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Joining, Upgrading and Being Competitive in Global Value Chains

A Strategic Framework

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Abstract

In recent years, global value chains have played an increasing role in business strategies, profoundly affecting international trade and development paradigms. Global value chains now represent a major source of socio-upgrading opportunities and a new path for development. Trade, competitiveness and development policies should be reshaped accordingly to seize these opportunities and avoid the risks associated with greater participation in global value chains.

This paper provides a framework and analytical tools for measuring and improving a country's performance with respect to participation in global value chains. With a clear operational focus, it provides guidance for countries willing to join, maintain participation, and/or move up global value chains. With the ultimate objective to increase the value (the development content) for trade, it also offers strategies to maximize the benefits and minimize the risks of developing countries' participation in global value chains.

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Joining, Upgrading and Being Competitive in Global Value Chains:

A Strategic Framework[1]

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PART 1 – INTRODUCTION

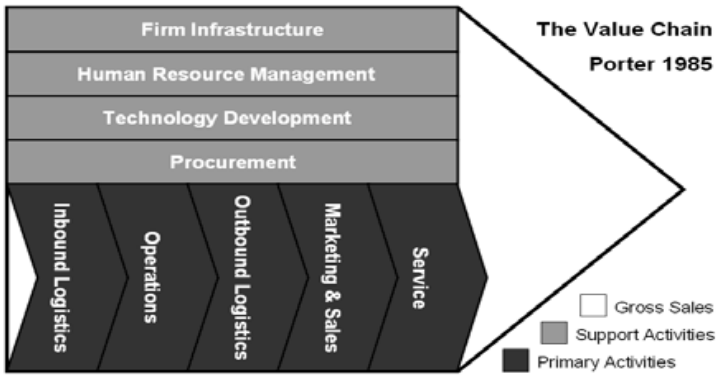
What are GVCs? Why are they important?

Definitions

Following Porter (1985), value chains have become a reference for the analysis of trade and industrial organization, describing the full range of activities that firms and workers perform to bring a product or service from its conception to end-use and beyond. These activities include design, production, marketing, distribution and support to the final consumer, and can be contained within a single firm or divided among different firms (globalvaluechains.org). In this highly flexible and dynamic context, geographic location is an important variable in the objective function of a profit-maximizing firm. Key drivers of multi-country production location choices are the great country differences in the cost of input factors, competitiveness drivers, social and environmental conditions, but also geographic and cultural proximity to the final consumer. Hence, production takes place at different geographic scales (local, national, regional, and global), driven by the relative differences between countries with respect to the above mentioned characteristics and their impact on profits and costs: through proximity to final demand (Amiti, 2005), relative incidence of transport and time (Venables and Baldwin, 2011), and/or institutional costs and benefits (Rugman and Verbeke, 2004).

Several products of common use are manufactured through supply chains dispersed globally or regionally. Value chains are said to be "global" when the activities are carried out in inter-firm networks on a global scale (Gereffi and Fernandez-Stark, 2011). Recent literature also makes reference to the concept of global production "networks" rather than "chains" to highlight the complexity of the interactions among global producers (Coe and Hess, 2007). Yet, the term GVCs can in some cases be misleading. Empirical and anecdotal evidence both suggest that the different stages of the value chain are limited to a few countries or concentrated regionally rather than truly dispersed globally. Rugman, Li and Oh (2009), for example, classify 183 large North American firms into home-region oriented, host-region oriented, bi-regional, and global firms by using geographic distributions of their upstream and downstream activities. They find evidence for the predominantly regional nature of supply chains – that is, over 85% of firms in their sample have their supply chains within North America. In the case of China, Ma and Van Aasche (2012) find that "heavy" goods, i.e., goods with a high weight/value ratio, tend to be more regional in nature. This is consistent with the fact that transportation costs are generally higher in such industries (Hummels, 2007). They also find that – within industries – geographical proximity and spatial linkages are more important for foreign-owned companies, which is consistent with the relevance of institutional costs formalized in Rugman and Verbeke (2004).

Figure 1. The value chain



Source: Porter, 1985

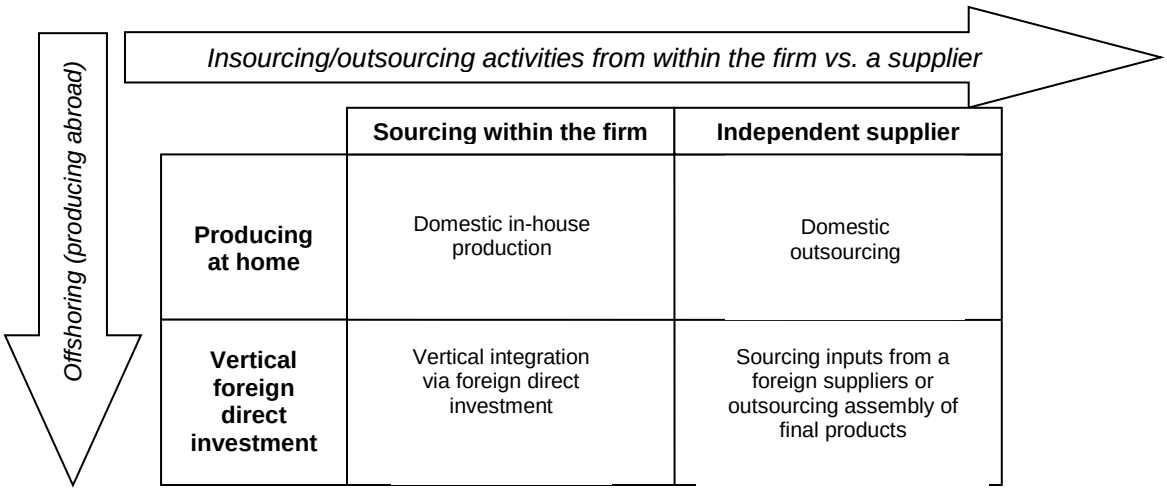
Annex 1 provides a snapshot of GVCs in some of the sectors of most relevance to developing countries, including agri-food (fruits and vegetables), manufacturing (textiles and clothing, automobiles, chemicals), and services (offshoring, tourism).

The emergence of a concept

The international segmentation of production is not a new phenomenon. However, it has taken a fully new dimension and importance in recent years: initially regional (e.g., suppliers of auto parts in Mexico, Eastern Europe, or Spain for original car manufacturers in the US, Germany and France, respectively), the phenomenon has become truly global due to technological progress and reduced costs of transport and telecommunication. The increasing importance of services in original manufacturers' output has led to a further delocalization of production, including of some services inputs in the value chain that once could not be traded across borders. The concept "Made in Country X" is becoming obsolete. Today almost 60% of trade in goods is in intermediates and the average import content of exports is around 40% (Lamy, 2013)

According to Baldwin (2006, 2012), a first "unbundling" took place in the second half of the 19th century (1850-1914) and from 1960s onwards, corresponding to the separation of production and consumption. In the "second unbundling" that started in the mid-1980s, the production process itself is split across countries both geographically (offshoring) and organizationally (outsourcing). From a firm perspective, the dramatic growth of digitization and increasing public policy liberalization, has unlocked the possibility to diversify sourcing strategies, including the choice of opting for different organizational and geographic integration and/or separation of production stages. As described in Figure 2, there are four possible combinations of organizational and geographical structure of production. Operations can take place inside the firm and domestically. In this case we talk about domestic in-house production. Alternatively, productions stages can all take place inside the firm but with some of them operated in a foreign location, i.e., through offshore production via vertical foreign direct investment (FDI). Third, firms can outsource activities to independent contractors and suppliers, with whom they maintain a relationship of arm's length trade. Suppliers can be based in the domestic country (domestic outsourcing) or operate in a foreign location (offshore outsourcing). Similarly, assembly of the final products can be outsourced, off-shored or both. These new sourcing strategies result in greater FDI and intra-firm trade as well as vertical arm's length trade with independent suppliers.

Figure 2. New Sourcing Strategies



Source: Antràs and Helpman, 2004

New global trade patterns

While it is difficult to define and measure precisely and univocally what is meant by trade within GVCs, we can provide assessments of its importance through proxies. The importance and evolution of trade within transnational corporations (TNCs) and of vertical trade, or trade in intermediates, are useful references: the rise of GVCs suggests that trade in "customized" intermediates should be increasing in relation to "generic" products or commodities (Sturgeon and Memedovic, 2011) and that part of this trade takes place within conglomerates.

Intra-firm trade has increased in recent decades (Lanz and Miroudot, 2011). UNCTAD estimates that nowadays 80% of trade involves TNCs (UNCTAD, 2013). Meanwhile, vertical trade (between affiliated companies or at arm's length) explains most of the growth in world trade (Yi, 2003), more than half of world-manufactured imports are intermediate goods – i.e. primary goods, parts and components, and semi-finished products – (WTO, 2011), and more than 70 percent of world-imported services are intermediate services (Miroudot, Lanz and Ragoussis, 2009).

Trade patters also tend to be complex and multi-country. Evidence from the OECD-WTO (2013a) suggests that typically, about one-third of the imported intermediate goods are destined for the export market, with higher ratios in smaller economies (e.g. up to two-thirds for a country like Hungary) and in certain sectors (e.g. the foreign content of electronic goods exports was 40% in China and Korea, and up to 60% in Mexico).

Finally, services play an important role. While services trade has long been underestimated, recent analysis suggests that services typically represent more than one-third of the value of exports in most manufacturing sectors. Added to the value of trade in services itself, services represent more than half of the value of exports for most OECD countries, and a third of the exports of an emerging country like China (OECD-WTO, 2013a).

Changing paradigms

The emergence of GVCs and new trade patterns suggest the revision of public strategies aimed at fostering competitiveness as well as of trade and development policies at large. In particular, four major paradigm changes could be taken into account (Cattaneo and Miroudot, 2013):

(1) The change of relevant strategic framework, from countries to firms and GVCs. Competitiveness strategies should be tailored to trade and industrial organizations. Countries are not the relevant framework for analysis anymore; policy makers should think business and think global - or at least regional. A country cannot develop a competitive offer of goods or services in isolation. This implies that:
    - Imports are not an expression of foreign competitiveness, but rather a means for firms to access the most efficient inputs and free resources to focus on core competences.
    - Following business practices, policy should treat trade and FDI, both inward and outward, in an integrated framework.

(2) The change of relevant economic framework, from industries to tasks and business functions. The objective is not to develop domestic industries that would capture all the segments of production or the whole value chain; it is to:
    - Identify the country's best position in the GVC and the most competitive supply of tasks or business functions;
    - Acknowledge that an efficient manufacturing sector requires efficient and competitive services as well as a skilled workforce and continuous innovation in products, processes and business models. Services such as financial intermediation, R&D, logistics, and marketing are necessary to produce higher value added manufactures.

(3) The change of relevant economic assets, from endowments and stocks to flows. International competition is increasingly vertical, and firms are at the same time competitors and sources of key inputs and competences to each other. In this context, GVCs have become the main channel

of transfers of all kinds: e.g., capital, knowledge, technology, standards, and value-added services. These may not be available domestically, but in the global marketplace. Hence, a country cannot become or remain competitive without efficient links to global markets. The times are long gone in which exports were produced entirely by national firms in their home country and competition on the international market was entirely horizontal between firms in the same sector that competed for the same customer base.

(4) The change of relevant barriers and impetus, from public to private. Barriers to trade and competitiveness have progressively moved from the border (traditional obstacles such as tariffs and quotas), to behind the border (non-tariff measures and other regulatory barriers - NTMs), to ultimately become borderless (proliferation of private regulations and standards, distortion of competition within GVCs). Moreover, they have created a new variable geometry of winners and losers within countries. The very same trade policies and preferential trade agreements will harm some domestic firms as much as they protect others. Addressing such barriers requires broader international cooperation, as well as increased public-private dialogue. In particular, trade policy should:
    - Assess the effective needs and features of its competitive firms and identify winners and losers of trade policy and/or behind the border measures accordingly.
    - Acknowledge that while certain trade costs may be necessary to pursue higher public policy goals, they may be reduced through greater international harmonization, to the benefit of everybody.

Summary: The chain of trade policy results and the pivotal/transmission role of GVCs

Competitiveness and openness foster trade and investment, which, in turn, foster growth and development. GVCs have become an important link in this chain of results, facilitating trade of smaller businesses, enhancing the possibilities for countries to defy their traditional comparative advantages and access new types of production and to upgrade towards higher value added activities, as well as fostering transfers of all kinds (see Figure 3). Socio-economic upgrading now requires greater attention to the development of a competitive form of production within GVCs rather than independently of GVCs.

Figure 3. The results chain: From competitiveness to greater value for trade

Source: OECD, 2012a

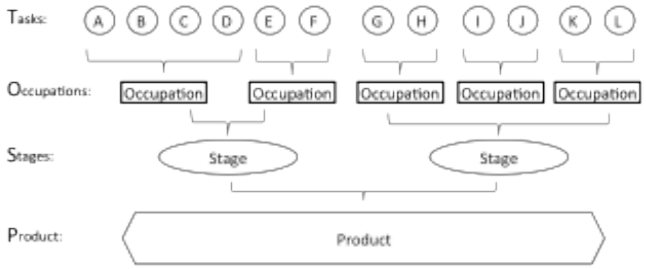
A source of opportunities

The "second unbundling" is a source of opportunities for developing countries. A greater division of labor and segmentation of production at a global scale allows more countries to benefit from trade. The participation in GVCs allows (as well as is the result of) greater competitiveness, better inclusion in trade and investment flows, as well as socio-economic upgrading, with more and better

remunerated jobs, a more sustainable use of resources, and better governance and political stability at large.

GVCs offer an alternative outward-looking development model driven by trade and competitiveness. Countries do not need to develop vertically integrated industries to participate in global trade; it is enough to develop capacities in specific segments (stages of production, tasks or business functions) of the value chain – see the TOSP framework in Figure 4. In other words, even small countries with limited capacities across the value chain have a chance to export.

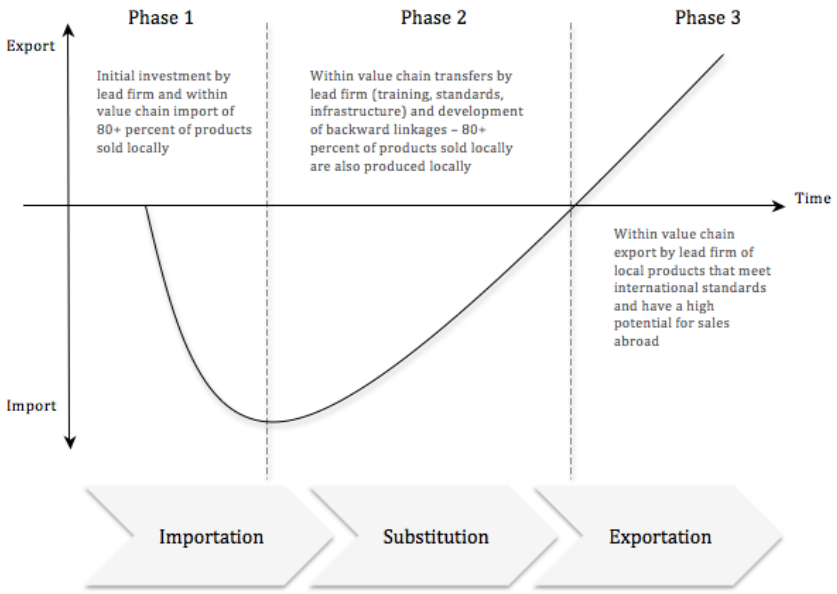
Figure 4. The TOSP framework: tasks, occupations, stages, and products



Source: Baldwin and Evenett, 2012

Similarly, within each country, the "second unbundling" creates new opportunities for small and medium-size enterprises to access global markets through inclusion in GVCs as providers of intermediate goods or services – against the idea that trade and GVCs only benefit large multinational firms. Figure 5 illustrates how developing country producers in the agri-food sector could upgrade to meet international standards and start exporting part of their production thanks to their participation in GVCs.

Figure 5. From import to export: The role of global value chains in the retail and agri-food sector



Source: OECD-WTO, 2013c

Conversely, a country cannot develop a competitive industry without efficient linkages to global markets, both for its inputs and outputs.

A source of risks

The predominance of GVCs is also a source of risks for participating countries.

First, GVCs have contributed to reshape the elasticity of international trade (Escaith, Lindinberg and Miroudot, 2010): the 2008-09 crisis has revealed a higher trade elasticity and exposure to imported crises through trade. For example, the difficulties of the automobile industry in the United States (US) during the 2008-09 crisis were immediately transmitted throughout the automotive industry GVC, affecting the income of rubber tappers in Liberia that were providers of raw material for tires (Jansen and Von Uexkull, 2010). And so it was the 2011 triple disaster – earthquake, tsunami and nuclear – in Japan for GVCs in sectors such as automotive, computers, consumer electronics in which downstream producers rely heavily on Japanese suppliers of specialized parts and components (New York Times, 2011). Besides the severe effects on the Japanese economy, it also had a considerable negative impact on the world economy through globalized production chains. As a quasi-monopoly supplier of key technological products for the electronics and automotive industries, Japan has a strategic position at the heart of global production chains. The disaster caused production chain disruptions in those industries; the impact was particularly visible in the Asian countries, notably because Japan supplies those countries with a higher percentage of their imports of intermediate goods than other parts of the world (IMF, 2011).

Second, since trade flows are driven by business rather than government strategies, they tend to be more volatile. Changes in business strategies and practices can result in rapid shifts in demand. These changes can be prompted by endogenous (new firm's strategy) as well as exogenous factors (e.g., a change in a country's legislation on investment, or a political crisis). The 2008-09 crisis and the experience of the disruptions following the 2011 events in Japan resulted, for instance, in the consolidation or reduction in length of a number of GVCs, i.e., a reduced segmentation of the chain and a smaller number of participants in the GVCs (see Gereffi and Frederick, 2010 for the adjustments to the 2008-09 global crisis in the textile and apparel sector).

Third, the greater emphasis on connectivity to markets and flows, including the ability to source inputs and ship outputs at competitive prices, seems to exclude a number of countries from major trade opportunities. These countries do not have enough capacity not only to produce, but also to efficiently connect to global markets. Comparative advantage cannot be measured within borders anymore. One cannot become a competitive exporter without first becoming an efficient importer.

Fourth, the private impetus raises a number of new challenges for trade and development policies. Current criticisms include the depletion of natural resources by foreign companies, land grabbing, the unequal repartition of value along the production chains, captive market relationships, etc. Some studies suggest that an increase in exports can result in a socio-economic downgrading of a country if the lead firm of the GVC engages in predatory behavior (see Kaplinsky, Terheggen and Tijaja, 2010 for the examples of timber in Gabon and cassava in Thailand). Regulators are now faced with trans-boundary legal issues and private (often voluntary) standards that regulate an important part of global trade without control.

