



## **IMPLICATIONS OF GLOBAL VALUE CHAINS FOR TRADE, INVESTMENT, DEVELOPMENT AND JOBS**

**OECD, WTO, UNCTAD**

**6 August 2013**

**Prepared for the  
G-20 Leaders Summit  
Saint Petersburg (Russian Federation)  
September 2013**

## Foreword

At the Los Cabos Summit in June 2012, G20 leaders noted "... the relevance of regional and global value chains to world trade, recognising their role in fostering economic growth, employment and development and emphasizing the need to enhance the participation of developing countries in such value chains." Leaders called on the OECD, WTO, and UNCTAD "to accelerate their work on analysing the functioning of global value chains and their relationship with trade and investment flows, development and jobs, [...] and to report on progress under Russia's Presidency." The report that follows, *Implications of Global Value Chains for Trade, Investment, Development and Jobs*, is a joint response from the OECD, WTO and UNCTAD to this mandate drawing upon the latest findings in on-going research. We are pleased to deliver it for the 2013 Saint Petersburg Summit.

Value chains have become a dominant feature of the world economy, involving countries at all levels of development, from the poorest to the most advanced. The production of goods and services is increasingly carried out wherever the necessary skills and materials are available at competitive cost and quality. This growing fragmentation of production across borders has important implications for trade and investment patterns and policies and offers new prospects for growth, development and jobs. We will need to further develop our understanding of how this shapes the conduct of international trade and investment reforms, but we have already achieved much progress under the Russian G20 Presidency both in terms of analytical substance and in terms of knowledge sharing among G20 countries.

Our analysis highlights that trade and investment openness are important components of comprehensive policy reforms in G20 countries; action is needed now to implement an effective framework for strong, sustainable, balanced and inclusive growth in which all countries could reap benefits. The report also outlines how in today's more interconnected world both the costs of trade and investment protectionism and the benefits of multilateral opening are much higher than previously thought. Practical trade facilitation reforms, such as those being negotiated at the WTO today, offer significant potential to reduce trade costs.

In a world characterised by components crossing borders multiple times, removing tariffs peaks and escalation in agriculture and manufacturing, as well as addressing non-tariff barriers affecting both goods and services, would reduce business costs and boost growth. Efficient services sectors improve growth prospects not just within the service parts of our economies, but are essential to productivity growth in manufacturing as well. Importantly, appropriately-tailored complementary policies that accompany increased trade and investment openness help ensure that this growth potential is realized and is widely inclusive. This is partly done at the domestic level, but partly also at the international level through the development assistance to help connect the least connected economies.

Over the past year OECD and the WTO have worked closely to develop a trade in value-added database (TiVA) which was released in May 2013. This database is a first step in integrating trade measured in value added terms into the international statistical system and provides the evidence-base for our new analysis. UNCTAD has contributed its own work on trade and development, as well as the new initiative assessing the relationship of value chains and investment flows also described in the 2013 World Investment Report.

But much work remains to be done to clarify the implications of value chains for countries at different stages of development and for firms of various sizes and structures. OECD, WTO and UNCTAD, with an expanding network of partner institutions, have pledged to strengthen our collaboration on these issues.

We look forward to continuing to update G20 Leaders on a timely basis.

Angel Gurría  
Secretary-General  
OECD



Pascal Lamy  
Director-General  
WTO



Supachai Panitchpakdi  
Secretary-General  
UNCTAD



## Table of Contents

<b>Background</b> .....	6
<b>Part I. GVCS and trade in value added</b> .....	9
1. Overview of findings from the Trade in Value Added (TiVA) database and GVC indicators .....	9
2. Trade policy implications.....	13
The cost of protectionism is higher in the context of global value chains .....	13
Multiple border crossings put more emphasis on trade facilitation .....	14
Non-tariff measures raise specific concerns for GVC participation .....	15
Reducing inefficiencies in services markets enhance the competitiveness of all firms .....	16
New competition issues arise with GVCs.....	16
Trade agreements have to cope with the new reality of business .....	17
3. The importance of complementary policies, starting with skills.....	20
<b>Part II. GVCS, investment, and development</b> .....	21
1. GVCs and investment .....	21
Investment decisions of MNEs impact on patterns of value added trade in GVCs .....	21
Investment in GVCs can generate development benefits, but these are not automatic: policies matter .....	22
2. Key policy considerations .....	25
Whether or not actively to promote GVCs is a strategic choice for policy makers .....	25
The broader investment policy framework remains important to benefit from GVCs .....	28
<b>Conclusions and next steps</b> .....	29

