2011) but declined less in developing countries, and in some regions, such as parts of Africa and Latin America, the inflows even increased. It remains to be seen whether this trend will shift once the large amounts of divested capital are invested again, but it is nevertheless an important shift that few would have envisaged as recently as at the turn of the 21st century.

It is also worth noting that companies in developing countries are becoming increasingly important investors. More than one-third of all cross-border mergers and acquisitions in 2012 were conducted by companies in developing countries. Examples are Chinese companies investing in Brazil and Portugal and Malay companies acquiring Canadian corporations.
The literature on GVCs generally shows consensus regarding the overall benefits for developing countries of participating in GVCs. Participating in trade has a positive effect on growth and productivity through increased competition, access to knowledge and technology, increased specialisation and access to cheaper and better input goods and services. However, because producers’ economic development does not automatically lead to workers’ social upgrading, appropriate national policies are needed in order for that growth to lead to development.

Traditionally, a production chain was located more or less entirely within one nation. Today it is not necessary—or even possible, if the product is to be competitive—to create a national automotive industry in order to benefit from demand in that sector. Instead, companies can enter a link in an established production chain, regardless of the nationality of the car manufacturer (or manufacturers) that will ultimately integrate the part or design into its product. Firms in developing countries need not acquire the full range of capabilities needed along the entire value chain; they can still participate in international trade. This leads to certain specialisation: some well-known cases are assembly of information and communications technology in China, clothes manufacturing in Cambodia, and IT services in India, and lesser-known examples are car parts produced in Samoa and microchips made in Costa Rica.

Many analyses show the positive effects of transferring technology through global production chains. Countries may to a lesser extent receive investments of entire production complexes, but instead the fragmentation of production gives a larger number of countries the opportunity to attract investment leading to technology transfers. GVCs also lead to increased knowledge transfer, even when tasks are performed by networks of subcontractors and not within actual subsidiaries. For instance, sourcing companies often support suppliers by facilitating their adherence to the technical requirements and health standards of end markets. Such transfer of technology and knowledge leads to increased productivity and thus to opportunities for economic growth.

A clear link between GVCs and employment has not been shown, even though some studies have approached the subject. It has not yet been proved that employment numbers, salary levels, and working conditions are affected by participation in GVCs.
Developing (as well as developed) countries face several challenges as a result of the increasing fragmentation and diversification of production.

**Footloose production.** New innovations that rapidly replace existing technology or changes in consumer demand are two of the factors creating risks for companies participating in international trade. Knowledge of trends in end markets and buyer/consumer contacts are valuable tools in planning production and investments. A developing country’s participation in a global production chain at a distance from the end markets risks becoming obsolete. Being loosely tied to the multinational companies governing value chains might mean that the value created nationally to a larger extent is kept there, but this distanced position also entails a higher degree of risk. Contracts can be terminated or not renewed on rather short notice. Multinational companies might invest in subsidiaries in order to adapt to changing technology or demand (most of the very low foreign direct investment inflow to Greece in 2012 is believed to be directed towards subsidiaries of multinationals) but are likely to seek new suppliers if the necessary goods or services required are not available in house or with existing collaboration partners.

Another risk is that of rapidly changing conditions for trade and competition between markets. After NAFTA went into force in 1994, Mexico became the main production hub for television sets for the US market. But when China joined the WTO in 2001, investors shifted their funds there, rendering the Mexican production sites obsolete. A slower change might be that of increased wages in a country that once attracted investment and trade with a competitive labour market. In order to avoid losing economic gains when investors seek other production locations with lower labour costs, innovation and diversification of production are essential. For countries competing mainly through low production costs, the risks are higher, and for many developing countries the effect of job losses is increased poverty.

The “middle-income trap.” Are smaller economies and latecomers to GVCs destined to be eternal suppliers? According to UNCTAD, developing countries can remain locked into relatively low value-added activities—for example, exporting mainly primary products within the agriculture and extractive industries. How can other countries repeat the journey South Korea, Taiwan, Hong Kong and Singapore embarked upon some decades ago? Where can new multinational companies be created? Is a multinational company’s nationality even relevant when it comes to the distribution of value added and development? Further analyses of the distribution of value and chain ownership might shed more light on such issues.