Adjusting policies to a new and rapidly changing business environment

The prevalence of GVCs and the change in the trade and development paradigms require a new set of relevant policies.

As noted above, while domestic policies remain relevant, they might not be at the appropriate level to best harness the challenges of competitiveness within GVCs. For example, the harmonization of standards, competition principles or rules of origin might be better done at the regional level. GVCs increase the cost of non-harmonization and the value of multilateral and plurilateral agreements (OECD-WTO, 2013b).

A new set of policies is also needed with regard to so-called "Aid for Trade" (AFT) to make a better use of official development aid (ODA) for trade integration. Among others, a greater emphasis should be put on reducing the "thickness of borders" and facilitating the operation of business.

Drawing the lessons from the paradigm shift from public to private impetus, trade and development policies should be increasingly designed and implemented in consultation and – where possible – in association with the private sector that does trade and is in a better position to assess both the constraints to trade and the impact of trade and development technical assistance and capacity building. It is about moving from supply-side to demand-driven trade strategies.

With regard to the pivotal role of GVCs in contemporary trade flows, three major intermediate objectives should be added to the trade competitiveness and development strategies: joining, maintaining participation, and moving up value chains. In addition, given the benefits and risks associated with participation in GVCs, accompanying policies should help maximize/minimize the said benefits/risks, ensuring that the chain of results from competitiveness to growth and development is preserved (e.g., by avoiding national content or overly restrictive investment laws).

This task is made difficult by the heterogeneity of sectors: the organization of GVCs tends to be sector-specific (and sometimes even firm-specific), and there are no one-size-fits-all policies (Sturgeon and Memedovic, 2012).

PART 2 – MEASURING A COUNTRY'S PERFORMANCE WITH REGARD TO GVCs

The participation of countries in GVCs

The input-output structure of GVCs and trade in value-added

GVCs have an input-output structure, which describes the process that brings a product or service from initial conception to consumption and beyond. Therefore, input-output tables are the basic statistical element for the measurement of a country's participation in GVCs.

To date, and using different methodologies, several initiatives have sought to compile inter-country input-output tables. The pioneering work in this field has been carried out by the Institute of Developing Economies (IDE-JETRO), which covered linkages between 10 Asian countries and 76 industries in intermittent years between 1975 and 2005. Similar initiatives followed. A selection of the main recent initiatives is listed below. These datasets differ in country coverage, data source (official statistics vs. other sources) and methodology:

- The World Input-Output Database (WIOD) is compiled by a consortium of 11 institutions and funded by the EU. Based on supply-use tables from official national statistics, it identifies the input-output linkages between 40 countries (plus the "rest of the world") and 35 industries, providing time-series over the period 1995-2009. This dataset was released in April 2013.
- The OECD Inter-Country Input-Output tables represent a similar effort. Building on the OECD harmonized input-output tables, the objective is to mainstream the activity and extend the country coverage. The tables include 57 economies accounting for 95% of world output (plus the "rest of the world"), with a breakdown into 37 industries. Five years are covered so far (1995, 2000, 2005, 2008 and 2009) but time-series will be produced. The OECD ICIO

tables were used by OECD and WTO to release their first set of Trade in Value-Added (TiVA) indicators in January 2013.

- In order to cover additional countries where no official input-output tables are available, other projects use alternative sources and estimate missing data. The Global Trade Analysis Project (GTAP) database includes social accounting matrices which were used, for example, by Koopman, Powers, Wang and Wei (2011) to provide measures of trade in value-added terms. The forthcoming World Bank dataset of trade in value added is also based on GTAP. Developed by Francois, Manchin, and Tomberger (2012), it covers about 100 countries that allow exploiting social accounting matrices spanning intermittent years from 1992 to 2007 to construct country-specific measures of the direct and indirect contribution of goods and services to the value added contained in a given country's domestic production and exports. Specifically, the dataset contains two matrices, a domestic value added table and an export value added table, which allow the identification of the value added contribution of particular inputs to sectors that either sell the final good to the domestic market or export it.
- Lastly, inter-country and industry information can be found in the Eora global multi-region input-output (MRIO) tables produced by the University of Sydney and funded by the Australian Research Council. The Eora MRIO brings together a variety of primary data sources which are combined in a single dataset using interpolation and estimation techniques to provide a contiguous, continuous dataset for the period 1990-2010. Because the project focuses on environment issues, there are important deviations from observed trade flows and GDP and the tables are balanced to match principally data from large economies. The Eora MRIO was used by UNCTAD to produce trade in value-added indicators in a report released in February 2013.

All these databases allow for the estimation of the source(s) of value (domestic vs. foreign and/or by country and industry) that is added in producing goods and services for export. They recognize that growing global value chains means that a country's exports increasingly rely on significant intermediate imports (i.e., value added by industries in upstream countries).

Inter-country input-output tables can also be used to develop measures of the importance of GVCs in countries and industries, as recently done by the OECD.

Principal indicators based on input-output data
The measure of the importance of GVCs in countries and industries could be summarized under three headings (OECD, 2012b):

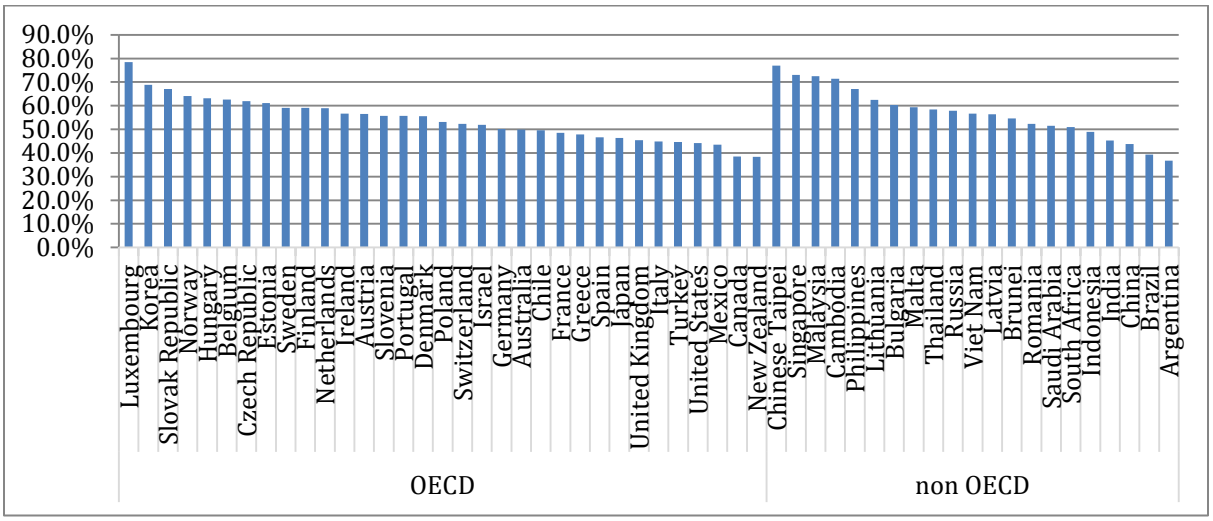
(1) <u>The country's participation in GVCs</u>

The question is to what extent the country is involved in vertically fragmented production, both as a user of foreign inputs for its own exports (measured as the value of imported inputs in the overall exports of a country) and as a supplier of intermediate goods or services used in other countries' exports (measured as the percentage of exported goods and services used as inputs to produce other countries' exports). Both measures could be combined in a "participation" index developed by Koopman, Powers, Wang and Wei (2011) and quantified for 57 countries worldwide in OECD (2012b). Conceptually, this index can broadly be considered a GVC-specific measure of trade openness. The higher the foreign value added embodied in gross exports and the higher the value of inputs exported to third countries and used in their exports, the higher the participation of a given country in the value chain.

The OECD (2012b) results suggest that country size – in particular relative to regional peers – appears to matter. Both in advanced and emerging economies, smaller countries such as the Slovak Republic, Belgium, the Czech Republic, Chinese Taipei, and Singapore post participation rates between 60% and 80% (Figure 6). By contrast large countries' participation is lower. The participation of middle-sized emerging countries such as Brazil, Mexico and Turkey is between 40% and 50%. The index for China (44%) is relatively low, comparable to Japan and the USA. This reflects both a lower Chinese value added in third countries' exports as well as a lower foreign value added in

China's gross exports as commonly perceived. In addition to country size, the distance to consumer markets is another determinant of the participation to GVCs. Thus, New Zealand has one the lowest indexes (below 40%).

Figure 6. GVC participation index for OECD and selected non-OECD countries, 2008

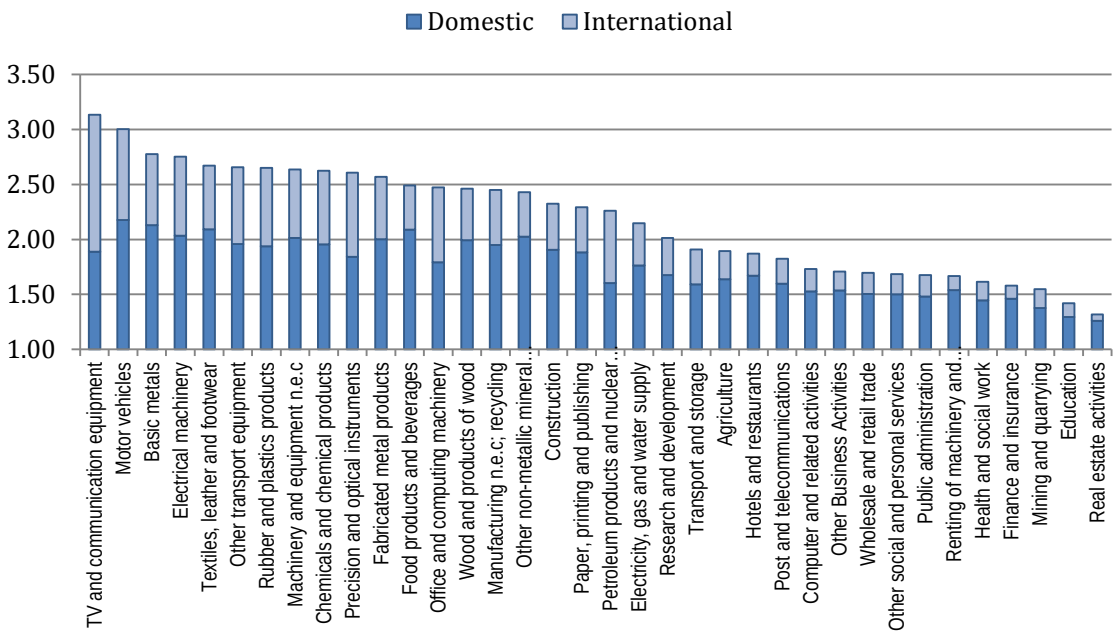


Source: OECD, 2012b

(2) <u>The length of GVCs</u>

The participation index does not provide information about the length of the value chain, i.e., the number of stages of production involved. Therefore, additional indicators were developed (Fally, 2011) to measure the actual fragmentation of the production process and identify the domestic and international parts of the GVCs. This measure helps understanding the dynamics of GVCs (e.g., the reduction of the lengths of GVCs after 2008 corresponded to the consolidation of GVCs in times of crisis), as well as sector specificities. The five industries with the highest level of fragmentation are: television and communication equipment, motor vehicles, basic metals, electrical machinery and textiles, leather and footwear; services have on average shorter value chains, with notable exceptions like transport and storage (see Figure 7). They may also give an indication of the scope for countries upgrading within GVCs, assuming that one can argue that longer (more fragmented) value chains provide more opportunities.

Figure 7. Length of GVCs by industry, 2008



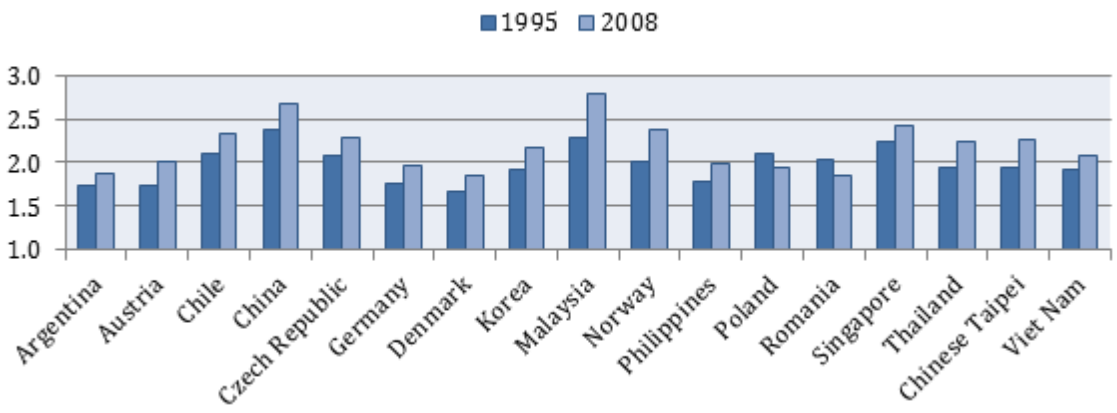
Note: The minimum value of the index is 1 when no intermediate inputs are used to produce a final good or service.

Source: OECD, 2012b

(3) The distance to final demand

Once the length of the GVC is assessed, it is important to determine what is the position of the country in the value chain. It can be upstream (production of inputs at the beginning of the value chain) or downstream (production of goods and services towards the end of the value chain) depending on its specialization. Countries specialized in upstream activities produce the raw material or the intangibles involved at the beginning of the production process (e.g., research and design). Countries downstream do the assembly of the final products or specialize in customer services. Finally, countries involved in activities at the center of the value chain focus on the standardized labor-intensive manufacturing jobs. Turkey falls into this category of countries. Thus, some indicators were introduced to measure the "upstreamness" of a country's specialization, i.e., its distance to final demand (Antràs, Chor, Fally and Hillberry, 2012). Evidence suggests that only a few countries have managed to move downstream (such as Poland and Romania in Figure 8). Most countries have increased their upstreamness because the overall length of value chains has increased with the fragmentation of production. Moreover, the offshoring-outsourcing process, that lengthens GVCs, tends to primarily affect early stages of production, although a new wave of services offshoring-outsourcing has been taking place in recent years.

Figure 8. Distance to final demand, by economy, 1995-2008



Note: The minimum value of the index is 1 when all goods and services produced are directly sold to final consumers. Figure 8 includes all countries where the value of the index has decreased or increased by more than 8% between 1995 and 2008.
Source: OECD, 2012b

The performance of countries with regard to GVCs

The participation of countries in GVCs is, per se, a measure of their performance, since a certain number of conditions need to be met to join GVCs. Performance is also measured through a series of quantitative indicators or perception indexes that have been developed with a view to assess the business and trade climates in all the countries. At the same time, those indexes measure the (perception of) performance and the attractiveness of a country for offshoring-outsourcing. These include:

- Doing Business (World Bank Group)
- Logistics Performance Index (World Bank Group)
- Global Competitiveness Index (World Economic Forum)
- Trade Enabling Index (World Economic Forum)

Some indexes also measure the performance of countries in one specific sector or type of activity, such as the offshore services attractiveness index (AT Kearney or WEF).

The value for trade in GVCs

Trade and participation in GVCs are just intermediary objectives. The question is how much value is captured by the country in terms of jobs, income, technology diffusion, sustainable development, etc. (see Figure 3). In most cases, measuring such value will rely on anecdotal evidence and case studies; however, increasing attention is paid to measuring the impact (direct and indirect) of FDI and inclusion in GVCs. A number of dimensions could be taken into consideration, depending on the priorities of the recipient governments, such as:

- direct and indirect job creation – see for example the Tourism Satellite Account that analyses the value chain of tourism for each country (World Travel and Tourism Council, WTTC);
- sustainable use of natural resources – see for example the China pollution maps compiled by the Institute of Public and Environmental Affairs (IPE) that enable lead firms (and civil

society) to monitor the environmental impact of their offshore production or subcontractors in China;
- level and predictability of income – see for example the data collected by the World Economic Forum (WEF) in the context of the New Vision for Agriculture that suggest a significant increase in productivity and income – along with greater sustainability – of developing countries' firms participating in GVCs;
- economic and social upgrading – see for example the role of GVCs in female employment and the promotion of gender equality (Staritz and Reis, 2013);
- diffusion of technology and knowledge – see for example the proportion of foreign patent filing (World Intellectual Property Organization, WIPO), or the training efforts made by lead firms established or subcontracting in developing countries;
- political and economic stability – see for example the proportion of firms involved in GVCs that participate in the UN Global Compact (unglobalcompact.org).

Beyond anecdotal evidence and case studies, either at the firm or industry level, hard data exist on employment (e.g., ILO) and FDI (e.g., UNCTAD) that could be analyzed at the industry level and matched with the measurement of participation in GVCs.

A number of GVC analyses also attempt to map "who gets what" in the value chain, often at the micro (firm or product) level. For example, sourcemap.com attempts to map all the GVCs to offer consumers greater transparency on the origin of products.

PART 3 – INCREASING TRADE INTEGRATION THROUGH GVCs

The ability of a country to participate in global trade and benefit from the transfers that will generate growth and development is now partially linked to its ability to join major GVCs. Competitiveness is not measured in terms of a country's capacity to develop an integrated industry, but its capacity to identify its best position in GVCs. It is not about picking the winners, but choosing races and placing bets (Greenaway, 2012); national champions could provide very specific tasks at key points of the value chain and capture most of chain's value-added.

A country's competitiveness is measured at three levels:
- the capacity to join GVCs;
- the capacity to remain part of GVCs; and
- the capacity to move up the value chain within GVCs.

This analysis supplements the analysis of a country's specialization (e.g. product space) and diversification strategies (Reis and Farole, 2012). Many barriers and incentives to trade are common to trade within and outside GVCs, but emphasis might change (e.g., participation in GVCs requires further opening to imports and an integrated framework of analysis encompassing goods, services and FDI). Moreover, some barriers/incentives might be specific to GVC trade (e.g., private standards imposed by a lead firm) and assessing the impact of others may require assessing the location of specific stages of production (e.g., anti-dumping measures). Such barriers/incentives might vary from sector to sector, and GVCs have different shapes and patterns of governance according to sectors and lead firms.

Some factors are also exogenous to a country's trade policy: this is the case, for instance, for the geographical situation. The positioning in GVCs might also depend on the size of the country's domestic market (see Figure 10 – market size is the third most important factor influencing sourcing and investment decisions in GVCs). For example, in a GVC where the lead firm is a global producer (as opposed to a global buyer), the size of the developing country's domestic market might be a tipping point for the offshoring-outsourcing decision, in particular in the case of "reverse engineering" where

high-value-added activities are delocalized (including R&D and other services) and the recipient country might be used as a regional hub for production and export.