### Highlights

- The growth of global value chains (GVCs) has increased our interdependence: between 30% and 60% of G20 countries' exports are comprised of imported inputs or are used as inputs by others.
- The income from trade flows within GVCs has doubled between 1995 and 2009: for China it has increased 6-fold, India 5-fold and Brazil 3-fold.
- Income growth means more job growth: in Germany jobs associated with GVCs have doubled to about 10 million jobs between 1995 and 2008.
- Trade facilitating measures are vital to successful participation in GVCs; trade cost reductions from practical and relatively inexpensive actions could be as high as 16% for some developing countries.
- The role of efficient and competitive services sectors is also crucial: services account for 42% of exports (in value added terms) from G20 economies and more than 50% for some countries.
- GVCs strengthen the case for multilateral market opening, as barriers between third countries, including various non-tariff measures, upstream or downstream can matter as much as barriers put in place by direct trade partners.
- Open, transparent and predictable trade and investment policies need a range of flanking policies to ensure benefits from GVCs are inclusive and widespread. In some less developed economies there remains much work to be done to address specific obstacles to effective participation in GVCs.
- Overcoming obstacles to GVC participation can pay big dividends; developing economies with the fastest growing GVC participation have GDP per capita growth rates 2% above average.
- Multinational Enterprise (MNE) coordinated GVCs account for 80% of global trade. But it is also estimated that the contribution of local firms is very significant (in the range of 40-50% of export value added).
- GVCs can be an important avenue for developing countries to build productive capacity where local firms can capture a significant share of the value added: but technology dissemination, skill building and upgrading are not automatic and require significant investment.
- Individual countries will want to carefully weigh the costs and benefits of proactive policies, carefully tailored to the country's specific situation and coherent with its overall development strategy.
- A structured approach would include embedding GVCs in industrial development policies, in particular creating an environment conducive to trade and investment and building productive capacities in local firms and skills in the local workforce.
- Environmental, social and governance frameworks are needed, with strengthened regulation, enforcement, and capacity-building support to local firms for compliance. Well-designed and enforced competition policy has an important role to play.
- The OECD's Policy Framework for Investment and UNCTAD's Investment Policy Framework for Sustainable Development provide broad guidance on improving the investment environment.
- Multilateral co-operation can contribute much to ensuring an overall trade and investment policy climate conducive to sustainable GVC growth, avoiding "beggar thy neighbour" policies, and addressing specific development policy concerns in today's more interconnected world.
- More specifically, the G20 structural policy agenda provides a basis to address the policy challenges noted in this joint report from OECD-WTO-UNCTAD. At the same time, much remains to be learned about the implications for countries at different stages of development and for firms of various sizes and structures. OECD-WTO-UNCTAD, with an expanded network of partner institutions, will strengthen collaboration on these issues, and are ready to report to G20 Leaders on progress in 2014.

## BACKGROUND

Global value chains (GVCs) have become a dominant feature of world trade and investment, encompassing developing, emerging, and developed economies. The whole process of producing goods, from raw materials to finished products, is increasingly carried out wherever the necessary skills and materials are available at competitive cost and quality. The international fragmentation of production is driven by changes in the business and regulatory environment, new technologies, shifts in corporate thinking and firm strategies, and the systematic liberalisation of trade and investment over the past two decades.

In this new landscape of global production networks, policymakers have to close the gap between traditional rulemaking and the reality of business. The OECD and WTO are currently undertaking comprehensive statistical and analytical work that aims to shed light on the scale, nature and consequences of international production sharing. UNCTAD has also undertaken significant new work, particularly on the developmental aspects and the link with investment.

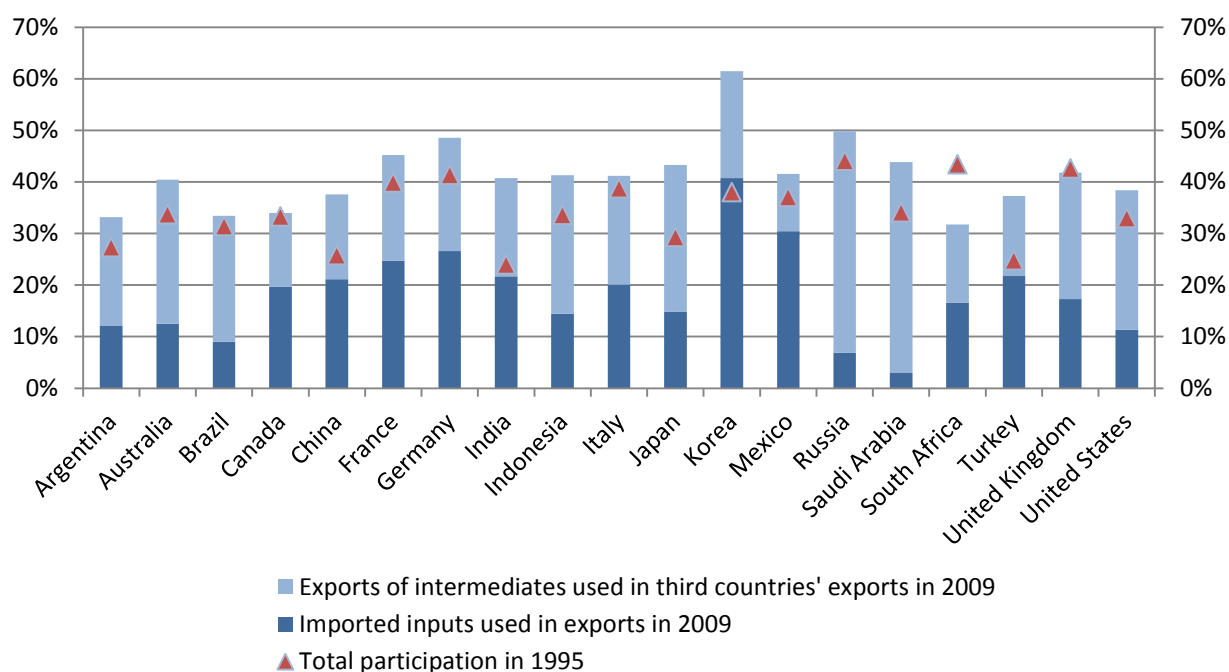
The novelty of this work is that it takes into account flows of intermediate goods and services and identifies in which countries and industries value is added along the value chain. GVCs are often coordinated by Multinational Enterprises (MNEs) and a significant share of cross-border trade in intermediate and final goods and services takes place within their network of affiliates. But the GVC perspective also encompasses arm's length trade with independent buyers and suppliers, including the domestic part of the value chain where small and medium-scale enterprises (SMEs) are involved in the production of inputs that ultimately reach foreign consumers embodied in final goods and services.