It is true that with an increasingly integrated and open world economy, global competition makes national production of complex products difficult. Recent attempts have been made, sometimes with the help of protectionist measures; consider, for example, the production of heavy vehicles in Russia and aircraft in Brazil.

On a related note, how important is the size of a country’s economy? Does market size determine the creation of new multinationals? There are several recent examples of new multinationals from China, India, and Brazil, but few have originated in smaller emerging economies.

As stated above, appropriate national policies are needed if participation in GVCs is to lead to development. One concern is production pockets, which arise, for example, through the creation of economic “free zones” in which GVC participation produces only a limited impact on the domestic economy.

According to UNCTAD, it might also be relevant to take the sustainability impact of GVCs into account, such as environmental effects and the impact on social and labour issues.
6. Trade Barriers to Developing Countries’ Participation in Global Value Chains

Of course, many factors affect the preconditions for a country’s participation in GVCs, such as the stability of its national institutions, the availability of natural resources, investment and competition regulations, and the education level of its labour force.

This chapter describes some of the most important trade-related barriers hindering firms in developing countries from participating in global production networks. The trade-related barriers to GVC participation are generally the same in both developed and developing countries. The barriers are also more or less the same as those traditionally discussed as obstacles to trade, with the difference that many of them make an even more harmful impact on GVC trade because they often produce cumulative and escalating effects. The trade policy considerations that changing trade patterns lead to are therefore in many respects the same for all countries, developed or developing. In many cases, changes in developing countries can be supported and complemented by changes in developed countries.

A firm whose business model is based on cross-border production networks depends on the ability to predict the cost of moving goods, services, people, and capital across borders. A transparent and predictable policy environment thus becomes very important from a GVC perspective. Sudden changes in regulation or an arbitrary application of rules can have substantial negative effects on a firm’s competitiveness.

Naturally, many other aspects apart from trade policy affect a country’s participation in GVCs; other supporting policies and stable institutions are needed in order for firms’ participation in GVCs to become a stepping stone for development and to contribute to poverty reduction. For example, appropriate competition policies are needed to prevent international firms from creating rents and to instead encourage national firms to improve productivity. Other aspects are infrastructure and workforce skills.

In several areas, Aid for Trade continues to have an important role to play; facilitating trade, increasing knowledge of and capacity to meet standards and product requirements, and supporting regional integration are only a few such arenas.

6.1 Restrictions in services markets

Services are needed in GVCs for goods, both as tasks and as facilitators. Services are of great importance when manufacturing goods, as discussed in 2.2. Inefficient service provision can harm the cross-border trade of components, equipment, and final goods. Financing, communication, transports, insurance, and other logistics services are needed in order to efficiently coordinate production and deliver intermediate and final goods and services.

There is not yet much research on pure service value chains. Examples of such services are tourism, banking, audiovisual services, IT services, and possibly also education and health services.

Restrictions in the services market inhibit participation in GVCs. There is a correlation between the openness of services markets and more efficient or higher-quality distribution/logistics services. Thus, service liberalisation enables greater participation in world trade and contributes to the creation of GVCs. Market access for services is generally less liberalised than that for goods. “National content” or “local content” requirements on transports, for instance, restrict competition from foreign service providers. This most likely increases the costs of transport, raising the price of imports and exports and thus lowering the exporter’s competitiveness. Furthermore, since trading partners might want transport beyond national borders to be serviced by a more competitive firm, complying with national content requirements involves reloading goods when crossing the border, causing delays and increasing costs.

Liberalisation of service markets can benefit firms’ participation in global trade. This is true not only for service companies; as shown above, it also serves the interests of manufacturing companies.

Services are needed as tasks and as facilitators of manufacturing and trade in goods. In general, there is better market access for goods than for services, which means that there might be great room for enhancing the competitiveness of domestic manufacturers through service liberalisation.

For most developing countries, services as facilitators are most important. It will be possible in the long run to enter into the export of service tasks; increasing opportunities await as services themselves are increasingly fragmented and traded as tasks. Access to foreign markets will then increase in importance.
6.2 Cumbersome trade procedures

Cumbersome, costly, unpredictable, and non-transparent trade procedures constitute major barriers to many developing countries’ participation in international trade. They become an even bigger problem when intermediate goods cross borders multiple times within a single production chain. Costs related to fees and administration then multiply.