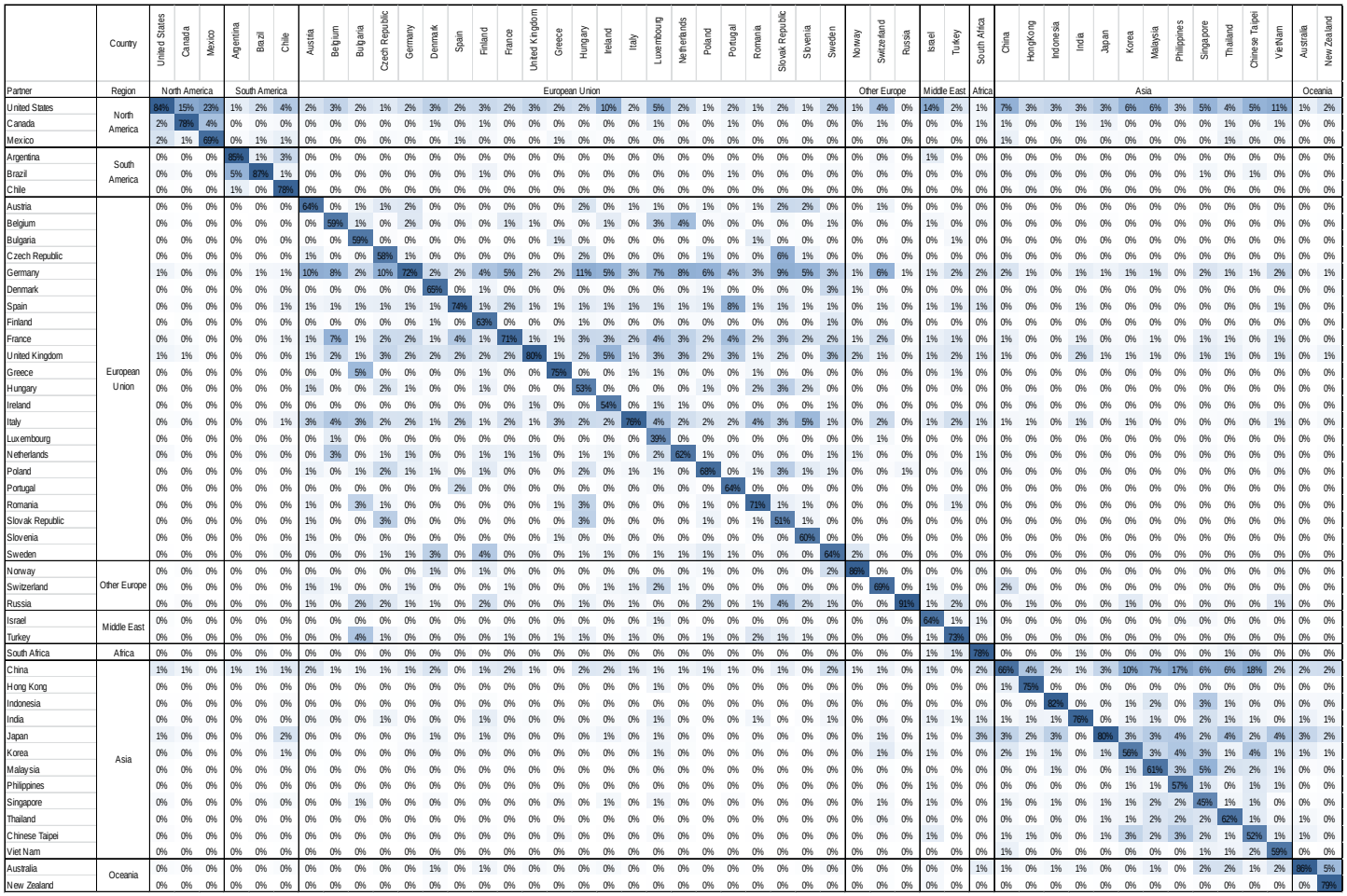
The regional dimension is essential when it comes to GVCs. Trade integrated regions are more attractive to GVC lead firms for a number of practical reasons. These include:

- the reduction of the cumulative value of tariffs within free-trade areas;
- the reduction of the administrative burden associated with rules of origin and the traceability of products;
- the harmonization/mutual recognition of standards along the production chain; and
- the reduction of the thickness of the border at large, including customs and trade facilitation procedures.

For example, the European Union could develop a number of competitive industries through the constitution of regional value chains (e.g., Airbus in aeronautics). A number of value chains tend to be regional, such as the bulk of the automotive industry (Sturgeon, Memedovic Van Biesebroek and Gereffi, 2009). The objective is not necessarily to develop an integrated industry, but to capture an important part of the chain's value-added by providing a regional bundle of tasks or services at pinch points of the GVC (see World Bank, 2012, for the analysis in the context of the Deauville Partnership). Matrixes decomposing gross exports into domestic and foreign value-added provide a good indication of the level of integration of the region with regard value chains (see Figure 9 and Baldwin and Lopez-Gonzalez, 2013).

GVCs create a new impetus for regional and multilateral trade agreements (OECD-WTO, 2013b). It is possible to design, at the domestic as well as the international level, supply chain agreements that bundle a number of policies useful to the facilitation of merchandise and services flows within GVCs, and that better link the private sector to trade and competitiveness strategies (WEF, 2013).

Figure 9. Domestic and foreign value-added in gross exports, 2008



Partner	Region	United States	Canada	Mexico	Argentina	Brazil	Chile	Austria	Belgium	Bulgaria	Czech Republic	Germany	Denmark	Spain	Finland	France	United Kingdom	Greece	Hungary	Ireland	Italy	Luxembourg	Netherlands	Poland	Portugal	Romania	Slovak Republic	Slovenia	Sweden	Norway	Switzerland	Russia	Israel	Turkey	South Africa	China	HongKong	Indonesia	India	Japan	Korea	Malaysia	Philippines	Singapore	Thailand	Chinese Taipei	VietNam	Australia	New Zealand
		North America			South America			European Union																						Other Europe			Middle East		Africa	Asia													Oceania	
United States	North America	84%	15%	23%	1%	2%	4%	2%	3%	2%	1%	2%	3%	2%	3%	2%	3%	2%	2%	10%	2%	5%	2%	1%	2%	1%	2%	1%	2%	1%	4%	0%	14%	2%	1%	7%	3%	3%	3%	3%	6%	6%	3%	5%	4%	5%	11%	1%	2%
Canada		2%	78%	4%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	1%	0%	0%	1%	1%	0%	0%	0%	0%	1%	0%	1%	0%	0%
Mexico		2%	1%	69%	0%	1%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Argentina	South America	0%	0%	0%	85%	1%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Brazil		0%	0%	0%	5%	87%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%
Chile		0%	0%	0%	1%	0%	78%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Austria	European Union	0%	0%	0%	0%	0%	0%	64%	0%	1%	1%	2%	0%	0%	0%	0%	0%	0%	2%	0%	1%	1%	0%	1%	0%	1%	2%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Belgium		0%	0%	0%	0%	0%	0%	0%	59%	1%	0%	2%	0%	0%	0%	1%	1%	0%	0%	1%	0%	3%	4%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bulgaria		0%	0%	0%	0%	0%	0%	0%	0%	59%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Czech Republic		0%	0%	0%	0%	0%	0%	1%	0%	0%	58%	1%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	1%	0%	0%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Germany		1%	0%	0%	0%	1%	1%	10%	8%	2%	10%	72%	2%	2%	4%	5%	2%	2%	11%	5%	3%	7%	8%	6%	4%	3%	9%	5%	3%	1%	6%	1%	1%	2%	2%	2%	1%	0%	1%	1%	1%	1%	0%	2%	1%	1%	2%	0%	1%
Denmark		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	65%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Spain		0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	74%	1%	2%	1%	1%	1%	1%	1%	1%	1%	1%	8%	1%	1%	1%	1%	0%	1%	0%	1%	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Finland		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	63%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
France		0%	0%	0%	0%	0%	1%	1%	7%	1%	2%	2%	1%	4%	1%	71%	1%	1%	3%	3%	2%	4%	3%	2%	4%	2%	3%	2%	2%	1%	2%	0%	1%	1%	0%	1%	0%	0%	1%	0%	0%	1%	0%	1%	1%	0%	1%	0%	0%
United Kingdom		1%	1%	0%	0%	0%	0%	1%	2%	1%	3%	2%	2%	2%	2%	2%	80%	1%	2%	5%	1%	3%	3%	2%	3%	1%	2%	0%	3%	2%	1%	0%	1%	2%	1%	1%	0%	0%	2%	1%	1%	1%	0%	1%	1%	0%	1%	0%	1%
Greece		0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	1%	0%	0%	75%	0%	0%	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hungary		0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	1%	0%	0%	1%	0%	0%	0%	53%	0%	0%	0%	0%	1%	0%	2%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ireland		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	54%	0%	1%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Italy		0%	0%	0%	0%	0%	1%	3%	4%	3%	2%	2%	1%	2%	1%	2%	1%	3%	2%	2%	76%	4%	2%	2%	2%	4%	3%	5%	1%	0%	2%	0%	1%	2%	1%	1%	1%	0%	1%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%
Luxembourg		0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	39%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Netherlands		0%	0%	0%	0%	0%	0%	0%	3%	0%	1%	1%	0%	0%	1%	1%	1%	0%	1%	1%	0%	2%	62%	1%	0%	0%	0%	0%	1%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Poland		0%	0%	0%	0%	0%	0%	1%	0%	1%	2%	1%	1%	0%	1%	0%	0%	0%	2%	0%	1%	1%	0%	68%	0%	1%	3%	1%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Portugal		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	64%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Romania		0%	0%	0%	0%	0%	0%	1%	0%	3%	1%	0%	0%	0%	0%	0%	0%	1%	3%	0%	0%	0%	0%	1%	0%	71%	1%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Slovak Republic		0%	0%	0%	0%	0%	0%	1%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	1%	0%	1%	51%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Slovenia		0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Sweden		0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	3%	0%	4%	0%	0%	0%	1%	1%	0%	1%	1%	1%	1%	0%	0%	0%	64%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Norway	Other Europe	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	2%	86%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Switzerland		0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	1%	2%	1%	0%	0%	0%	0%	0%	0%	0%	69%	0%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Russia		0%	0%	0%	0%	0%	0%	1%	0%	2%	2%	1%	1%	0%	2%	0%	0%	0%	1%	0%	1%	0%	0%	2%	0%	1%	4%	2%	1%	0%	0%	91%	1%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%
Israel	Middle East	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	64%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turkey		0%	0%	0%	0%	0%	0%	0%	0%	4%	1%	0%	0%	0%	0%	1%	0%	1%	1%	0%	1%	0%	0%	1%	0%	2%	1%	1%	0%	0%	0%	0%	1%	73%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
South Africa	Africa	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	78%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
China	Asia	1%	1%	0%	1%	1%	1%	2%	1%	1%	1%	1%	2%	0%	1%	2%	1%	0%	2%	2%	1%	1%	1%	1%	1%	0%	1%	0%	2%	1%	1%	0%	1%	0%	2%	66%	4%	2%	1%	3%	10%	7%	17%	6%	6%	18%	2%	2%	2%
Hong Kong		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Indonesia		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%	0%	0%	1%	2%	0%	3%	1%	0%	0%	0%	0%
India		0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	1%	1%	1%	1%	1%	1%	76%	0%	1%	1%	0%	2%	1%	1%	0%	1%	1%
Japan		1%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	3%	3%	2%	3%	0%	83%	3%	3%	4%	2%	4%	2%	4%	3%	2%
Korea		0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	2%	1%	1%	0%	1%	56%	3%	4%	3%	1%	4%	1%	1%	1%
Malaysia		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	61%	3%	5%	2%	2%	1%	0%	0%
Philippines		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	57%	1%	0%	1%	1%	0%	0%
Singapore		0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	1%	0%	1%	0%	1%	1%	2%	2%	45%	1%	1%	0%	0%	0%
Thailand		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	1%	2%	2%	2%	62%	1%	0%	1%	0%
Chinese Taipei		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	1%	0%	0%	1%	3%	2%	3%	2%	1%	52%	1%	1%	0%
Viet Nam		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	1%	2%	59%	0%	0%
Australia	Oceania	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	0%	1%	0%	1%	0%	2%	2%	1%	2%	86%	5%	
New Zealand		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	79%	

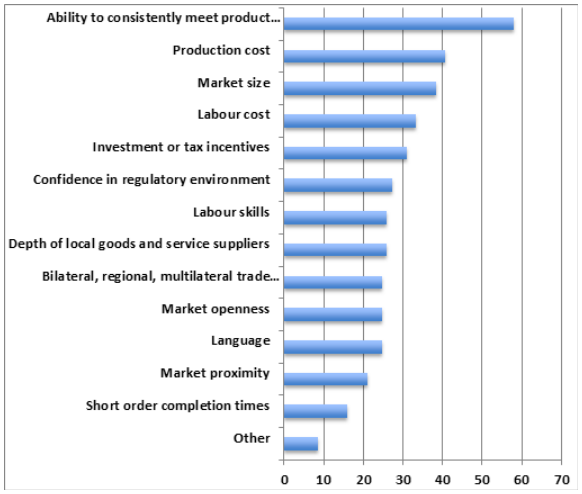
Note: The columns show for each country the percentage of value-added in gross exports originating from countries in rows. The diagonal in the matrix indicates the domestic value-added in gross exports and the rest of the column cells the percentage of foreign value-added contributed by each partner countries through imported intermediate inputs. Source: OECD-WTO Trade in Value-Added database, 2013.

Joining GVCs

A number of obstacles could prevent a country's participation in GVCs, whether associated with the connectivity to international markets, the ease of doing business and investing, or the capacity to respond to lead firms' demand.

Figure 10 and Figure 11 provide additional details about the perception by lead firms of factors positively and negatively influencing sourcing and investment decisions in GVCs. Some of these factors are exogenous (e.g., market size and proximity), but others could be positively affected by the right policy decisions.

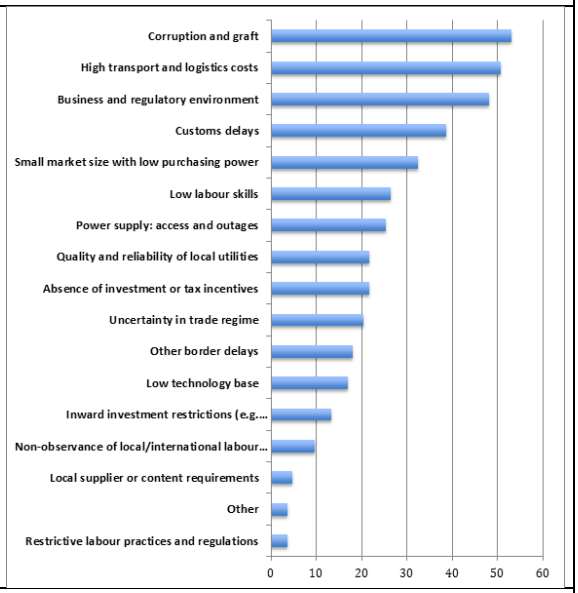
Figure 10. Factors most positively influencing sourcing and investment decisions in GVCs (Lead firms' survey, response percent, 2013)



Note: percentage of lead firms identifying each factor as positively influencing sourcing and investment decisions in their value chain (agrifood sector)

Source: Authors based on OECD-WTO, 2013c

Figure 11. Factors most negatively influencing sourcing and investment decisions in GVCs (Lead firms' survey, response percent, 2013)



Note: percentage of lead firms identifying each factor as negatively influencing sourcing and investment decisions in their value chain (agri-food sector)

Source: Authors based on OECD-WTO, 2013c

(1) Ensuring cost competitiveness

According to Figure 10 and Figure 11, costs (production, labor, transport, investment and tax incentives) are major drivers of lead firms' decisions to invest or source production in developing countries. Indeed, wage differentials have been primary drivers of the globalization of production.

However, the notion of costs is quite vague, encompassing all other factors. For example, high costs could result from a lack of infrastructure or competition in basic services; they could also result from excessive administrative burdens (including at the border) or strict labor laws (i.e., weak business environment); they could result from a high level of insecurity or corruption. Costs per se are also irrelevant if the productivity and capacity to meet production requirements are not taken into consideration.

As explained below, a strategy based on lower labor costs is not sustainable in the long term, and investment or tax incentives should be carefully used to preserve the positive spillover effects of

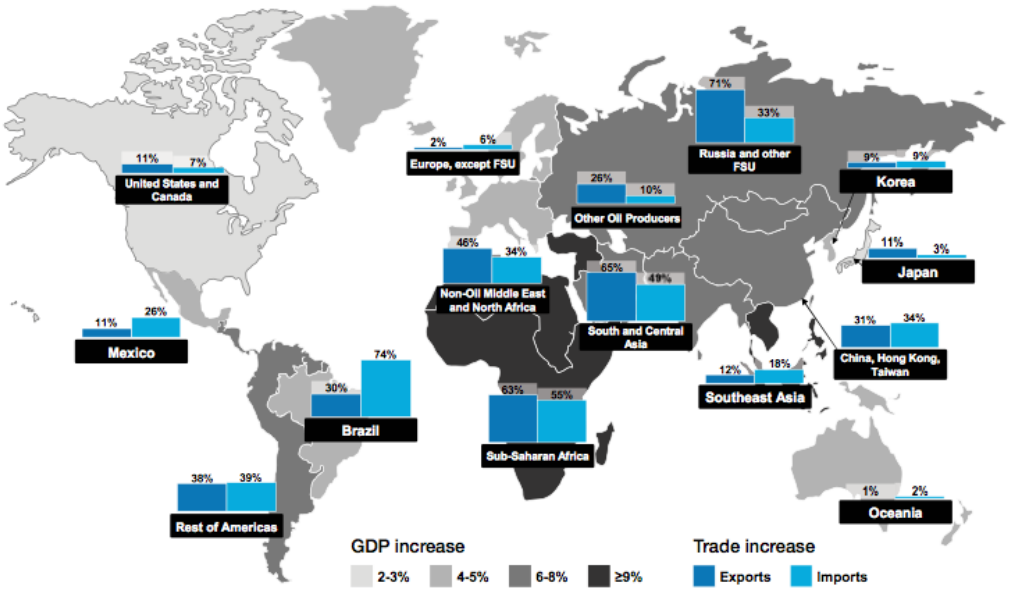
foreign investment. Workforce development and productivity gains associated with innovation should be encouraged, however.

(2) Improving the connectivity with international markets

The improvement of connectivity with international markets has both a regulatory and an infrastructure dimension. It is about improving forward and backward linkages within GVCs, securing the flow of inputs and outputs, and creating efficient links with global markets. It also refers to reducing "the thickness of borders" (OECD, 2012c) and includes the reduction of traditional barriers to trade as well as the promotion of trade facilitation.