The growing fragmentation of production across borders has important policy implications. It highlights the need for countries wanting to reap the gains from value chain participation to have open, predictable and transparent trade and investment regimes as tariffs and other unnecessarily restrictive non-tariff measures impact foreign suppliers, international investors, and domestic producers. It also highlights the need to invest in skills, productive capacity, and infrastructure, as well as the need to address the specific challenges of developing countries, both those that are already participating in production networks but wish to increase domestic value addition and retention and those that are not yet participating in global production networks.

The emergence of GVCs can be observed by looking at how countries increasingly rely on foreign inputs for their own firm exports which may then be further processed in partner countries. Figure 1 illustrates this with a GVC participation index that captures these two dimensions. Between 30% and 60% of G20 countries' exports consist of intermediate inputs traded within GVCs. Comparing 2009 with 1995, GVC participation has increased in almost all G20 economies, and particularly in China, India, Japan and Korea.

The spread of GVCs has been enabled by technological advances that have reduced trade and co-ordination costs. The container ship or the jet engine, for example, have decreased transport costs and facilitated the movement of goods and people. The development of ICT technologies has also been an important driver in the emergence of GVCs as the co-ordination of activities across countries also involves high costs for companies. Such costs were substantially reduced with the Internet and more reliable communication infrastructures.

Figure 1. GVC participation, 1995 and 2009

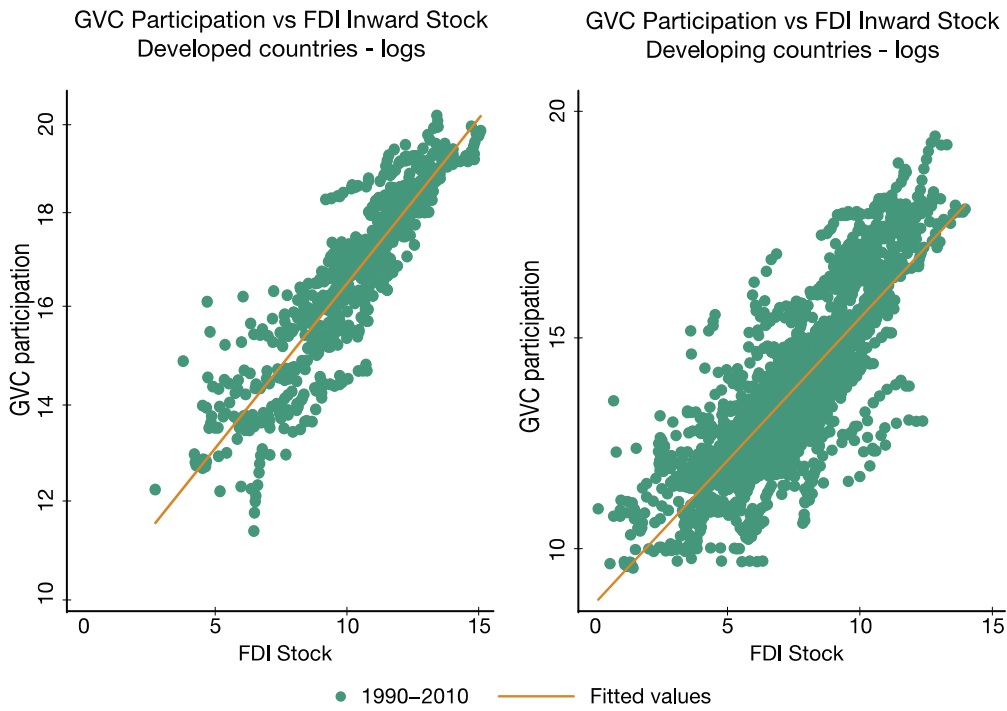


Source: OECD (2013). The index is calculated as a percentage of gross exports and has two components: the import content of exports and the exports of intermediate inputs (goods and services) used in third countries' exports.