**Goods need to be delivered on time.** Production increasingly relies on just-in-time (JIT) deliveries, whereby goods arrive exactly when needed—neither too early, requiring that parts be placed in stock, thus tying up capital and storage facilities, nor too late, putting overall production on hold. JIT is also used in sales: imported goods are often sent directly to shops or even directly to the consumer without going first to storage. Decreasing the need for storage makes the production chain cheaper but also at the same time more vulnerable. Slow and unpredictable border procedures therefore pose a major barrier to GVC participation. For some sectors in which demand is rapidly changing, such as fashion items and consumer electronics, production in a certain country characterised by difficult procedures might not be feasible at all because of unreliable deliveries.

When nations compete for foreign direct investment, trade procedures can be a deterrent. When many countries focus on facilitating border procedures, doing less than average means falling behind and creating increased competitive disadvantages. Rwanda has dramatically reduced the average time needed to import a container, down from 90 to 30 days since 2006, but there is still great room for improvement there compared to the 14 days it takes to import to Costa Rica and the 4 days required in Singapore.

There is vast room for improvement in the area of trade facilitation in many developing countries, which means that there is often great potential for better integration into international production networks and for attracting investment. Figure 6 shows the correlation between a few trade facilitation indicators and income levels.

**Simplified, harmonised, standardised, and transparent trade procedures** benefit GVC participation. The use of modern technology in customs clearance, efficient collaboration between border agencies, advance rulings, and risk management are examples of facilitating measures that will enable a faster, cheaper, and more predictable trade flow. Even if a multilateral agreement would be beneficial for the sake of uniform measures and predictability, reforms are currently being undertaken and technical assistance provided, regardless of the outcome of the Doha round. It is not only the export procedures that matter; an indirect export effect accompanies the facilitation of imports used in exports. Regional cooperation on trade facilitation issues can be highly beneficial for all the countries concerned, for example focusing on cross-border management and cooperation.

6.3 Costs of tariffs

Although tariffs on goods have gradually been reduced in most countries for most products in recent decades, they still matter, mainly for two reasons.

First, **tariffs on imports matter.** Tariffs on imported goods used in the production of exports increase the cost of production. This will make the exported goods more expensive and thus less competitive. **Tariffs on intermediary goods become a tax on production.** Some countries offer reimbursement for tariffs paid on goods that are used for exports, but the administration needed for documentation and auditing is often cumbersome and thus costly for companies. Figure 7 compares the average tariff rate on intermediate goods for high-income countries to that of low- and middle-income countries.
Second, **tariffs on exports matter**. Even low tariffs can have a very high impact on trade costs if the share of value added in the exporting country is low; sometimes tariffs even prevent companies from entering into production chains. A T-shirt made in Madagascar might be made from Indian cotton, while transports and sales are sourced from South Africa. If the T-shirt is exported at a price of 3 USD, but only 1 USD of that value is added in Madagascar, a 2% tariff in the end market will cost the company in Madagascar 6 cents per T-shirt—the equivalent of 6% of the value added. A 5% tariff in the export market is equivalent to 15% of the value added. Thus, even low tariffs in end markets can make it hard or even impossible to access a link in a fragmented production chain. **The lower the national value added in an exported product, the greater the effect of a tariff in the importing country.**

It is worth noting that lowering tariffs in developed countries might lead to **preference erosion** for the benefits granted to developing countries through, for example, the EU Generalised Scheme of Preference (GSP).³⁵

**Predictable, transparent tariff levels and simplified tariff structures**, such as a low number of tariff lines, are other tariff-related factors that can lower barriers to trade and thus increase participation in GVCs. Especially small and medium-size firms benefit from tariff simplifications, such as a lower number of tariff lines.

### 6.4 Tariff reductions: Effects depend on origination requirements

Rules of origin are a tool for determining the nationality of goods to ensure that trade preferences given to a country are not misused through transshipment of goods. The rules decide the level of value that must be added locally for a particular good—for example, a shirt made of cotton from India, sewn in Bangladesh, and exported to the EU—to be exported under the agreement.