GVCs have changed the perspective on traditional barriers to trade, such as tariffs. A number of recent studies suggest that the reduction of supply chain barriers to trade (i.e., border administration, transport and communications infrastructure, and related services) would have a greater impact on growth of GDP and trade than the complete elimination of tariffs. For example, the WEF (2013) suggests that the reduction of supply chain barriers to trade could increase GDP by nearly 5% and trade by 15%, compared to less than 1% and 10%, respectively, for a complete tariff removal. Developing countries would be the main benefactors of trade facilitation (see Figure 12). Transportation costs remain, according to developing country suppliers, the main obstacle to entering, establishing or moving up GVCs (OECD-WTO, 2013c).

Figure 12. Reducing supply-chain barriers: Impact on GDP and trade growth



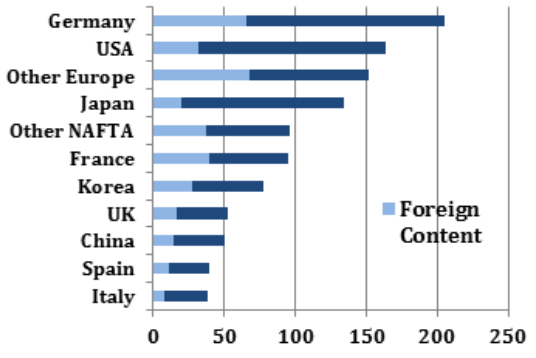
Source: WEF, 2013

Similarly, GVCs shift the focus from traditional export barriers to import barriers: a country's competitiveness and ability to participate in GVCs depends as much on its capacity to efficiently import world class inputs as on its capacity to export. One cannot become a major exporter within GVCs without first becoming a major importer: exports require imports, and it appears that a large share of the imports is used as inputs for exports (see

Figure 12 to Figure 15). According to a recent business survey, more than 80% of businesses involved in GVCs perceive imports of goods and services as being important or critical for their exports (OECD-WTO, 2013c – NB: 250 lead firms and suppliers in the agri-food sector participated to the survey). This challenges the mercantilist approach to trade and trade negotiations, where the

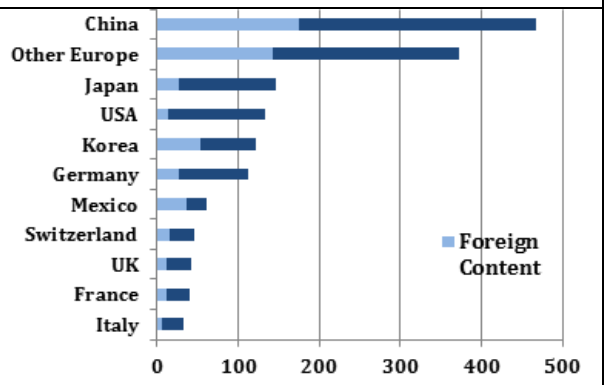
focus is on market access and the reciprocity of concessions. The new trade paradigm, by contrast, would reward unilateral opening that most efficiently reinforces the country's competitiveness.

Figure 13. Transport goods, import content of exports, USD billion, 2009



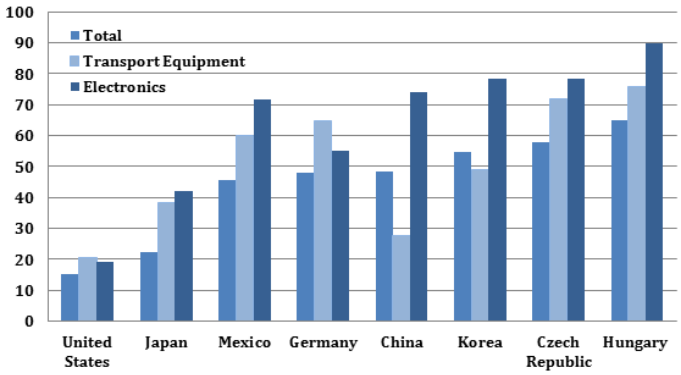
Source: OECD-WTO, 2013a

Figure 14. Electronics, import content of exports, USD billion, 2009



Source: OECD-WTO, 2013a

Figure 15. Intermediate imports embodied in exports, percentage of total intermediate imports, 2009



Source: OECD-WTO, 2013a

However, a number of arguments remain in favor of the removal of traditional barriers to trade. Indeed, GVCs trade magnifies the costs of tariff protection since tariffs are cumulative when intermediate inputs are traded across borders multiple times; and the efficiency of the whole chain could be challenged if a country at an intermediate stage of production had high tariffs in place (OECD, 2013b). Market access is important for both final and intermediate goods and services. In addition, tariff escalation is a direct obstacle to the outsourcing-offshoring of key stages of production, and it reduces both the length of GVCs and the upgrading prospects of developing countries within GVCs.

Motives behind outsourcing-offshoring have often been associated with lower labor costs. However, competitiveness and attractiveness for lead firms cannot be reduced to labor costs only; a few additional tipping points have been revealed by major trade and competitiveness indexes, as well as case studies (WEF, 2013). These include: predictability, reliability and time-sensitiveness. Lead firms and intermediate producers in GVCs need a reliable, predictable and timely access to the inputs and/or final products to satisfy demand on time (the same way they need the respect of certain standards throughout the production chain, see below). Table 1 offers a summary list of relevant

policy objectives and available performance indicators. However, in sum, policies to improve connectivity with global markets could address:

- Traditional barriers to trade (from the negotiation of preferential market access to the reduction of domestic tariffs);
- Customs (efficiency and procedures, including rules of origin);
- Logistics; and
- Transportation and telecommunications (regulatory and infrastructure dimensions, with a greater focus on telecommunications for the offshoring of services, and transportation for goods).

Table 1. Increasing connectivity with global markets: Policy objectives and performance indicators

Policy objectives	Performance indicators
Suppressing/reducing obstacles to trade at the border, including trade facilitation • Suppression of quotas and other quantitative restrictions on imports and exports • Reduction of tariffs, suppression of tariff peaks, tariff escalation or simplification of tariff schedules • Customs modernization and reform, harmonization of procedures and cooperation across borders • Simplification of customs procedures, including SPS, TBT, and other certifications, rules of origin, valuation, etc. to conform with relevant agreements or international best practices • Implementation of WTO or regional/bilateral commitments (e.g. common external tariff)	• Trade restrictiveness Indices – OTRI, TTRI (WTI 1.1) • Binding coverage and bound rates (WDI) • Share of tariff lines with peaks/specific rates (WDI, WTI 1.6) • MFN applied tariffs – AV+AVE or AV only (WDI, WTI 1.2, 1.3) • Applied tariffs incl. preferences (WDI, WTI 1.4) • Tariff escalation (WTI 1.5) • MFN 0 tariff lines / Import value (WTI 1.7) • Tariff bounds / Overhang (WTI 1.8) • Non-AV tariffs (WTI 1.9) • Non-tariff measures (WTI 1.10) • Customs duties (WTI 1.11) • Export restrictions (WTI 1.13) • Logistics performance index and its indicators - efficiency of customs and other border procedures (LPI, WTI 4.1) • Trading across borders – Doing business (IFC, WTI 4.2) • Trade Enabling and Global competitiveness indexes – goods market efficiency: burden of customs procedures, prevalence of trade barriers, trade tariffs, efficiency of customs administration, efficiency of import-export procedures, transparency of border administration (WEF GCI 6.10, 6.11, 6.13, ETI 1.01-4.02) • Average time to clear exports through customs / time to export/import (WDI) • Documents to export/import (WDI)
Increasing the accessibility and connectivity of the domestic market, and the security, predictability, reliability and efficiency of transports/logistics, telecommunications and ICT • Reforms of the telecommunications sector, including infrastructure, regulation, competition, and access for all segments to include fixed lines and mobiles • Development of the ICT sector and the Internet (infrastructure, regulation, competition, access) • Reforms of the transport, logistics and ancillary services, including infrastructure, regulation, competition for land (road and rail), maritime/water and air • Regional infrastructure for trade corridors, and other forms of regulatory harmonization and cooperation	• Logistics performance index and its indicators – quality of transports and IT infrastructure, international transport costs, logistics competence, trackability and timeliness of shipments, domestic transportation costs (WDI, LPI, WTI 4.1) • Trading across borders – Doing business (IFC, WTI 4.2) • Trade Enabling and Global competitiveness indexes – infrastructure: quality of infrastructure overall, roads, railroads, ports, air transport, available seats, fixed telephone lines/100, mobile phone subscriptions/100, availability and quality of transport infrastructure and services, availability and use of ICTs (WEF GCI 2.01-2.09, WEF TEI 4.01-7.05, WDI); – technological readiness (WEF GCI 9.01-9.06) • Africa infrastructure country diagnostic (AICD) • Liner shipping connectivity index (UNCTAD, WTI 4.3) • Baltic Exchange Dry Index (WTI 4.3) • Lead time to export/import (WDI) • Port container traffic (WDI, WTI 4.3) • Total / air freight and costs (WTI, 4.3) • Number of seats available, airlines, international routes, airport passenger statistics (IATA, WDI) • World telecommunication/ICT indicators database and ICT Development Index (ITU) • Foreign participation / ownership in telecoms (ITU, WTI 1.14) • Competition index in telecoms (ITU, WTI 1.14) • Number of international gateways, landing stations, licenses for fixed and mobile phone, Internet providers (national data, WB and OECD STRI) • Mobile and fixed-line telephone subscribers / population covered by mobile cellular network (WDI, WTI 4.4) • Average cost of 3-minute call to US (WTI 4.4) • Personal computers (WTI 4.4) • Internet/broadband users / subscribers (WDI, WTI 4.4) Internet bandwidth, secured servers (ITU, WDI)

Source: Authors based on OECD, 2012a.

(3) Improving business and investment climates

The governance structure of GVCs may vary, and offshore production can either be entrusted to independent suppliers (outsourcing) or foreign branches/subsidiaries (see Figure 2). Such cross-border vertical integration, which is necessary to management control within GVCs (whether accompanied by capital transfers (FDI) or not), should be facilitated by the removal of various behind-the-border barriers to trade and investment. Decisions to invest and do business in a foreign country can be driven by cost factors, but they are not the only relevant determinants. Business climate at large, as well as the quality of infrastructure and incentives, might be tipping points for strategic decisions by GVC lead firms.

- *Barriers to investment and protection of foreign assets*

Cross-border vertical integration requires a maximum fluidity in the mobility of production factors, including capital and labor. A number of obstacles to FDI are likely to either exclude a country from major GVCs, or confine them to certain forms of GVC governance that entail minimum benefits (i.e., transfers) and maximum risks (e.g., volatility of demand and exposure to rapid shifts in business strategies).

These behind-the-border barriers to foreign investment and establishment include:

- restrictions on foreign equity, ownership, or forms of partnership;
- restrictions to the movement of key personnel (including intra-corporate transferees or quotas on the employment of foreigners and/or foreign management);
- domestic content rules (that are contrary to the spirit and functioning of GVCs); and
- restrictions on the repatriation of benefits and other forms of currency exchange control.

It is also important to establish a stable and secure environment for foreign investors, including through the promotion of stability clauses in contracts and the participation in major international (including regional) arbitration and dispute settlement mechanisms.

Table 2. Encouraging and protecting foreign investment: Policy objectives and performance indicators

Policy objectives	Performance indicators
Removing restrictions to foreign investment • Allowing more foreign equity/ownership/partnership • Facilitating the movement and employment of key personnel • Relaxing domestic content rules • Relaxing rules on foreign exchange and repatriation of benefits	• GATS commitments (WTO), regional commitments, and domestic laws • Services Trade Restrictiveness Indexes (WB, OECD)
Removing barriers to foreign investment and increasing the protection of foreign assets • Strengthening investor protection, including rights to challenge domestic regulations/decisions • Development of alternative dispute resolution mechanisms available to foreign investors (e.g. recognition of international arbitration, bolstering of domestic arbitration capacities) • Adjustment of the laws pertaining to nationalization, expropriation, foreign ownership, stability clauses, etc.	• Arbitration awards (ICSID and other arbitration bodies statistics) • Protecting investors (ADI)

Source: Authors based on OECD, 2012a

- *Level of standards and corporate social responsibility (CSR)*

Although respect for standards might vary depending on the maturity of the GVC's lead firm and the final market (see Kaplinsky, Terheggen and Tijaja, 2010), it is a key element of the functioning of GVCs:

> "Today, lead firms rely increasingly on global standards to reduce the complexities of these transactions as they place new demands on the value chain. These standards establish the

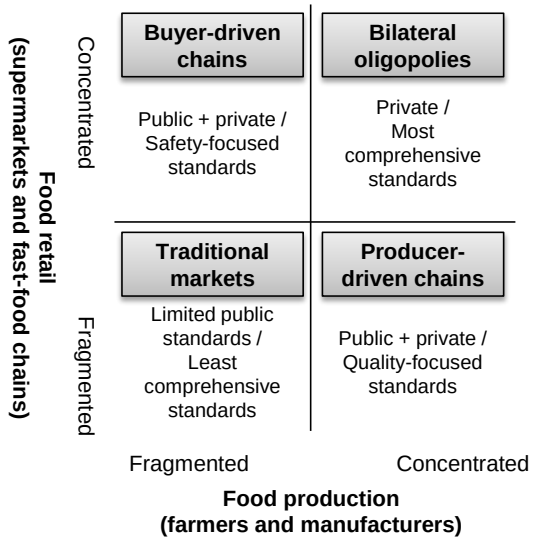
rules for information exchange, shape firm behavior and ensure quality in GVCs. They enable the codification of both product and process specifications to ensure that a wide range of global suppliers can consistently deliver end products that meet the quality requirements of developed-country markets. They are industry-specific and constantly evolving. Failure to comply with these standards can result in exclusion from the GVC." (Gereffi, Fernandez-Stark and Psilos., 2011, p. 243)

According to a recent business survey in the agri-food sector (OECD-WTO, 2013c – NB: 250 lead firms and suppliers in developing countries participated to the survey), about 60% of the firms pointed at the ability to meet quality and safety standards as the main factor influencing sourcing and investment decisions in GVCs. Similarly, 40% of the firms surveyed pointed at the non-compliance with mandatory import requirements as a typical trade problem in dealing with developing country suppliers. About 37% of the firms suggested that the improvement of standards infrastructure and certification capacity would be the most effective way to bring new developing country suppliers into GVCs, and almost half of the firms providing trade technical and capacity building efforts did focus on compliance with safety and quality standards.

Standards of relevance include both process (e.g., the respect of management, labor or environmental standards, often included in a CSR or conduct code) and product (e.g., quality) standards. These need to be respected throughout the value chain since every stage of production could affect the quality of the final product or service, and engage the responsibility and reputation of the lead firm in the country of final consumption of the product or service. In the agri-food business, this translates into "traceability" requirements aimed at protecting the health and increasing the information of consumers.

Standards in GVCs are both public and private, with an increasing prevalence of "voluntary" standards that are imposed by the lead firms (either buyers or producers) to all the input providers and assemblers along the chain (see Lee, Gereffi and Beauvais, 2012). Figure 16 provides an illustration of this public/private standards spectrum for the agri-food business. Despite this role of private standards in GVCs, public standards, public infrastructure for certification/accreditation, and the enforcement by public authorities of health/safety/environmental rules are essential to attract GVC production segments. Inadequate public standards can unduly raise the cost of local production and/or create unnecessary obstacles to trade.

Figure 16. Standards in agri-food GVCs

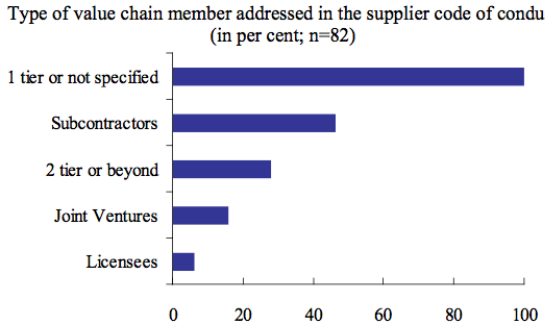


Source: Lee, J., G. Gereffi and J. Beauvais (2012)

Excessively low or badly enforced local standards minimize the backward linkages and positive spill-over effects of FDI and offshore production in a country: inputs will have to be imported to meet the lead firm's standards, and the local tasks will be confined to basic transformation/manufacturing. The analysis of the retail sector suggests, for example, three phases: a first phase where no local products meet the retailer's standards and most products are imported; a second phase where local producers adjust to the standards of the retailer (often with its help) and local products replace imported ones; and a third phase where the best local products that meet international standards are exported and distributed by the retailer abroad (see Figure 5). Excessively high local standards are equally disturbing for intra-GVC transactions, and could constitute unnecessary obstacles to trade or protectionism in disguise. A number of questions were raised, for example, in the context of eco-labeling and border adjustment taxes (so-called "carbon taxes") (see Brenton, Edwards-Jones and Friis, 2009).

Where local standards and certification/accreditation meet international standards and best practice, the costs of value chain management are significantly reduced, increasing the attractiveness of the country. GVCs make therefore a strong case for regulatory convergence, harmonization, mutual recognition, and diffusion of international standards. It is very difficult and costly for lead firms to impose the respect of standards on their own: some transparency mechanisms, such as the mapping of pollution at the micro-level in China, helps the enforcement of green supply chains by providing lead firms subcontracting production in China, as well as the civil society at large, an independent monitoring mechanism (see IPE.org.cn). Figure 17 shows that lead firms impose their standards (here the corporate social responsibility code) on most participants in the GVC, well beyond first-tier providers.

Figure 17. Diffusion of standards and other codes of conducts in GVCs



Source: UNCTAD, 2012

Considering the risks associated with the prevalence of private standards in GVCs, in particular on smallholders and producers in developing countries (see Lee, Gereffi and Beauvais, 2012), as well as consumers, there is a strong case for multi-stakeholder dialogue and cooperation in the definition and enforcement of standards (Cadot, Malouche and Saez, 2012).

Table 3. Improving standards: Policy objectives and performance indicators

Policy objectives	Performance indicators
Technical and SPS standards • Capacity building for certification and accreditation (labs, personnel, resources, etc.) • Adoption or reform of domestic norms and standards to comply with international best practices • Promotion of standards, including voluntary standards, and related training • Private sector support to comply with standards	• Diffusion of voluntary standards and ISO certification ownership (WDI, national statistics) • Adoption of international standards • International accreditation of domestic accreditation/certification agencies

Source: Authors based on OECD, 2012a

- *Other non-tariff measures (NTMs) and business climate*

Non-tariff measures (NTMs) and business climate/environment at large influence both the competitiveness of domestic companies and the attractiveness for foreign investors. In other words, they potentially affect a country's participation in GVCs, whatever the governance structure of the GVC.