The expansion of the operations of MNEs through foreign direct investment (FDI) has been a major driver of growth of GVCs, as illustrated by the close correlation between FDI stocks in countries and their GVC participation (Figure 2). The presence of foreign affiliates is clearly an important factor influencing both imported contents in exports and participation in international production networks.

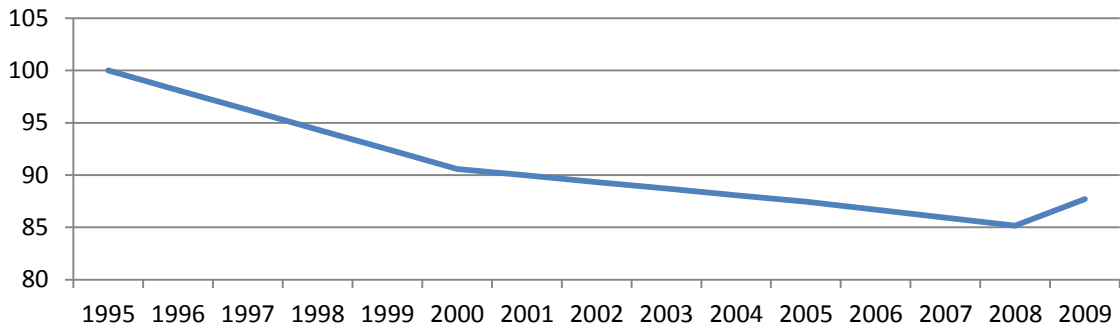
Policies played their role through successive rounds of trade liberalisation for goods and services and international investment arrangements. Specific agreements, such as the Information Technology Agreement, also supported the spread of ICT technologies. Figure 3 provides a broad measure of trade costs encompassing both policy and non-policy related costs, and highlights that between 1995 and 2009 these costs have been significantly reduced in G20 economies.

**Figure 2. FDI and GVC participation, developed and developing countries, 1990-2010**



Source: UNCTAD, *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

**Figure 3. Average bilateral trade costs for goods and services, 1995=100**



Source: OECD Inter-Country Input-Output tables. Trade-weighted average for G20 countries based on years 1995, 2000, 2005, 2008 and 2009. Bilateral trade costs are indirectly inferred from observable trade data.



## PART I.

### GVCS AND TRADE IN VALUE ADDED

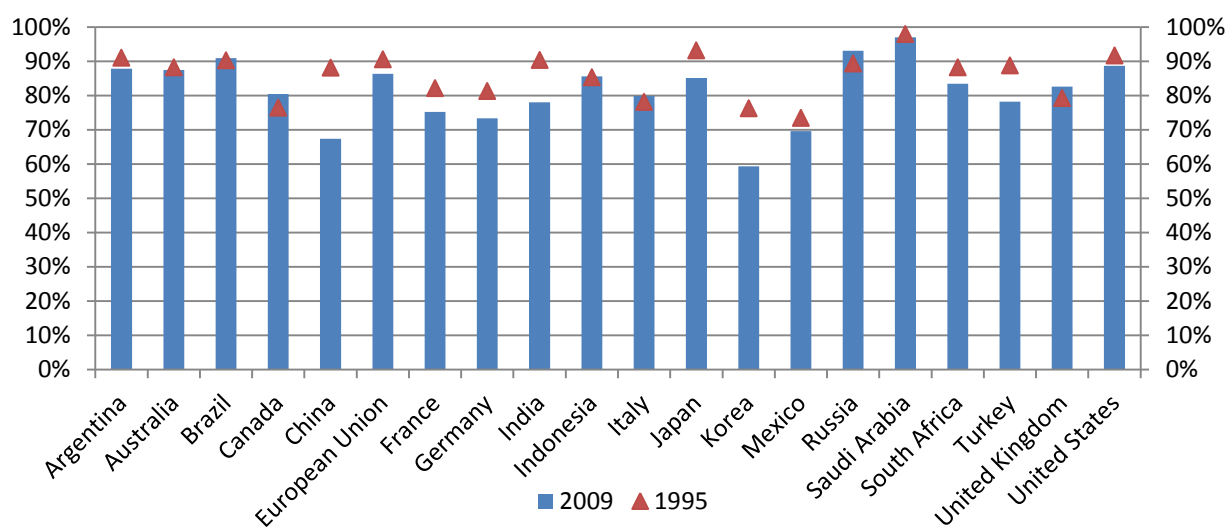
#### 1. Overview of findings from the Trade in Value Added (TiVA) database and GVC indicators

Trade in value added describes a statistical approach used to estimate the sources of value that is added in producing goods and services. It recognises that growing global value chains means that a country's exports increasingly rely on significant intermediate imports and, in turn, value added by industries in upstream countries. For example, a motor vehicle exported by country A may require significant parts, such as engines, seats, etc. produced in other countries. In turn these countries will use intermediate inputs imported from other countries, such as steel, rubber, etc., to produce the parts exported to A. The trade in value added approach traces the value added by each industry and country in the production chain and allocates the value added to these source industries and countries.