Developing countries are in some cases given preferential market access for exports through lowered tariffs; one example is the GSP programme in the EU and Norway, and another is the African Growth and Opportunity Act (AGOA) in the United States. Though these preferential agreements might seem beneficial, their positive effects can be reduced by the agreement’s rules of origin. This becomes even more evident as the importance of imports for export purposes increases and when sourcing production tasks across borders. If rules of origin are not designed with this in mind, they **might discourage participation in GVCs, lead to suboptimal sourcing decisions, or decrease the possibilities of using trade agreements.**

**Simple and harmonised rules of origin** can facilitate trade, both within preferential agreements, such as the EU’s GSP, and in regional agreements shaped between developing countries. Rules of origin that are realistically applicable to trading patterns and production help promote regional integration. Generous cumulation rules allow countries that are part of a preferential trade agreement to share production and increase their level of specialisation.

Under the free-trade agreement between the EU and a number of Mediterranean countries, the Euromed agreement, **diagonal cumulation** will be possible. This means that goods (but not services) from Tunis and Rome can be integrated into production in Cairo, and the final product will benefit fully from tariff elimination when it is exported to Jordan or Turkey. Unfortunately, this might be easier said than done. The origin of a product must still be determined. The administrative process needed to certify the origin of a product can be extremely complex and cumbersome. One globally trading Swedish company has indicated that the cumulation possibilities under the Euromed agree-
ment will be too complicated to apply. If this global trading company with advanced experience, knowledge, and resources finds the cumulation scheme complicated, how then are smaller firms in these markets supposed to manage?

The relatively low utilisation rates of the EU GSP—just over half the exports eligible for preferences were entered through GSP in 2009—can in part be explained by the administration and complexity of the rules of origin. For the least developed countries, it is worth noting that the US system, AGOA, has more liberal rules on textiles, for instance, than the EU equivalent, EBA, does; this is believed to explain the AGOA’s higher utilisation rate.

6.5 Differing standards and product requirements

In order to import, use, market, or sell products within a country, requirements must normally be met regarding, for instance, safety. This applies to batteries as well as to beef. To ensure that products meet these requirements, they need to be tested, certified, and labelled. Differences in the technical regulations and standards between countries lead to high costs for information gathering on applicable product requirements, approval procedures, and product adjustments when products are sold to several markets. Differences in certification, testing, labelling, and packaging requirements are especially burdensome for smaller producers. Predictability and transparency in these processes facilitate trade.

Sanitary and phytosanitary (SPS) measures are examples of requirements that often differ between markets. Such measures are implemented by countries to protect human populations as well as animals and plants from diseases, pests, and harmful substances that can spread through food and agricultural products. Examples of SPS measures are import bans on certain meat products as a result of an outbreak of a contagious animal disease, and restrictions regarding pesticides used on fruit and vegetables. SPS measures may also include requirements that a product be treated in a particular way; for example, wood pallets must be heat-treated in order to reduce the risk of spreading pests. SPS requirements can lead to high costs for producers, just as the technical barriers discussed above can. If a producer exports to several markets with differing sets of regulations, the costs multiply, and sometimes export opportunities are limited by contradicting standards in end markets. There are, of course, legitimate concerns behind the requirements in end markets (e.g., animal health and food safety). A central challenge is the difficulty in adhering to several countries’ standards at the same time. This can be the case when a food additive permitted in one country is banned in another. Another problem for many developing-country producers of agriculture and food products is that they depend on a functioning national SPS system—comprising national programmes for the survey and control of plant pests or animal diseases, laboratories, export control stations, and other governmental institutions—in order to comply with the SPS requirements of the end market.
Enhancing knowledge among producers, traders, and officials in key authoritative bodies in developing countries about the requirements for exports and the means to fulfil these requirements is one way of lowering barriers to trade. Technical assistance regarding quality infrastructure (systems for conformity assessment, standardisation, metrology, and market surveillance) is vital to building national capacities for regulatory convergence.

Another helpful measure would be to increase the international harmonisation of national and regional requirements and standards. Harmonisation could be achieved, for instance, if countries chose to implement international food-safety standards. Regional regulatory convergence can benefit trade and is seen by some as a stepping stone to further integration. However, a multilateral approach would be more beneficial in order to create a stable production and trading environment. If regulatory frameworks change several times through different integration processes, this will increase the cost of adherence.