The *Doing Business* (WB) and *Global Competitiveness* (WEF), among others, provide a list of the measures that matter to the operation of business, as well as an indication of countries' relative performance against selected criteria. The range of measures is very large, from the regulatory environment to the functioning of markets (e.g., state trading enterprises and government procurement). Considering that trade within GVCs is often associated with transfers of knowledge and technology, protection of intellectual property and competition is a tipping decision point for many industries. The cost of administrative burdens is also magnified through the lens of GVCs, where management coordination is a challenge per se.

Political stability, governance and corruption are also decisive factors in the decision to include a country in a GVC (see Figure 10 and Figure 11) This relates to security (including of assets and personnel) and predictability, which are the key drivers of intra-GVC trade and on-time delivery to the consumers. Within GVCs, suppliers are often expected to meet the lead firm's CSR codes, raising a number of challenges for audit and execution in small developing countries' firms (UNCTAD, 2012).

Table 4. Improving the business environment: Policy objectives and performance indicators

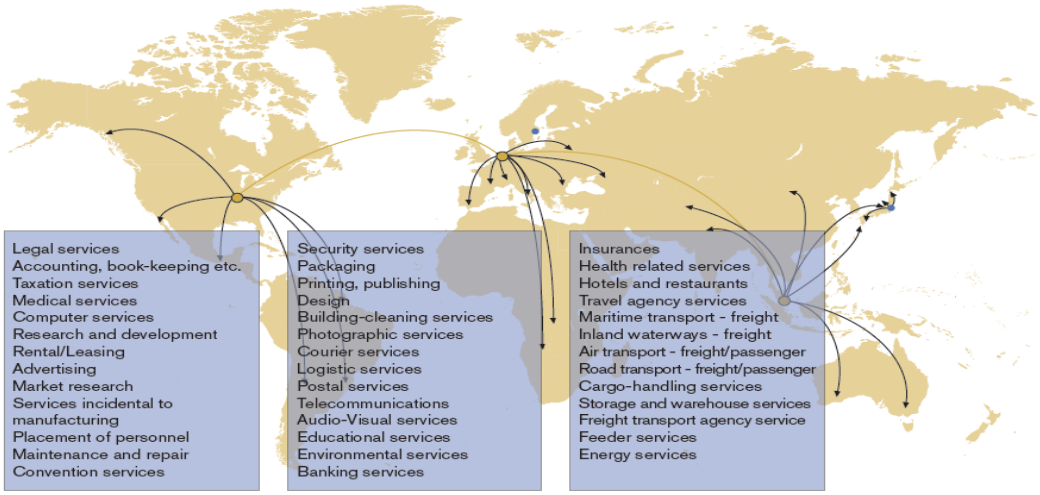
Policy objectives	Performance indicators
Intellectual property protection • Improvement of IP regime and administration to comply with trade agreements, to include patents, authors' rights, geographical indications, etc. • Improvement of enforcement mechanisms and practices • Promotion of IPRs and related training or technical assistance	• Ease of doing business index (IFC, WTI 3.1, WDI) • World governance indicators – corruption, rule of law, government effectiveness, regulatory quality, political stability (WTI 3.2) • Enabling Trade and Global competitiveness indexes – Regulatory environment (WEF ETI, 8.01-08) – institutions: property rights, ethics and corruption, undue influence, government inefficiency, security (WEF GCI 1.01-1.16) – labor market efficiency (WEF GCI 7.01-7.09); – goods market efficiency (WEF GCI 6.01-6.16) – business sophistication: state of cluster development (WEF GCI 11.03) • Enterprise ownership (government, private foreign, private domestic) (ADI) • Cost of business start-up procedure / procedures to register a business (WDI) • Time spent in meetings with tax officials / expected gifts / informal payments to public officials (WDI) • Firms using banks to finance investment (WDI) • Strength of legal rights index (WDI) • Time required to enforce a contract (WDI) • Time required to obtain an operating license / register property / start a business (WDI) • Value of seized counterfeited goods (national statistics) • Number of registered trademarks, patents, etc. (WIPO, WDI) • Number of competition investigations and sanctions (national statistics) • Public procurement penetration ratio – Public imports / public demand % (national statistics) • Security costs (ADI)
Competition, including privatizations and concessions • Privatizations, concessions, and other forms of opening of sectors to competition • Elaboration and implementation of a competition framework, including competition law, competition authority (e.g. independence, resources, etc.), competition law enforcement (e.g. investigations, sanctions, etc.) and related training or technical assistance	
Government procurement • Adjustment of the laws pertaining to public procurement, including transparency, selection criteria, national preference, etc.	
Corruption • Reforms aimed at fighting corruption in the public (e.g. customs) and private sectors • Promotion and adoption of relevant international instruments	
Administrative burden • Administrative reforms towards simplification and reduction of administrative procedures (e.g. guillotine reform), increase in transparency, predictability, timeliness, and security of administrative decisions (e.g. suppression of authorizations)	
Other constraints • Creation of export processing zones, business clusters, technology centers, etc. • Revision of relevant labor regulations towards greater labor market efficiency • Revision of regulations pertaining to the form of business operations and partnerships (e.g. franchises, multi-sector partnerships, etc.) Increasing security of operations and staff against crime and violence	

Source: Authors based on OECD, 2012a

- *Infrastructure, services, and organization of domestic value chains*

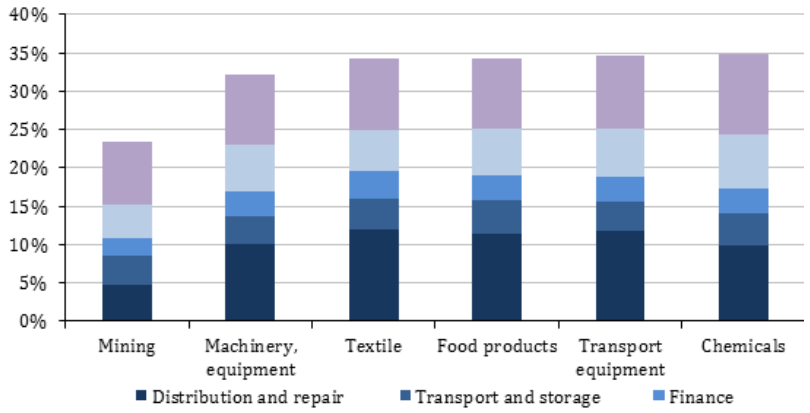
Competitiveness and attractiveness for foreign investors is also determined by the ease of access to efficient services and infrastructure in the host country. This includes access to energy (cheap and reliable), finance and trade support, telecommunications (e.g., for e-commerce or electronic transfers), transports, etc. Access to finance (for 52% of the firms surveyed) and transport infrastructure (for 39% of the firms surveyed) were the two most serious national supply-side constraints identified by developing country GVC suppliers as affecting their ability to enter, establish or move up GVCs (OECD-WTO, 2013c). For example, the benefits of efficient transportation and logistics at the border could be undermined by the inefficiency of domestic links (e.g., the unreliability or high cost of domestic transportation, cool chain of fresh products). The organization of the domestic segment of the value-chain is as important as the international one. For example, in agriculture, the organization of regional markets and stocks is critical to the inclusion in GVCs. This expands to all forms of business organizations, from production clusters to professional associations and export promotion programs.

Figure 18. Services involved in the internationalization of production (Sandvik Tooling)



Source: National Board of Trade, 2010

Figure 19. Services share of value-added in manufacturing trade, all countries, 2009



Note: The share of distribution does not include distribution services for final goods
Source: OECD, 2013a

The "servicification" of manufacturing is particularly important in the context of the internationalization of production.
Figure 18 shows that about 40 different types of services are involved when a manufacturing firm internationalizes its production (National Board of Trade, 2010). Recent trade in value-added data also suggest that services represent about 30% of the share of value-added in manufacture trade (OECD, 2013a – see Figure 19). Thus, a country cannot be competitive and join GVCs, even in the manufacturing sector, if it does not have efficient domestic services or is closed to the importation of such services. Managing the complexity of the chain and preserving the production standards throughout the chain require a strong coordination that relies on efficient services (e.g., auditors, lawyers, and managers) and the movement of key personnel across borders.

Table 5. Improving domestic services, infrastructure, and market structure: Policy objectives and performance indicators

Policy objectives	Performance indicators
Improving access to finance • Reforms of the financial sector, including micro-finance, to increase affordability and availability of financial services • Export credit and trade finance	• Banking GATS commitment index (USITC, WTI 1.14) • Export credit – insured exposures (WTI 4.5) • Indicators of financial structure, development and soundness (IMF) • Access to finance (WDI) • Enabling Trade and Global competitiveness indexes – financial market development (WEF GCI 8.01-8.08);
Improving other domestic infrastructure, including storage and energy • Storage infrastructure • Reforms pertaining to access, regulation, competition in the field of energy (production and distribution) and other natural resources essential to certain activities (e.g. water in agriculture)	• Procedures and time to build a warehouse (WDI) • Time required to get electricity (WDI) • Energy statistics / Access to electricity (IEA, WDI) • Quality of electricity supply (WEF 2.07) • Power outages in firms / value lost in power outages (WDI) • Electricity cost (WTI 4.6) • Pump price for fuel (WTI 4.6)
Improving business support and the organization, connectivity and performance of markets, including e-commerce • Export and investment promotion and incentives • Analyses and information on markets, opportunities, threats, etc. • Marketing, branding, international presence and promotion efforts • Sectoral, professional or other forms of associations (e.g. chambers of commerce) and consultations • Development of trade corridors, and other regional forms of hard and soft networks (e.g. regional regulatory agency, regional distribution network, etc.) • Development of regional markets and stocks / boards of trade, price regulation mechanisms • Organization of the value-chains and sectors (filières), including storage and distribution channels • Development of e-commerce (e.g. infrastructure, legal framework, protection of data, security of payments, etc.)	• Logistics performance index and its indicators – quality of transports and IT infrastructure, international transport costs, logistics competence, trackability and timeliness of shipments, domestic transportation costs (WB, WTI 4.1) • Global competitiveness index – business sophistication: extent of marketing, state of cluster development, value chain breadth, control of international distribution production process sophistication, delegation of authority (WEF GDI 11.05-11.09) – goods market efficiency • Value of e-commerce, number of ICT firms, number of secured servers (WDI, ITU, national statistics) • Post-harvest losses (African Postharvest losses Information System)

Source: Authors based on OECD, 2012a

- *Other incentives*

Absence of flexibility in domestic laws, or deficiencies in domestic services and infrastructure, sometimes lead countries to offer an offshore status to foreign firms that are part of GVCs and export all or most of their production. Offshore status includes incentives such as tax cuts, reduced administrative and legal constraints, special customs procedures, etc. In the case of special economic zones (SEZs), some dedicated infrastructure and services (e.g., more reliable access to energy or telecommunications, one-stop shops) add to the attractiveness of the zone (see Farole and Akinci, 2011).

While this seems particularly appropriate for within GVC production (imported inputs and exported outputs), the offshore-onshore dualism also has some major drawbacks and raises a number of issues, including questions about the compatibility of some incentives with WTO agreements (Farole and Akinci, 2011). In particular, offshore production creates obstacles to the alignment of the

domestic onshore rules with best international practices and minimizes the positive externalities of participation to GVCs by cutting backward linkages.

(4) Fostering innovation and building capacity

GVCs ease capacity constraints, since a country does not need to develop a fully integrated industry to participate in international trade. Nonetheless, capacities and productivity (as much as cost) remain tipping points for decisions by foreign investors and lead firms considering various locations for outsourcing and/or offshoring around the world. Given the predominance of flows, as opposed to stocks, in the new trade paradigm, adaptability to the lead firms' requests, responsiveness, and capacity to innovate are also key factors (World Bank, 2010).

Table 6 provides an example of lead firms' priorities to develop sustainable GVCs in the agri-food sector, with a focus on capacity building and innovation, and the articulation of public and private initiatives. It is not up to the developing countries alone to build capacity, but in cooperation with the international community and business (WEF, 2011).

Box 1. Top recommendations to the G20, WEF Food Security Working Group, 2011

1. A 50% increase of investments in food value chains, totaling USD 80 billion from both public and private sectors, is critical to achieve by 2015. This can be achieved by incentivizing private investment through improved risk management and policy solutions; and fulfilling public-sector funding commitments.
Proposed public-private actions:
· **Initiate and strengthen national and regional partnerships to accelerate public-private investment in sustainable agriculture:** Vietnam, Indonesia, Mexico, Tanzania, and pan- African partnerships are being facilitated by the new Vision for Agriculture initiative.
· **Scale up effective risk management tools to accelerate responsible investment:** A public- private working group should immediately start work to expand and apply risk management solutions (including innovative finance and affordable index-based insurance) in target countries.
2. Improving the functioning of agricultural markets is a vital and immediate priority. This requires extensive improvement to policy and infrastructure, as well as increased transparency through improved data collection, sharing and monitoring.
3. Technology innovation and distribution should be accelerated through partnerships and policy reforms, to address local needs for improved productivity, sustainability and nutrition.
4. Environmental sustainability must be integrated as a core objective into all agricultural activity, addressing climate, water, land and waste issues through policy incentives, technology innovation, partnerships and best practices.
Proposed public-private actions:
· **Strengthen public-private collaboration for improved water resource management:** the Water Resource Group is working in India, Jordan, Mexico, Mongolia and South Africa to meet economic, social and environmental needs sustainably.
· **Launch an ambitious expansion of sustainable sourcing practices** by leveraging public- private capacities to scale up best practices for sourcing agricultural products from smallholder farmers.
5. A major shift to improve nutrition should be undertaken, engaging private-sector technology, communications and distribution capacities also in partnership with other stakeholders.

Source: WEF, 2011

The potential of a country for GVC participation could be assessed against a number of determinants, including:

- capacity for scale production;
- availability of services necessary to support production and market integration;
- education and skills of the workforce matching the needs of global producers and buyers (Figure 24 shows the skills needed for different types of outsourced activities) ; and
- capacity for innovation in its multiple dimensions (e.g., of product or process), including environment sustainability.

With the shift in demand to emerging markets, lead firms have to define strategies where innovation centers are decentralized. According to the concept of "reverse innovation", lead firms need to innovate in developing countries, and solve their specific needs. Eventually, they can bring the results back home, thereby contributing to boosting the developing countries' exports (Govindarajan and Trimble, 2012). This requires the host developing country to be able to develop innovation capacities, which rely on education and skills. Similarly, the trend toward the consolidation of GVCs suggests that a country cannot offer a single task, but a bundle of tasks to join and maintain participation in GVCs.

Table 6. Fostering innovation and building capacity: Policy objectives and performance indicators

Policy objectives	Performance indicators
Bolstering productivity, production and innovation capacities, including human capital and other resources • Innovation policies and incentives (e.g., R&D, innovation centers) and adaptation/diffusion of technologies in trade-oriented sectors • Education and training to match domestic skills with international standards and demand in trade-oriented sectors / upgrading of available skills • Development of production hard (e.g., storage, conditioning, cooling chains, etc.) and soft (e.g., value-chain management) capacities in trade-oriented sectors • Creation of clusters and other task bundling efforts • Changes in production (methods and equipment) towards more efficient and sustainable use of natural resources (e.g. water) and energy	• Computer, communications and other services, ICT goods and services imports/exports (WDI) • Investment in telecoms with private participation (WDI) • Firms offering formal training (WDI) • Number of patent applications filed by residents and non-residents, domestically and abroad (WDI, WIPO) • Education statistics – secondary and tertiary education, specialties, male/female, etc. (UNESCO, ILO, WDI) • Global competitiveness index – business sophistication (WEF GCI 11.01-11.09); – innovation (WEF GCI 12.01-12.07) • Extent of staff training (WEF GCI 5.08) • Labor statistics – activity rates, unemployment, male/female, etc. (ILO, WDI) • Innovation indicators and surveys – public and private R&D expenditure, high and medium-high technology manufacturing, knowledge intensive services (OECD) • Production capacities – sector output – and productivity statistics (national statistics, WIOD)

Source: OECD, 2012a

Preserving participation in GVCs

It is not enough to join GVCs: business strategies are very flexible and tend to adjust quickly to changes in demand (consumers' tastes and spending) and supply (competition among input providers). Participation in GVCs thus contains a number of risks and raises sustainability issues that should be addressed by trade and competitiveness policies.

(1) Identifying the threats and opportunities

SWOT (strengths, weaknesses, opportunities, threats) analyses are common in business literature. They allow the assessment of a country's endogenous (strengths and weaknesses) and exogenous (opportunities and threats) competitiveness factors, and in the context of a value chain analysis, the ability of a country to join and remain part of GVCs.

Exogenous factors of particular relevance to GVCs include:

- Variations in the length of GVCs (e.g., the consolidation of a GVC that reduces the number of participants and the geographical spread of the production);
- Shift in end markets (e.g., the emergence of a large regional market that justifies an increased presence and production of lead firms in the region);
- Increased competition on certain segments of production due to a competitor's economic catch-up or loss of competitiveness (e.g., rising labor costs);
- Exchange rate fluctuations that might affect a country's competitiveness; and
- Protectionist measures (both for imports and exports) that affect trade costs and flows (e.g., quotas and antidumping measures on steel that affect the import of steel products, which are essential inputs for many industries).

The analysis of changes in business trends and strategies is largely sector specific, and sometimes even firm specific. A good knowledge of the markets and business trends (e.g. so-called "fly to low-cost" in times of crisis, "reverse innovation" strategy development of a major global producer like GE – Immelt, Govindarajan and Trimble, 2010) is therefore necessary to seize the opportunities and anticipate the threats of GVC participation.

(2) Responding to business priorities and strategies

Once the opportunities and threats are identified, a country must adjust its policies to match the changing needs of lead firms. For example, in case of consolidation of a GVC, it is important to develop pre- and post-production services to bundle tasks and offer a more inclusive package to lead firms.

(3) Designing long-term strategies

Tipping points related to the inclusion in GVCs remain valid throughout the lifetime of a business relationship, and business decisions can be easily reversed. For example, a country that joined a GVC on the basis of comparatively lower labor costs might face a participation sustainability issue as lower income competitors move up the value chain or its labor costs rise. This "middle-income" trap should be avoided by designing a long-term strategy that does not rely on cheap labor, but rather productivity and efficiency gains along the value chain, as well as a move up the value chain.