The TiVA database provides clear evidence of the increasing international fragmentation of production. In most G20 economies, the domestic content as a share of gross exports has decreased between 1995 and 2009 (Figure 4). Different levels are observed across countries, since the importance of domestic value added is determined by a variety of factors, including the size of the country, the economic structure and the export composition. It is worth noting that despite the heterogeneity in GVCs across products and industries, a lower domestic content is seen in most countries. For countries where the domestic content has increased, this can generally be explained by a composition effect. That is, these countries export more products in industries where the fragmentation of production is less prevalent (e.g. services industries, extraction activities). A lower foreign content does not mean that these countries became less involved in global value chains.

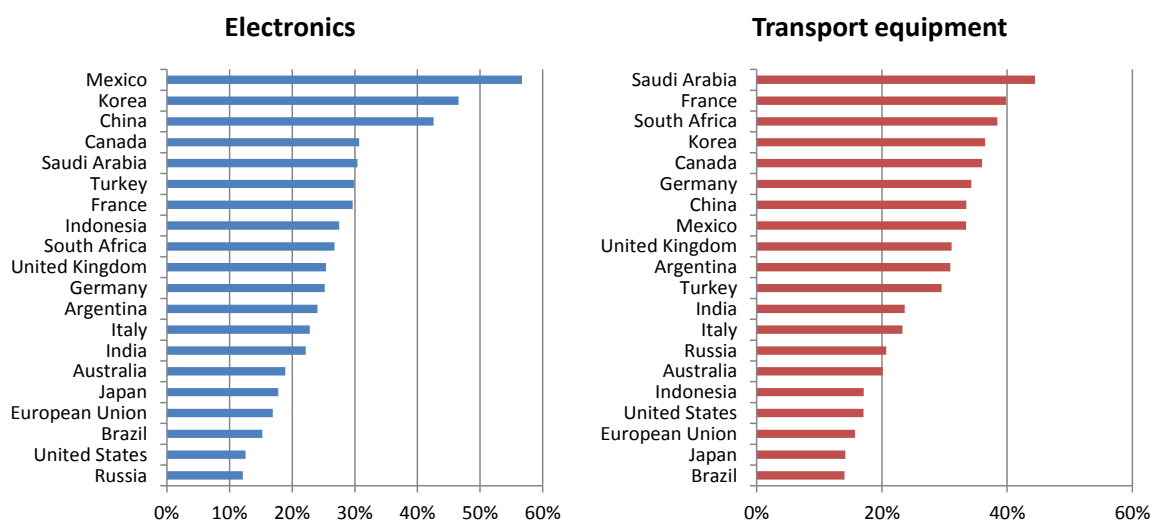
At the industry level, a high foreign content can be observed in the electronics and transport equipment industries (Figure 5). Typically, these sectors involve long and sophisticated value chains where the production of essential parts and components has been offshored. Companies take advantage of differences in costs, skills and technologies across countries, as well as scale economies related to the specialisation in specific stages of production. The electrical equipment industry is also characterised by lower trade costs because of efforts to remove trade barriers for key technological goods, as exemplified by the WTO Information Technology Agreement.

Figure 4. Domestic content of gross exports, % (2009)



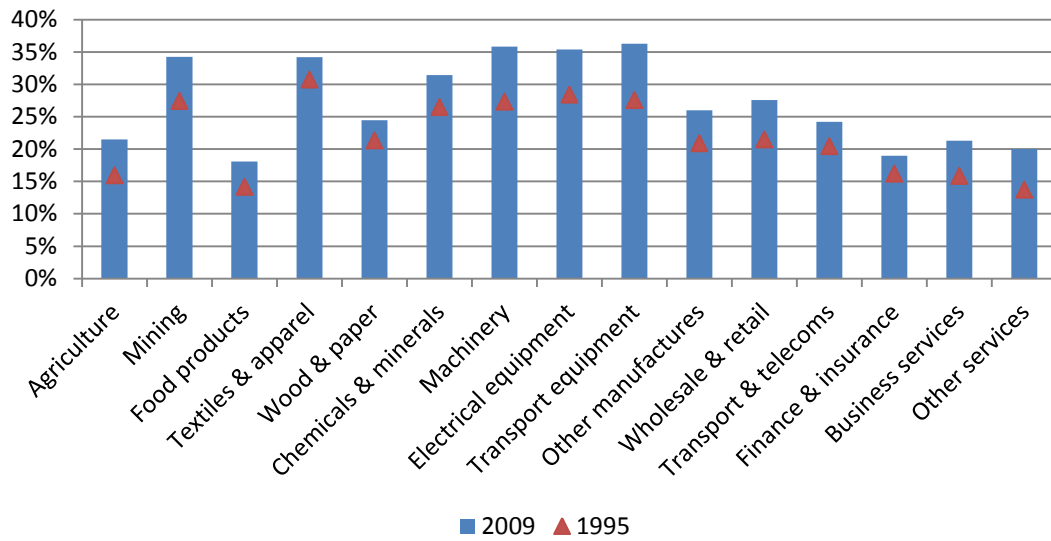
Source: OECD/WTO TiVA database, May 2013 release.