Mutual recognition of technical regulations and standards, or recognition of equivalent legislation and control systems are other options that in some cases could be extended to third countries. As suggested by the National Board of Trade in a report on GVCs and the discussion of a free-trade agreement between the United States and the EU, an agreement that each would recognise the other party’s legislation and certification of organic products could be extended to third parties in order to facilitate trade. Such a solution would mean that a Colombian organic coffee producer certified for the US market in accordance with USDA’s organic standard would be able to export organic coffee to the EU market without needing additional certification to confirm compliance with the EU’s organic regulations. At the very least, under such an agreement, when future SPS measures and technical regulations are introduced, acceptable levels of risk for both parties could be found and similar regulations introduced.

Some studies highlight the lower standard requirements in several emerging end markets in developing countries. When exports are increasingly geared towards meeting consumer demands in China, South Africa, and Brazil, standards might become less of a problem for producers. Faced with less-rigorous technical requirements, producers in developing countries will find it easier to compete. The shift to southern markets is also predicted to increase demand for low-cost products, further benefiting these firms.
Increased trade liberalisation can facilitate participation in GVCs. Given the nature of production networks, trade liberalisation would be most beneficial if performed multilaterally. With trade becoming increasingly fragmented, tariffs everywhere matter, and simplified and harmonised multilateral trade rules would remove cuts and disturbances in the production chains. With WTO negotiations stalled, focus has instead turned increasingly to regional—and sometimes unilateral—liberalisation.

Recent years have seen several examples of more or less overt import-restricting measures aimed at fostering national production: local content requirements regulating telecom and railway equipment in India and green energy in Ukraine, discriminatory taxes on imported vehicles in Russia, export tariffs on ferrochrome in Kazakhstan, several import-restricting measures in Brazil and Argentina, and (some might argue) recent EU tariffs on solar panels from China. Many of these actions are harmful to the nations imposing them. For example, locally performed services constitute a very large share of the value when a wind turbine is installed because transport, installation, maintenance, and other services are added locally. With costly trade restrictions and without efficient imports, it will be very difficult for Brazil to establish an aircraft industry that is internationally competitive.

However, it could also be argued that for bigger and therefore less trade-dependent nations like India and Brazil, these measures are less harmful than they would be for smaller nations that imposed them. A reason for Swedish companies establishing subsidiaries in India is in some cases to get access to the large and rapidly growing Indian market; access that is not as easily achieved through trade. Argentina is one of the few countries that increased its level of foreign direct investment in 2012. Access to the Argentine market is more easily available through establishment than it is through trade. Countries like India, Argentina, and Brazil have comparatively low levels of import content in their exports and are thus considered less integrated into GVCs than other countries are. Normally, strategies controlling and guiding production segments within nations negatively affect growth in the long run, and they are harmful to GVC integration and the competitiveness of firms. Warnings have been issued about trying to artificially guide investments into “high level segments.”

On a final note, currently much analytical work focuses on GVCs and development. Efforts are under way to compile data, to map chains, and to analyse policies in many countries and regions, and together they will add pieces to the puzzle of better understanding the role the new trading patterns play in development.
Notes

1 OECD (2007).
2 OECD (2012).
3 Ibid.
5 Tempest (1996).
8 National Board of Trade (2010c), (2012b).
10 UNCTAD (2013b).
11 UNCTAD (2013c).
13 Case Study on Socota Group, World Economic Forum (2012).
14 OECD (2013a).
15 The term developing countries is used in this report according to WTO definitions: where countries themselves declare whether they are developed or developing.
16 Where detailed data are not available, assumptions are made regarding trade characteristics. This means that there are uncertainties in the results, especially for smaller developing countries.
18 OECD (2013a), p. 28.
19 International Centre for Trade and Sustainable Development.
20 UNCTAD (2013b).
21 Ibid.
24 UNCTAD (2013b).
25 OECD (2013a), p. 27.
26 OECD (2013a), p. 28.
27 OECD (2013a).
32 Ibid.
33 Studies show higher costs for trade in components than for trade in final goods. Hummel and Schaur 2012 in OECD (2012).
35 When the EU GSP enters into force in 2014, it will give preference to a reduced number of countries, excluding those defined by the World Bank as high- or upper-middle income countries, as well as countries with which the EU has entered into a free-trade agreement. One reason given for not expanding the product coverage for those still eligible for GSP or for not lowering tariffs further is that doing so was said to be harmful to the exports of least developed countries.
37 Kaplinsky et al., (2010a).
39 OECD (2013a).
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