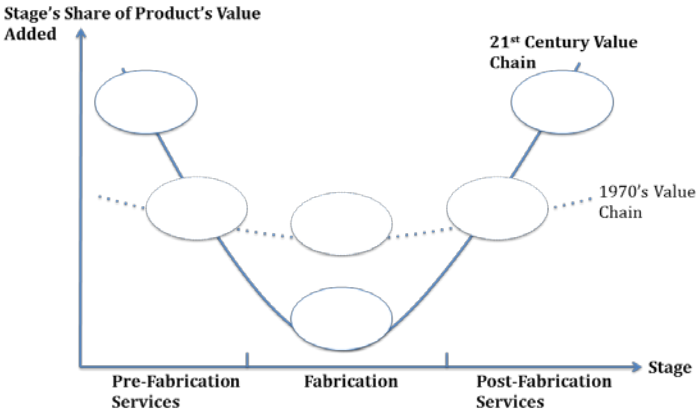
Moving up the value chain

Upgrading, or moving up the value chain, is the best long-term strategy for preserving a country's participation in GVCs. It is also desirable per se, since the objective is to capture more value-added and maximize the benefits of participation in GVCs.

(1) Upgrading

"Upgrading" is defined as the dynamic movement within the value chain from one stage of production to another with higher value activities and increased benefits. Figure 20 suggests, for example, that a country specialized in the fabrication stages should move to pre- and post-fabrication services to capture more value-added in the production cycle; it also illustrates the increasing gap between production and pre- or post-production stages in terms of value-added, and the high concentration of value in services.

Figure 20. The Smile Curve: Good and Bad Stages in the Value Chain

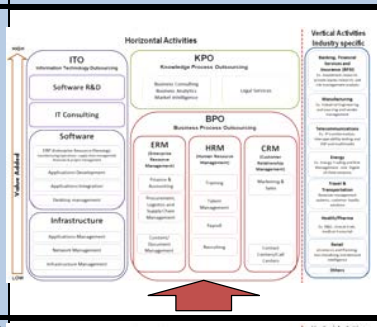
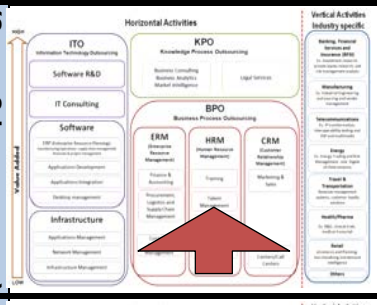
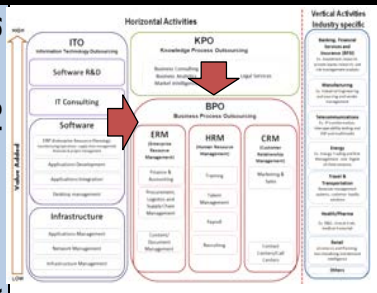
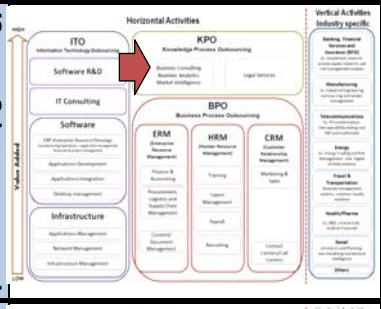
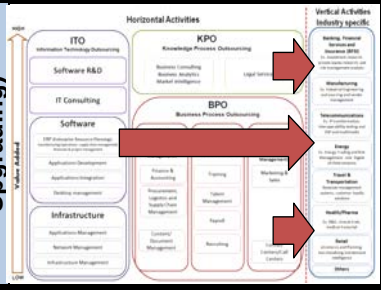


Source: Baldwin, 2012

Within the context of GVCs, four different upgrading paths have been identified (Humphrey and Schmitz, 2002):

- Process upgrading – this corresponds to a better organization of production or the introduction of new technologies, and efficiency or sustainability gains;
- Product upgrading – this corresponds to the production of more sophisticated products;
- Functional upgrading – this corresponds to an increase in the skill content of the production;
- Chain or inter-sectoral upgrading – this corresponds to the move from one industry to another.

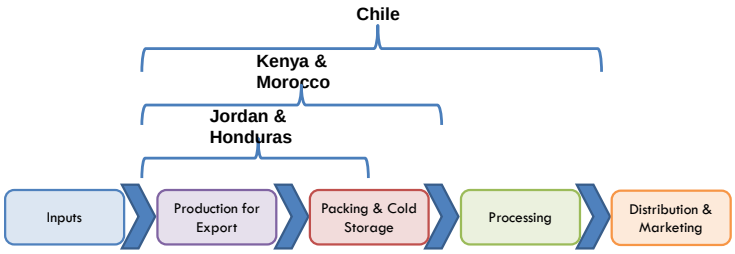
Figure 21. Offshore services upgrading trajectories for selected countries

Type	Diagram	Description
Entry into the Value Chain		• Common way to enter the offshore services value chain is through the establishment of call center operations. • Opportunity for low-income countries to enter into the knowledge economy. Recent examples of countries entering the value chain through call centers include El Salvador (Dell, Sykes and Teleperformance), Nicaragua (Sitel), Panama (HP and Caterpillar) and Guatemala (Exxon Mobil, ACS and 24/7 Customer) (Gereffi et al., 2009).
Upgrading within the BPO Segment (Functional Upgrading)		• Companies expand their BPO services within the segment. • Improving and expanding call centers operations or specialization in certain areas. South Africa has been an important destination for BPO services currently employing around 87,000 people and growing at 33% per year. South Africa is actively working in expanding their BPO activities (Everest Group and Letsema Consulting, 2008; Sykes, 2010) .
Broad Spectrum Services (Functional Upgrading)		• Companies positioned in the ITO and KPO segments may opt to provide a more comprehensive range of activities and include BPO services. • Acquisitions of smaller BPO firms and/or creating a new business unit within the company. India has seen a number of firms in the IT and consulting (KPO) segment expand to the BPO sector. This is true for both big domestic firms like Infosys, Wipro and also foreign firms located in India like IBM and Accenture among others.
Upgrading from ITO to KPO functions (Functional Upgrading)		• IT service firms include KPO activities in their portfolio. • IT companies engage customers to find solutions for unsolved business problems . For example, between 2002 and 2005, Indian firms Infosys, Wipro, TCS and WNS amongst others developed and launched business consulting services practices.
Industry Specialization (Intersectoral Upgrading)		• Companies offering some ITO, BPO and KPO services for a wide range of industries start specializating and focus on key industries to develop expertise. The Czech Republic, which entered into the offshore services industry through the establishment of BPO shared services activities, has quickly upgraded into R&D segments of vertical industries, particularly in the automotive, aerospace and IT areas (Business and Innovation Center- Brno, 2009).

Source: Fernandez-Stark, Bamber, and Gereffi, 2011b

Such upgrading could be linear or non-linear, depending on whether a country or firm must gain expertise in one segment of the value chain before moving to the next one. Figure 21 and Figure 22 provide examples of upgrading paths in the horticulture and offshore services sectors. Upgrading could also mean moving to the pre- and post-production stages, in particular by increasing the services content of the production package sold to lead firms. Therefore, a country needs to assess its capacities up- and downstream as well as its current position in the value chain, and facilitate the upgrading process through capacity building and workforce development.

Figure 22. Upgrading stages in the fruit and vegetable value chain, Chile, Honduras, Jordan, Kenya and Morocco

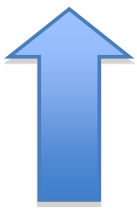


Source: Fernandez-Stark, Bamber, and Gereffi, 2011a

(2) Task bundling

As illustrated by the examples above and Figure 23, upgrading trajectories often consist in performing new tasks that supplement and build upon existing ones. Task bundling is necessary in a context of GVC consolidation, where lead firms reduce the number of intermediates and expect them to provide a more comprehensive package with a higher services-content (Gereffi and Frederick, 2010). Finally, task bundling might be necessary to attract the offshoring/outsourcing of some tasks that cannot be performed independently (Lanz, Miroudot and Nordås, 2012). For example, some tasks that can be digitized and easily outsourced offshore might be complementary to tasks that cannot, thus making the first set of tasks non-offshorable unless the country can also perform the second set of tasks.

Figure 23. Mexico's upgrading trajectory in the apparel sector



	1993	1996	2000
Retail			
Marketing			
Distribution			√
Laundry and finishing		√	√
Assembly	√	√	√
Cutting			√
Trims and labels		√	√
Textiles		√	√

Note: Tasks performed by Mexican apparel industries in the city of Torreon
Source: Bair and Gereffi, 2001

Moving up the value chain is often about "creating the knowledge behind the product". Per se, diversification in services tasks and the promotion of services exports is a largely untapped potential for many developing countries. It suggests that a country might not be able to move up the value chain due to barriers prevailing in other stages of the production. For example, moving out of production to include R&D, engineering or marketing services, requires a greater flexibility in trade in such services, including the temporary movement of services providers (which is classified as

Mode 4 under the General Agreement of Trade in Services (GATS) of the WTO); it might also require a greater protection of intellectual property rights to protect the data and the technologies that are transferred as part of the offshoring process.

(3) Workforce development and innovation

Workforce development and innovation are key elements of competitiveness, participation in GVCs, and within GVC upgrading. Under the international pressure of competitors, countries need to increase the skill content of their activities or develop competencies in niche market segments (Humphrey and Schmitz, 2002). As illustrated by Figure 24, the knowledge and skill intensity significantly varies across sectors and activities: moving up the value chain will require the availability of new skills and knowledge. There is, for instance, a positive and significant correlation between human capital and services exports (Saez and Goswami, 2010). Either such skills and knowledge are already available in the workforce, or they should be developed. In other words, social and economic upgrading are linked and dependent on each other.

GVCs contribute to workforce development through lead firm transfers. There are indeed strong incentives for lead firms to train their workforce to comply with their standards. Beyond private initiatives, there is a strong case for public investment in workforce development to meet the needs of international trade and participation to GVCs. Looking at the link between upgrading and workforce development in a GVC context for four global industries (fruit and vegetables, apparel, offshore services, and tourism) in about 20 developing countries, Gereffi, Fernandez-Stark and Psilos (2011) reached the following conclusions:

With regards to workforce skills:

- Appropriate worker skills are essential to industry upgrading;
- The focus of workforce development must reflect both local needs and those of the global economy;
- A new and evolving set of workforce skills is needed to participate in GVCs;
- Required skills and workforce development needs vary substantially by stage within industry-specific upgrading trajectories;
- Workers need "soft skills" in today's world of work;
- In developing countries, managerial skills for GVCs are in short supply; and
- Upgrading in GVCs requires more and better professionals and technicians in bottleneck positions.

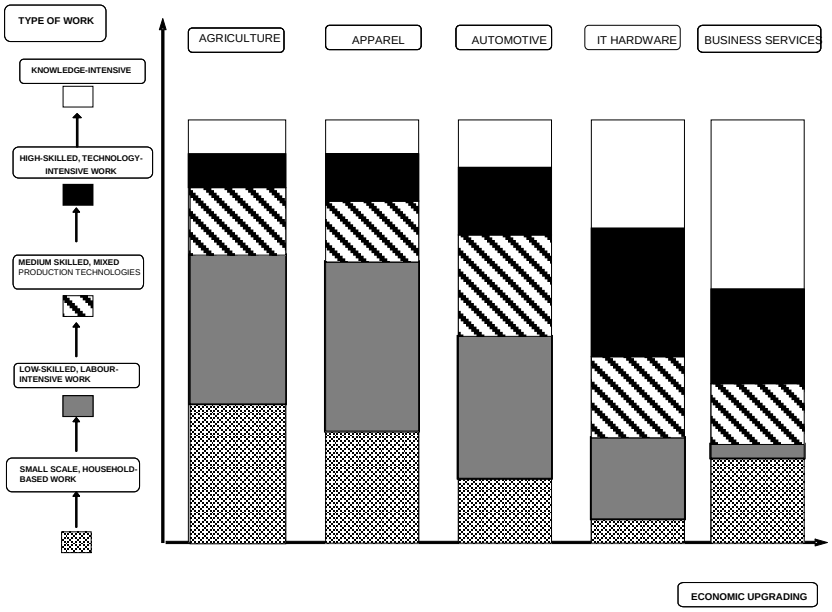
With regards to stakeholders and institutions:

- Local education systems currently do not provide the range of skills required by GVCs;
- Technical training institutions and universities should coordinate more closely with industry stakeholders;
- New actors (e.g., individual firms, industry associations, NGOs, special government programs) can provide many of the skills required by GVCs;
- Private sector intermediaries can facilitate upgrading and workforce development; and
- Public-private partnerships have emerged as an efficient and effective method for workforce development.

With regards to global standards:

- Global standards define the upgrading requirements for the local workforce;
- Multi-stakeholder partnerships in developing countries coalesce in response to global standards; and
- National certification of skills can be a powerful tool for GVC labor markets in developing countries.

Figure 24. Workforce development and economic upgrading



Source: Barrientos, Gereffi and Rossi, 2011

PART 4 – INCREASING THE VALUE FOR TRADE IN GVCs

As explained in Part 1, participation in GVCs is both a source of opportunities and risks for developing countries. A number of policies could help make the balance tip in favor of the benefits and minimizing the risks.

While the mixed impact of GVCs is recognized (Sturgeon and Memedovic, 2010), the economic and business literature tends to put greater emphasis on the benefits. For example, studies suggest that firms that trade tend to be larger, earn higher profits, spend more on R&D, and pay higher wages than firms that do not (Bernard, Jensen, Redding and Schott, 2007). Access to a range of competitively priced foreign intermediate goods has been crucial to achieving higher productivity in both OECD and emerging countries such as India and China (Miroudot, Lanz and Ragoussis, 2009; Goldberg, Khandelwal, Pavcnik and Topalova, 2010). Trade, investment and knowledge flows that underpin GVCs can provide mechanisms for rapid learning, innovation and industrial upgrading in developing countries (Lall, 2000; Humphrey and Schmitz, 2002). Because GVC-linked transactions and investments typically come with quality control systems and prevailing global business standards that exceed those in developing countries, suppliers and individuals in developing countries can be "pushed" to acquire new competencies and skills though their participation in GVCs (Sturgeon and Memedovic, 2010). Finally, GVCs tend to compress the development experience, making non-linear catch up possible, as has been the case for China (Whittaker, Tianbiao, Sturgeon; Mon Han O. Toshi, 2010; Breznitz and Murphree, 2011).

Box 2. A typology of GVC governance structures

A more elaborate typology of five governance structures has been identified in the GVC literature: markets, modular, relational, captive, and hierarchy (see Figure 25). These structures are measured and determined by three variables: the complexity of the information between actors in the chain; how the information for production can be codified; and the level of supplier competence (Frederick and Gereffi, 2009; Gereffi, Humphrey and Sturgeon, 2005).

- **Market:** Market governance involves transactions that are relatively simple. Information on product specifications is easily transmitted, and suppliers can make products with minimal input from buyers. These arms-length exchanges require little or no formal cooperation between actors and the cost of switching to new partners is low for both producers and buyers. The central governance mechanism is price rather than a powerful lead firm.

- **Modular:** Modular governance occurs when complex transactions are relatively easy to codify. Typically, suppliers in modular chains make products to a customer's specifications and take full responsibility for process technology using generic machinery that spreads investments across a wide customer base. This keeps switching costs low and limits transaction-specific investments, even though buyer-supplier interactions can be very complex. Linkages (or relationships) are more substantial than in simple markets because of the high volume of information flowing across the inter-firm link. Information technology and standards for exchanging information are both key to the functioning of modular governance.

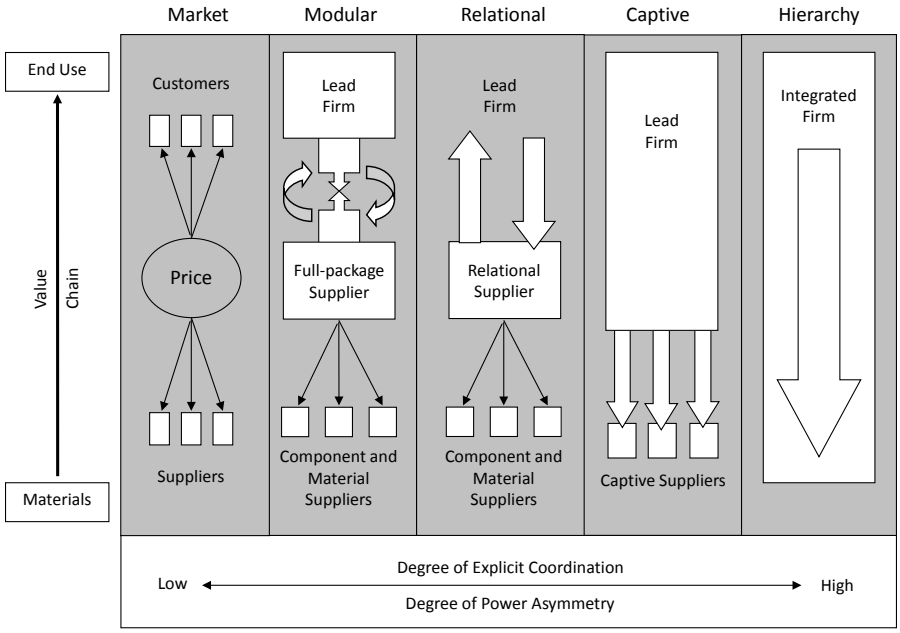
- **Relational**: Relational governance occurs when buyers and sellers rely on complex information that is not easily transmitted or learned. This results in frequent interactions and knowledge sharing between parties. Such linkages require trust and generate mutual reliance, which are regulated through reputation, social and spatial proximity, family and ethnic ties, and the like. Despite mutual dependence, lead firms still specify what is needed, and thus have the ability to exert some level of control over suppliers. Producers in relational chains are more likely to supply differentiated products based on quality, geographic origin or other unique characteristics. Relational linkages take time to build, so the costs and difficulties required to switch to a new partner tend to be high.

- **Captive:** In these chains, small suppliers are dependent on one or a few buyers that often wield a great deal of power. Such networks feature a high degree of monitoring and control by the lead firm. The power asymmetry in captive networks forces suppliers to link to their buyer under conditions set by, and often specific to, that particular buyer, leading to thick ties and high switching costs for both parties. Since the core competence of the lead firms tends to be in areas outside of production, helping their suppliers upgrade their production capabilities does not encroach on this core competency, but benefits the lead firm by increasing the efficiency of its supply chain. Ethical leadership is important to ensure suppliers receive fair treatment and an equitable share of the market price.

- **Hierarchy:** Hierarchical governance describes chains characterized by vertical integration and managerial control within lead firms that develop and manufacture products in-house. This usually occurs when product specifications cannot be codified, products are complex, or highly competent suppliers cannot be found. While less common than in the past, this sort of vertical integration is still an important feature of the global economy.

The form of governance can change as an industry evolves and matures, and governance patterns within an industry can vary from one stage or level of the chain to another.