Figure 5. Foreign content of gross exports, electronics and transport equipment, % (2009)



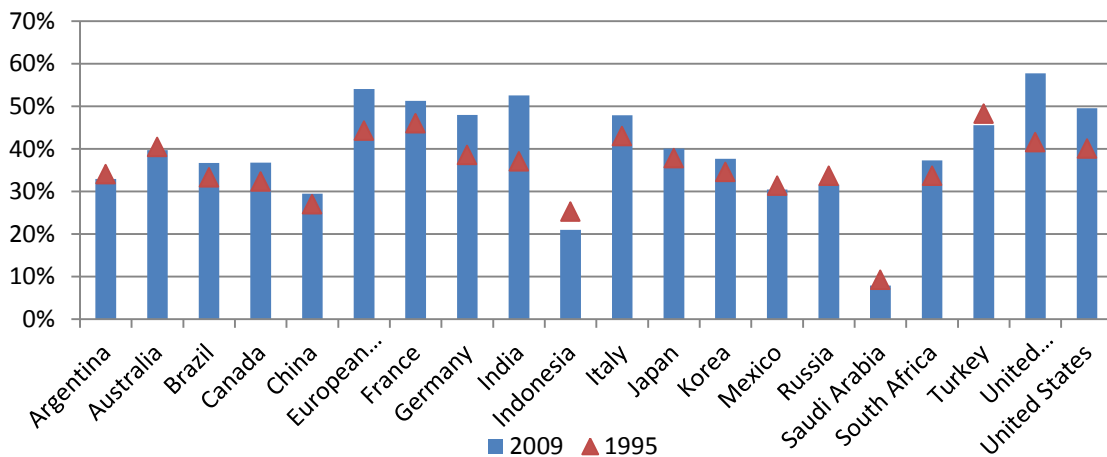
Source: OECD/WTO TiVA database, May 2013 release.

Beyond these two industries, all manufacturing activities and an increasing number of services sectors rely on imported inputs. In industries such as mining, textiles and apparel or machinery, more than one-third of imported intermediate inputs are used to produce exports (Figure 6). Some services sectors, such as distribution (wholesale and retail trade), transport, and telecoms also have high shares, and in all industries the figures for 2009 are above those reported in 1995. These data provide strong evidence of the reality of the fragmentation of production and the increasing use of foreign inputs to boost firm productivity and export competitiveness.

**Figure 6. Intermediate imports embodied in exports, % of total intermediate imports (2009)**

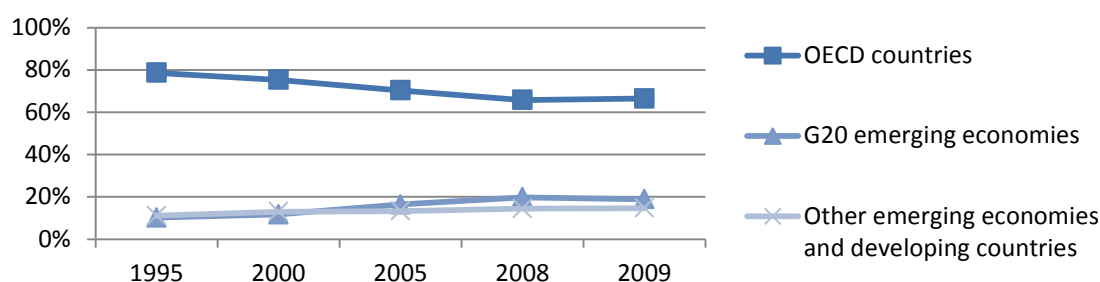
Source: OECD/WTO TiVA database, May 2013 release.

The new TiVA database also reveals that services play a far more significant role than suggested by gross trade statistics. For a long time, trade in services was seen as contributing a small share of world trade (about one fifth). With the value added data, one can see that many services are embodied in goods that are then exported, and hence the services content of trade is much higher when accounting for all the value added originating in the services sector (Figure 7). The average services content of exports for G20 economies is 42% in 2009, and is at or above 50% for countries such as the United States, the United Kingdom, India, France and the European Union as a whole.

**Figure 7. Services value added in gross exports, %**

Source: OECD/WTO TiVA database, May 2013 release.