Figure 25: Five Types of GVC Governance Structures

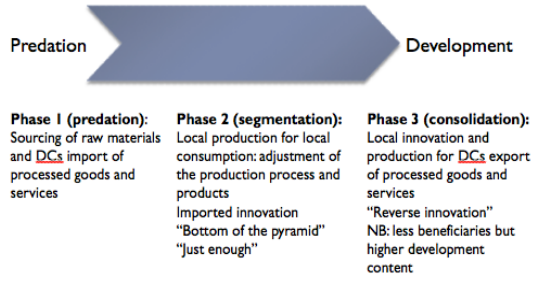


Source: Gereffi and Fernandez-Stark, 2011

A number of factors will affect the balance of opportunities and risks. The governance structure of GVCs is particularly important, defined as the "authority and power relationships that determine

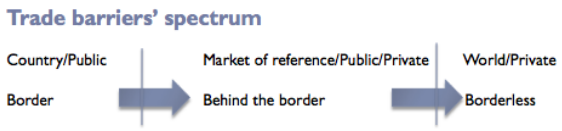
how financial, material and human resources are allocated within a chain" (Gereffi, 1994, p. 97). Governance will vary, first, according to the activity of the lead firm, with a distinction between "producer-driven" (e.g., a car or electronics manufacturer) and "buyer-driven" (e.g., retailer or supermarket) firms. In the electronics sector, for example, studies suggest that lead firms that control branding or platform leaders that provide core technologies and advanced components capture more rents than others (Sturgeon and Memedovic, 2010). More generally, there appear to be more transfers in producer-driven chains that are more vertically integrated, while there is greater importance/reliance on standards in buyer-driven chains (Lee, Gereffi, and Barrientos, 2011).

Figure 26. The maturity of GVCs and their development content



Source: Cattaneo and Miroudot, 2013

Figure 27. Globalization and evolution of trade barriers



Source: Cattaneo and Miroudot, 2013

The maturity of GVCs is another relevant factor. It refers to the level of transfers and partition of the value-added within GVCs. Figure 26 presents three phases in the development of GVCs, with a minimum of transfers in a first phase of "predation", an increased local production for local needs in a second phase of "segmentation", and ultimately a transfer of R&D and other higher value-added stages of production in a final "consolidation" phase. Thus, the development content of GVCs varies with the maturity of the lead firm – often associated with the geography and level of development of the end market (Kaplinsky et al., 2010).

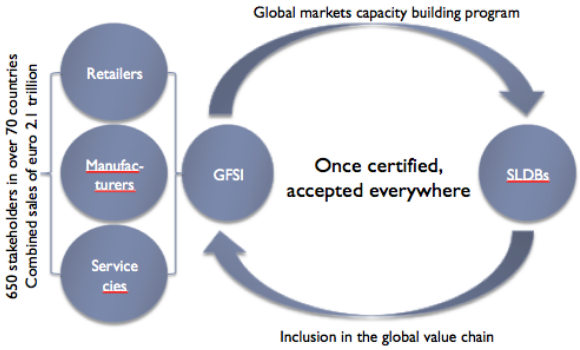
The spectrum of potential effects of GVC participation according to the governance structure or the maturity of the chain suggests a number of risks associated with GVC participation. GVCs are subject to criticisms that should be taken into consideration in the design of relevant trade and competitiveness, as well as development policies. New types of barriers and challenges have emerged in the context of GVCs. Figure 27 illustrates the evolution of relevant trade barriers in the context of globalization. Traditional barriers to trade stood at the border and were mainly in the hands of national governments (e.g. tariffs, quotas); progressively, with the progress of multilateral and regional trade integration, obstacles moved behind the borders and became more complex, including a wide array of NTMs, both public and private. At the same time, the market of reference expanded beyond national borders, to include for instance the regional dimension in competition law. Ultimately, with the emergence of GVCs and global production, barriers to trade have become borderless, global and most often private in nature (e.g., private standards or codes of conduct, vertical agreements within GVCs).

This raises new challenges for policy makers: it is not about negotiating market access and making reciprocal concessions with other governments; it is about regulating the behavior of businesses that are largely out of control. Indeed, most standards applied by business are voluntary and self-determined. This requires, in particular, cooperation with the private sector to work towards greater competitiveness and trade openness (World Bank, 2011d).

Maximizing the benefits of participation in GVCs

Maximizing the benefits of participation in GVCs is a mix of public policies, multi-stakeholder (e.g., public-private, government-donors, civil society) initiatives and cooperation. Such an integrated approach is aimed to ensure that the competitiveness and trade capacity building programs are demand- rather than supply-driven; the objective is to match a country's supply capabilities with market needs and not to place bets on sectors with high export potential and face low export survival rates. Figure 28 provides an example of a business and demand-driven global capacity building program for standards improvement in the agri-food sector. Complying with the certification requirements of the Global Food Safety Initiative opens access to a market of over USD 2 trillion; it contrasts with a public program of certification that would not be in line with international best practices and create standards that would not be widely recognized by the market players.

Figure 28. GVCs and global standards: The example of the Global Food Safety Initiative



Note: SLDBs stands for small and/or less developed businesses
Source: Cattaneo and Miroudot, 2013

Maximizing the benefits of GVC participation could consist in capturing more of the chain's value-added through the improvement of backward linkages or increasing the within-GVC transfers and their spillover effects. It is also about identifying who gets what in the GVC, and restructuring dysfunctional GVCs to the benefit of local producers and service providers.

(1) Improving backward linkages

Improving backward linkages means lengthening the domestic segment of the value-chain and thereby capturing more value-added. Such policies should be carefully designed to avoid creating new obstacles to trade and investment.

For example, governments should avoid adopting "national content" rules that might aim to capture more of the trade value-added by reserving certain activities to nationals or establishing a preference for domestic rather than imported inputs. This would de facto negatively impact the competitiveness of local suppliers and the attractiveness of the country for lead firms (e.g., by making the respect of certain standards more difficult).

Alternative solutions that are more compatible with GVC participation should be encouraged, such as:

- the negotiation among parties of production-sharing documents;
- flexible rules for the temporary movement of key personnel, in particular in start-up phases of projects;
- requirements for new entrants to create explicit supplier development programs; and
- rewards for existing foreign companies that make an extra effort to help local suppliers, by means of tax deductions or other payments to partially reimburse firms' expenditures in helping local industries (World Bank, 2011a).

Some investment incentives could also have an adverse effect on backward linkages; this is the case of the "offshore" legal status ("maquila" type of regime) that often isolates the production aimed at export from the rest of the domestic production. Such production in silos is not conducive to the improvement of backward linkages, and it is important that exporting firms are used as potential models for others.

Local sourcing could be rewarded (see above) and by all means it should be facilitated through a proactive adjustment of local supply to the needs of firms participating in GVCs. Among others, policies to enable the local sourcing of inputs include:

- the leveling of local small and medium enterprises (SMEs) to meet the standards required by lead firms;
- the removal of unnecessary NTMs;
- workforce development to match available skills with demand;
- capacity building up- and downstream the GVC entry point; and
- innovation.

(2) Increasing within GVC transfers and spillover effects

Participation in GVCs is potentially a source of important transfers from lead firms to suppliers along the value chain. Such transfers benefit the functioning of a specific value chain, but also have spillover effects. For example, the construction of a road or an electrical plant to services a specific plant also benefits other users of the infrastructure (Kurz and Schmidkonz 2010). Multinational companies sometimes invest in public goods, such as road safety, education or anti-corruption, to improve the overall business environment in the country. Companies involved in such capacity building efforts primarily do it because it serves their core business strategy (61% of the lead firms surveyed) or corporate social responsibility principles (46% of the lead firms surveyed) (OECD-WTO, 2013c). These transfers and spillover effects contribute to reducing the cost of capacity building and development usually borne by the local government and firms. They should therefore be encouraged by the government, whether they are linked to FDI or not.

Looking at the contribution of business to competitiveness and trade capacity building, four types of transfers and spillover effects taking place in GVCs can be distinguished (World Bank, 2011d):

- Building human capacity: Training and skills

While the movement of key personnel is essential to doing business abroad, the majority of workers in most countries that attract FDI or partnerships with international firms are local or regional. Insofar as the workforce is deficient in specific skills that are needed, foreign companies often establish training programs. While benefiting the company in the short-run, such programs can contribute to sustainable long-term benefits for the recipients who can apply their newly acquired skills in numerous ways, resulting in positive spillover effects for the country (e.g., alumni of multinational firms often count amongst the most successful local entrepreneurs and exporters). The types of programs that are implemented could benefit employees of the company or sub-contractors (and hence potentially benefit other exporting firms).

- Bolstering productive capacity: Technology, know-how and finance

Foreign companies investing in developing countries frequently confront situations where the condition of existing infrastructure, technology, and the general business environment raise operating costs significantly. A number of case stories revolve around transfers of technology, know-how, and knowledge, and efforts to improve the business environment. Examples include the development of hard infrastructure such as facilities, the dissemination of technologies and knowledge, and providing access to finance for suppliers. While benefiting the company at the origin of the transfers, the capacity building efforts to improve infrastructure or the business environment can be expected to have positive spillover effects, including to local SMEs.

- Enhancing the functioning of value chains, including standards

A number of efforts revolve around enhancing the performance of value chains. This can span any link in the chain, ranging from design to production, assembly, packaging, marketing, distribution and consumption. Assistance in meeting quality and safety standards is particularly important to help incorporate local producers into global value chains (see Figure 26). Promoting the sustainable inclusion of small producers into global value chains is fundamental to fighting poverty: 75% of the world's poor live in rural areas, and of these, 86% depend on agriculture (World Bank databank). If small-scale producers are able to link to the chain while at the same time obtaining assistance to help with needed certification for value-added goods (e.g., organic production), they will be able to take much better advantage of market access opportunities.

- Facilitating trade

Trade facilitation is a major concern for the private sector as red tape and inefficiencies in border management and corridor performance can raise transport costs substantially, resulting in major delays. Initiatives and projects led by firms and industry groups range from road safety initiatives to more efficient customs processes through customized software development. Trade facilitation is typical of a public good: when roads are safer and custom's clearance faster, it benefits the company at the origin of the capacity building efforts as much as its competitors.

Minimizing the risks of participation in GVCs

In some instances, GVCs are severely criticized due to the predatory behavior of some global buyers or producers that tap into local human and natural resources in an irresponsible or unsustainable way or without sharing enough of the profits. For example, Oxfam observed the functioning of GVCs led by major food and beverage companies, and asked whether these lead firms were:

- improving conditions for women, small-scale farmers and farm workers;
- promoting equitable and sustainable access to and use of land and water;
- reducing emissions and helping farmers adapt to climate change; and
- being transparent about their supply chains and broader corporate activities.

Scorecards established by Oxfam reveal very different behaviors of lead firms vis-à-vis suppliers in the GVCs (http://www.behindthebrands.org/en-us).

(1) Responsible investment

Stakeholders in host countries should carefully review supplier codes and guidelines and help with their implementation as appropriate. They should also create incentives for lead firms to comply with major principles for responsible investment and business. These include references such as:

- The UN Principles for responsible investment [2]:
  - Principle 1: We will incorporate environmental, social and corporate governance (ESG) issues into investment analysis and decision-making processes.
  - Principle 2: We will be active owners and incorporate ESG issues into our ownership policies and practices.
  - Principle 3: We will seek appropriate disclosure on ESG issues by the entities in which we invest.

[2] Available at www.unpri.org . In early 2005, the then UN Secretary-General, Kofi Annan, invited a group of the world's largest institutional investors to join a process to develop the Principles for Responsible Investment. A 20-person Investor Group drawn from institutions in 12 countries was supported by a 70-person group of experts from the investment industry, intergovernmental organisations and civil society. The Principles were launched in April 2006 at the New York Stock Exchange (Source: http://www.unpri.org/about-pri/about-pri/history/).

- Principle 4: We will promote acceptance and implementation of the Principles within the investment industry.
- Principle 5: We will work together to enhance our effectiveness in implementing the Principles.
- Principle 6: We will each report on our activities and progress towards implementing the Principles.

- The 2010 FAO/IFAD/UNCTAD/World Bank Principles for responsible investment in agriculture[3]:
  - Principle 1: Existing rights to land and associated natural resources are recognized and respected.
  - Principle 2: Investments do not jeopardize food security but rather strengthen it.
  - Principle 3: Processes relating to investment in agriculture are transparent, monitored, and ensure accountability by all stakeholders, within a proper business, legal, and regulatory environment.
  - Principle 4: All those materially affected are consulted, and agreements from consultations are recorded and enforced.
  - Principle 5: Investors ensure that projects respect the rule of law, reflect industry best practice, are viable economically, and result in durable shared value.
  - Principle 6: Investments generate desirable social and distributional impacts and do not increase vulnerability.
  - Principle 7: Environmental impacts of a project are quantified and measures taken to encourage sustainable resource use, while minimizing the risk/magnitude of negative impacts and mitigating them.

- The UN Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labor standards, the environment and anti-corruption[4]:
  Human Rights
  - Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
  - Principle 2: make sure that they are not complicit in human rights abuses.
  Labor
  - Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
  - Principle 4: the elimination of all forms of forced and compulsory labor;
  - Principle 5: the effective abolition of child labor; and
  - Principle 6: the elimination of discrimination in respect of employment and occupation.
  Environment
  - Principle 7: Businesses should support a precautionary approach to environmental challenges;
  - Principle 8: undertake initiatives to promote greater environmental responsibility; and
  - Principle 9: encourage the development and diffusion of environmentally friendly technologies.
  Anti-Corruption
  - Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

The OECD also developed Guidelines for Multinational Enterprises[5], and the ITC launched a web-portal (standardsmap.org) that reviews 100 voluntary standards initiatives against criteria such as

[3] http://siteresources.worldbank.org/INTARD/214574-1111138388661/22453321/Principles_Extended.pdf
[4] http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/
[5] http://www.oecd.org/daf/inv/mne/

the extent to which they actually address environmental, economic, labor, social, quality and safety issues.[6] Sectoral initiatives have also been taken, for instance in extractive industries where abuses and corruption have long been observed. In agriculture, the World Bank created a Knowledge Exchange Platform for Responsible Agro-Investment[7].

While the respect of these principles is mostly voluntary, both for business and states, some trade schemes have created incentives to adopt higher standards. This is the case, for example, of the European Generalized System of Preferences (GSP+) that conditions some tariff reductions to the compliance with a number of international conventions pertaining to labor rights, environment protection, etc.

(2) Competition

Participation in GVCs has two aspects: on one hand, it secures demand for production and increases the security and predictability of income; on the other hand, one has to avoid captive relationships where the supplier is a price–taker and foregoes economic freedom. There is an important risk of being dependent upon a single buyer. A number of countries have enacted legislation to address unlawful vertical restraints such as resale price maintenance, exclusive dealing, tying, and certain customer or territorial restraints on the resale of goods (e.g., see US Sherman Act of 2006).

In general, competition law is a key element to prevent abuse of economic power. The World Bank, along with the OECD, and other organizations such as UNCTAD have developed frameworks for the design and implementation of competition law and policy (World Bank-OECD, 1998). GVCs raise new challenges for competition law due to the prevalence of self-regulation and voluntary codes of conduct.

Debates on land grabs and contract farming are related. With regard to land grabs, the World Bank works to improve land acquisition standards, the protection of land rights and land titling (see the Land Governance Assessment Framework). In particular, it recommends that governments map available land and identify what type of investment – such as sugar cane, biofuel or specialty crops – will boost exports or fit into their national economic development strategy. They should then build roads and other infrastructure to support the strategy, and seek bids from responsible investors who can bring agricultural technologies and more economic benefits to locals (Deininger and Byerlee, 2011). Contract farming points at the imbalance of bargaining power between global buyers and small local producers. A number of solutions were identified to minimize this risk, including better organization of local farmers (e.g., regional markets and stocks), better market information, improved negotiation skills, better contracts, etc. This also prevails in sectors other than agriculture.

PART 5 – CONCLUSION

GVCs have changed the shape of international trade, increasing competition and interdependence among countries. While countries compete to attract jobs and investment, they increasingly depend on each other‘s demand, capital and production. With the dramatic growth of outsourcing practices, i.e. the practice of subcontracting non-core activities to independent suppliers, competition between companies has shifted from being horizontal, i.e. firms compete in the same sector for the same customer-base, to being vertical, i.e. firms in the same value chain compete to perform specific and specialized tasks.

Technological advances (in particular of information and communication technologies [ICTs]), political developments (including the integration of formerly communist or closed countries into the world economy, as well as multilateral and bilateral trade agreements), and business strategies (in

[6] http://www.standardsmap.org/
[7] https://www.responsibleagroinvestment.org/

particular the focus on core competence and increased flexibility) all allowed companies to leverage countries' differences in endowments and input costs. As a result, competition not only between firms, but also between countries has become increasingly vertical. Interestingly, both horizontal and vertical competition is driven by similar forces: the interplay between traditional cost advantages, institutional factors, and proximity to the final consumer, which determine what tasks are more profitable in given locations.

In this context, what is the role that can be played by public policy? And how can countries fully benefit from their participation in value chains? How can one assess if countries are equipped to upgrade their position within GVCs and create substantial spillovers to the domestic economy in view of the rapid changes that GVCs are facing?

This paper provides a framework and analytical tools for measuring and improving a country's performance with respect to GVC participation. With a clear operational focus, it provides guidance for countries willing to join, maintain participation, and/or move up GVCs. With the ultimate objective to increase the value (i.e., development content) for trade, it also offers strategies to maximize the benefits and minimize the risks of developing countries' participation in GVCs.

The current paper complements existing work on assessing trade competitiveness, such as Reis and Farole (2012), by developing a framework explicitly focusing on GVC participation, an important but under-explored dimension of analyses of countries' competitiveness. This is of primary importance because there seems to be little understanding of the role of GVCs in countries' economies beyond the fact that GVCs are large, growing and absorbing an increasing share of firms and employment in most countries in the world. Changes in the relevant strategic and economic frameworks, the shifting importance of specific barriers, the new geography of winners and losers that GVCs determine, as well as the increasing importance of vertical competition and co-dependency between firms and countries call for an ad hoc framework for assessing competitiveness.

Importantly, the paper also complements existing analyses of GVCs, which mainly focus on measuring and assessing the importance of GVCs or discuss the effect of specific policies, mainly through case studies. This paper instead provides a thorough coverage of the drivers and policy dimensions of competitiveness. In doing so, it allows conducting diagnostics of countries' potential to join, upgrade and be competitive within GVCs, using methods that are specifically designed for that purpose.

The paper represents a tool for policy development and implementation that will help in identifying policy measures aimed at increasing countries' competitiveness within GVCs as well as constraints that are holding back their development.