Figure 8. Value added exports, as a share of world VA exports

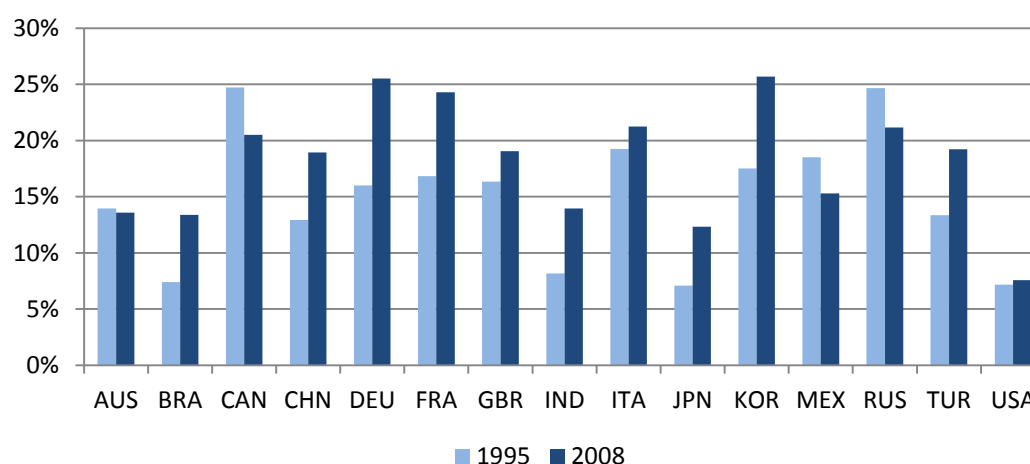


Source: OECD/WTO TiVA database, May 2013 release.

The emergence of global value chains has benefited all G20 economies. The income derived from trade flows within GVCs, measured as the domestic value added embodied in foreign final demand (that is, “exports of value added”), has increased by 106% between 1995 and 2009 (in real terms). However, this income has been to a significant extent redistributed towards emerging economies (Figure 8). Their share in world exports of value added has increased from 21% in 1995 to 34% in 2009. The increase is more pronounced for G20 emerging economies than for other emerging and developing countries. In China, domestic value-added derived from foreign final demand has been multiplied by 6, in India by 5 and in Brazil by almost 3. But not all countries could successfully join global production networks. Regions such as Africa or Latin America (excluding G20 members) still account for a limited share of world GVC income, highlighting the need for new government and firm strategies to enable better access to and upgrading within value chains.

The gains in terms of increased income translate into a higher number of jobs. Figure 9 illustrates that between 1995 and 2008, a higher share of employment consisted of jobs sustained by foreign final demand. The percentage varies according to the size and specialisation of countries but an increase is observed in most economies. Based on preliminary estimates, the share for a country like Germany has almost doubled between 1995 and 2008 with about 10 million jobs sustained by foreign final demand. In the case of China, the number has increased by about two thirds, from 89 million to 146 million.

Figure 9. Jobs sustained by foreign final demand, as a % of total employment



Source: OECD/WTO TiVA database, May 2013 release and STAN, based on preliminary estimates.

The above figures are averages for the whole economy, including services sectors with little exposure to international trade. Looking at the electronics industry, for example, about one third of US jobs and almost 40% of Japanese jobs are derived from foreign final demand.

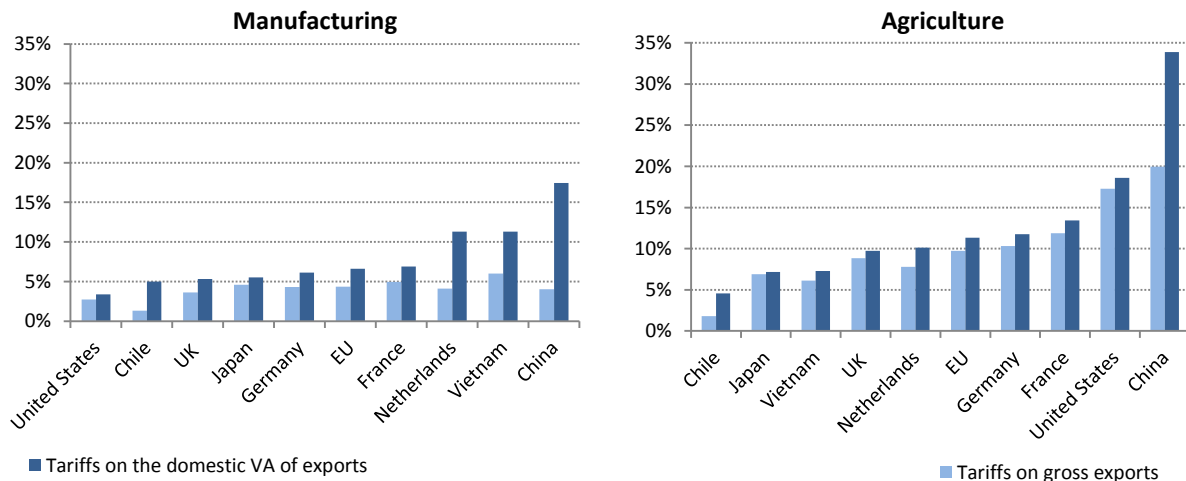
## 2. Trade policy implications

When value chains are global, countries' trade policies become more interdependent and, perhaps more importantly, have more immediate and more pervasive effects. Of course, this interdependence is nothing new. Managing the consequences for one country of another country's policies has been a central part of trade policy and trade negotiations for a long time. What is new is the degree to which and the ways in which global value chains affect trade policy.