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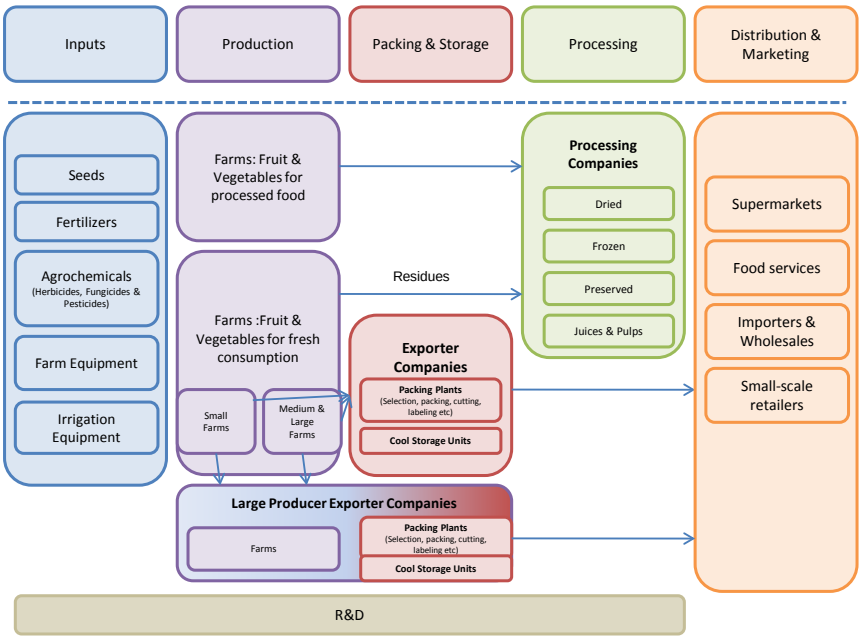
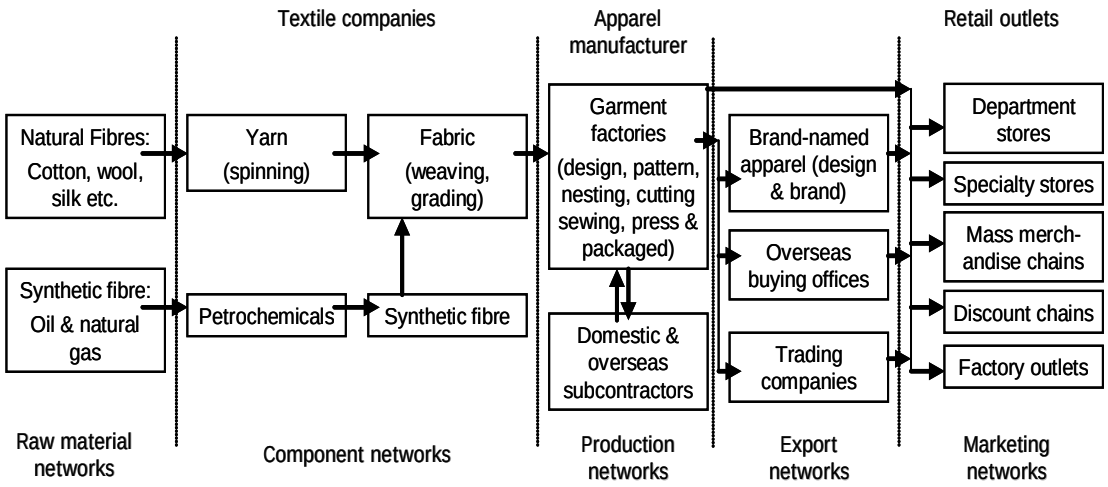
ANNEX – EXAMPLES OF GVCS IN THE AGRI-FOOD, MANUFACTURING AND SERVICES SECTORS

Example 1. The fruit and vegetables GVC



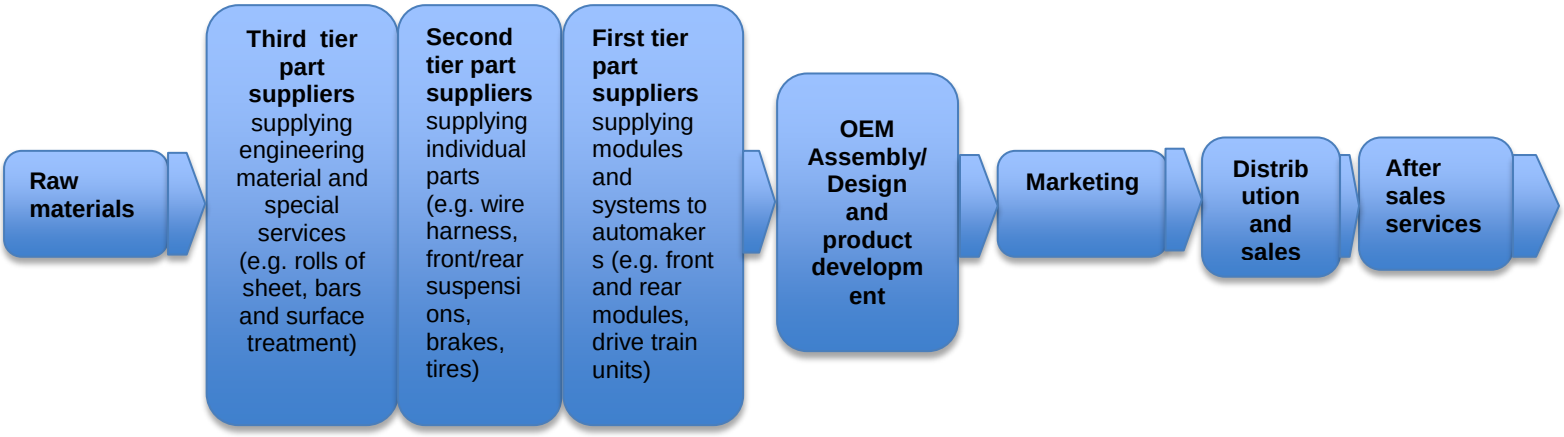
Source: Fernandez-Stark, Bamber, and Gereffi, 2011

Example 2. The textile and apparel GVC



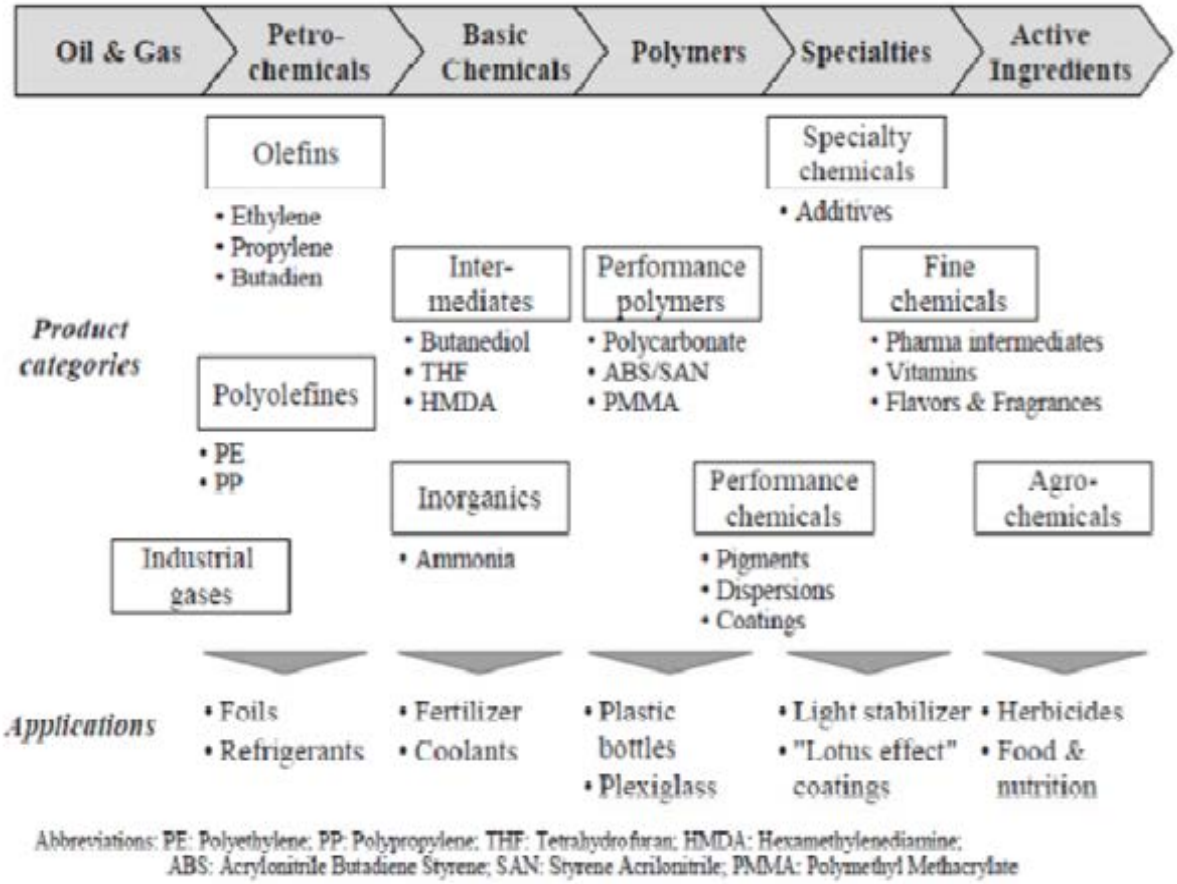
Source: Applebaum and Gereffi, 2004

Example 3. The automotive industry GVC



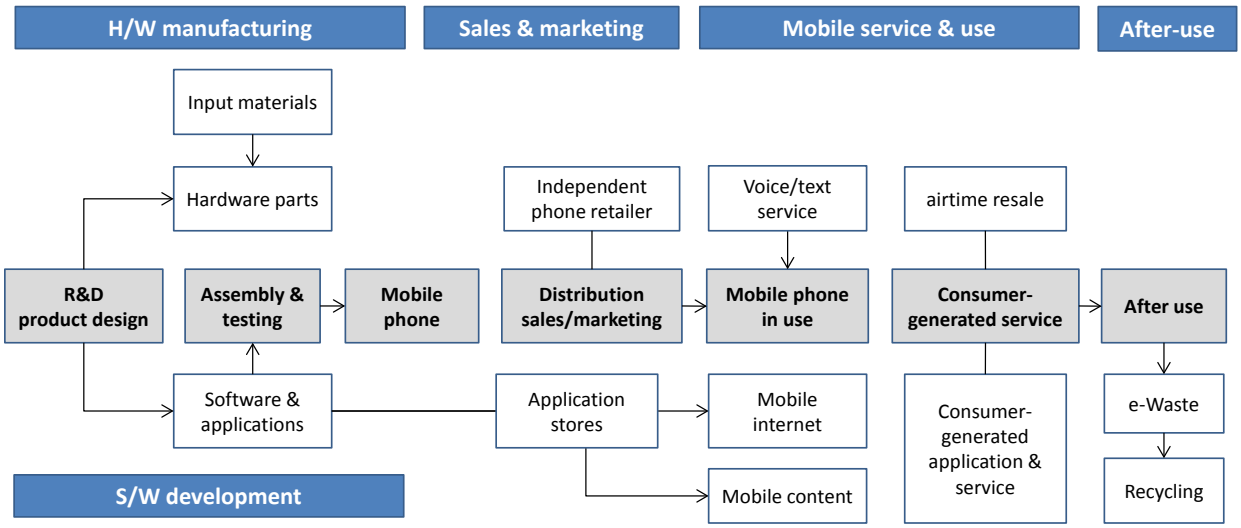
Source: Authors based on Sturgeon, Memedovic, Van Biesebroek and Gereffi, 2009

Example 4. The chemicals GVC



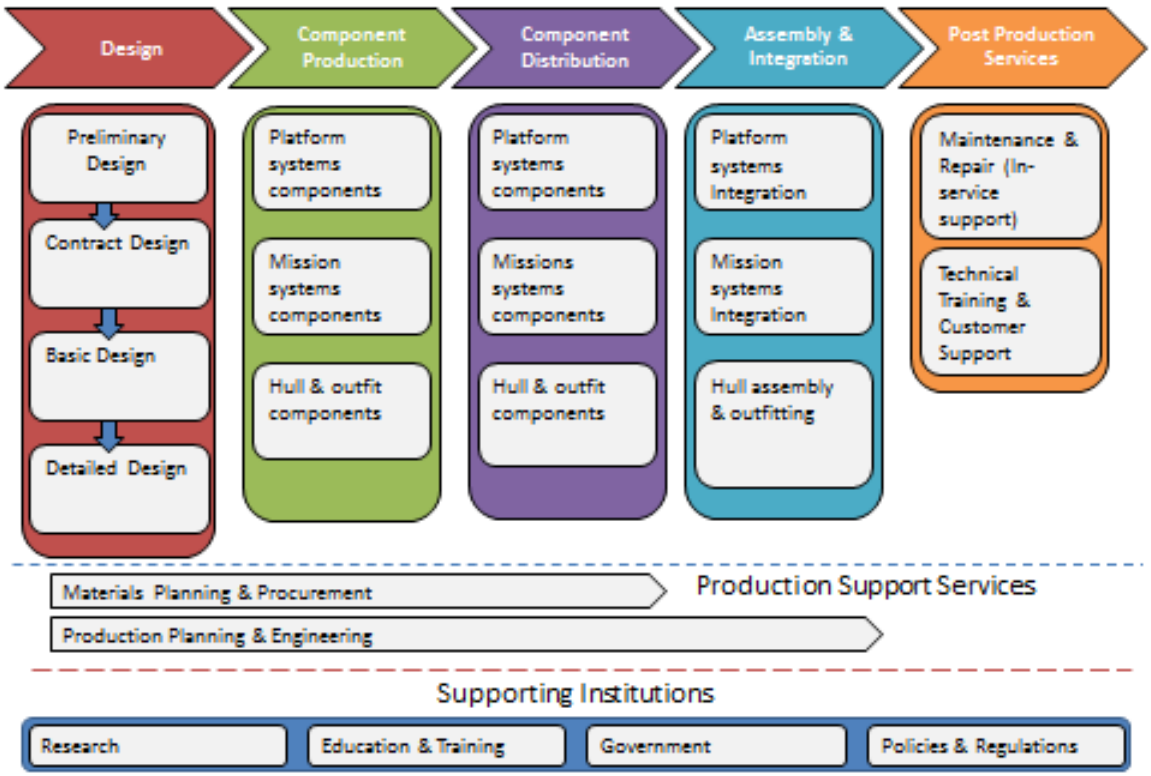
Source: Kannegiesser, 2008

Example 5. The mobile phone GVC



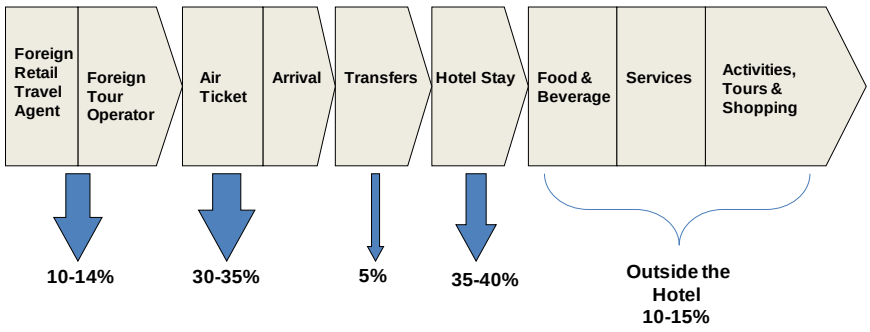
Source: Lee J., G. Gereffi and D. Nathan (2013)

Example 6. The shipbuilding GVC



Source: Gereffi G., L. Brun, S. Stokes and A. Guinn (2013)

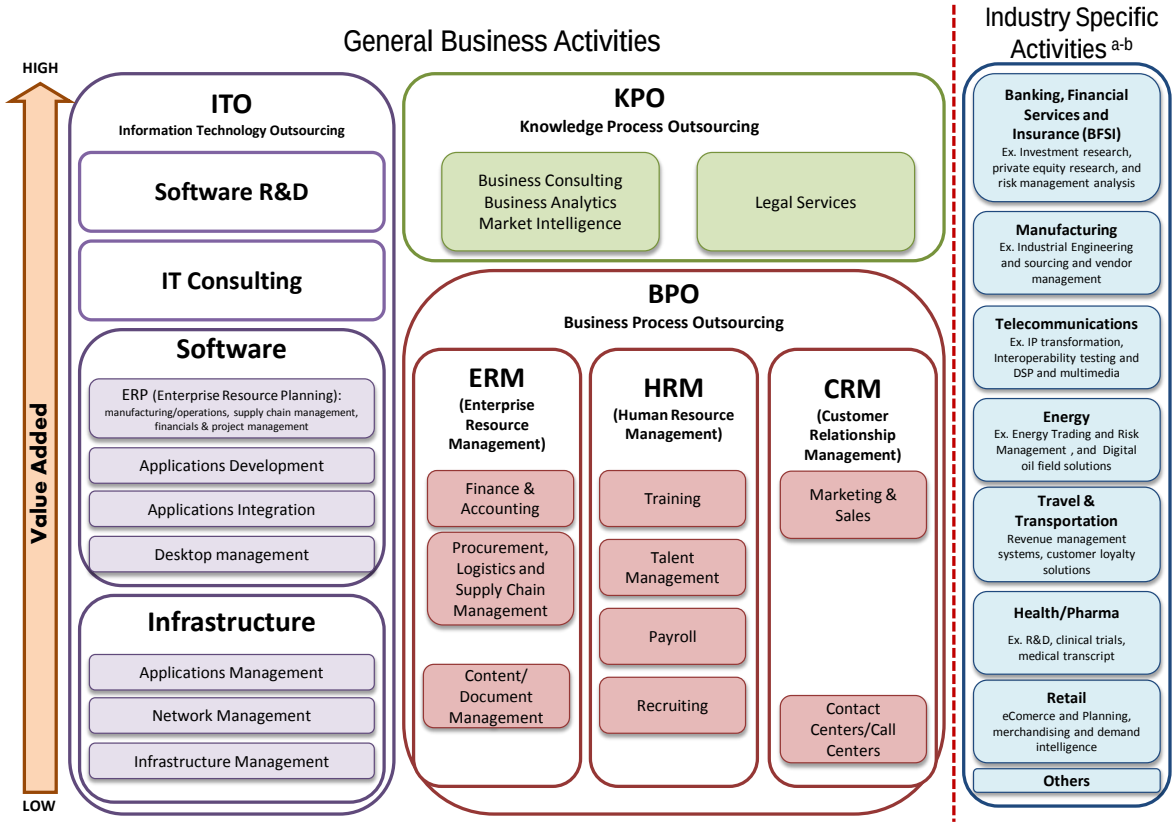
Example 6. The tourism GVC



Source: World Bank, 2011b

Notes: percentages are indicative of the repartition of value in a well-functioning tourism GVC; the Tourism Satellite Accounts edited by the World Tourism and Travel Council present a more detailed analysis of the tourism direct and indirect benefits in recipient countries.

Example 7. The offshore services GVC



Source: Gereffi and Fernandez-Stark, 2010