### *The cost of protectionism is higher in the context of global value chains*

After more than a half a century of trade liberalisation, nominal tariffs on manufactured products in developed economies are generally low. Although the case is somewhat more mixed for developing countries, the general trend has also been towards lower tariffs. But in a world dominated by GVCs the cost of protection can be higher than generally understood: tariffs are cumulative when intermediate inputs are traded across borders multiple times (unless, of course, particular processing regimes such as duty drawback systems are in place). Downstream firms pay tariffs on their imported inputs and then face tariffs again on the full value of their exports, including on those same inputs. Tariffs can add up to a significant level by the time the finished good reaches customers, dampening demand and affecting production and investment at all stages of a value chain. As shown in Figure 10, nominal duties on gross exports are an incomplete measure of effective tariff barriers. The effective burden for the exporter is better measured by tariffs on the domestic value added of exports.

Figure 10. Tariffs on the gross value and the domestic value-added of exports, 2009



Source: OECD (2013). Applied AVE tariffs, weighted by the share of each sector and destination market in the country's agricultural or manufacturing exports. For EU countries, tariffs are calculated on extra-EU exports.

This effect is especially strong when the foreign content of manufactured goods is high, as is the case for example for exports from China. Even small tariffs can add up and have a sizeable impact on costs. With respect to agriculture, the share of domestic content is often larger but effective tariffs can also be high as the pace of nominal tariff liberalisation has been much slower than in the case of manufactured goods and tariff peaks and escalation remain an

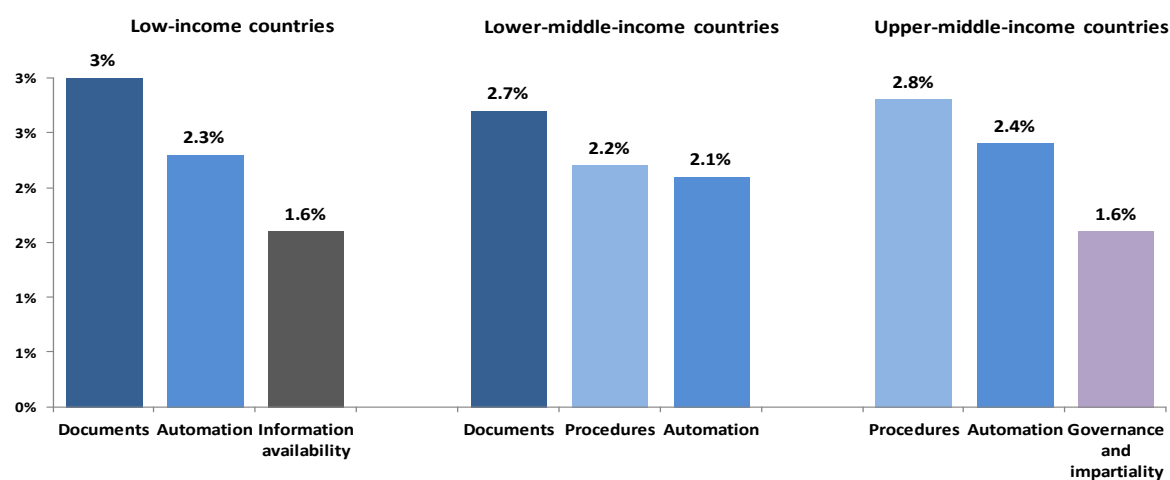
issue. Similarly, currency interventions which may aim at creating a competitive advantage for exporters lose relevance, as any export advantage gained from a cheaper currency is at least partially eroded by the cost of more expensive imported inputs.

### *Multiple border crossings put more emphasis on trade facilitation*

As goods now cross borders many times, first as inputs and then as final products, fast and efficient customs and port procedures are essential to the smooth operation of supply chains. To compete globally, firms need to maintain lean inventories and still respond quickly to demand, which is not possible when their intermediate inputs suffer unpredictable delays at the border. A country where inputs can be imported and exported within a quick and reliable time frame is a more attractive location for foreign firms seeking to outsource production stages. As such, trade facilitation measures are crucial to foster participation in global production networks and global markets.

OECD has developed a set of trade facilitation indicators that identify areas for action and enable the potential impact of reforms to be assessed. These indicators cover the full spectrum of border procedures, from advance rulings to transit guarantees, for 133 countries across income levels, geographical regions and development stages. Analysis shows that trade facilitation measures can benefit all countries in their role as exporters as well as importers, allowing better access to inputs for production and greater participation in the global value chains that characterise international trade today.

**Figure 11. Trade facilitation measures: potential cost reduction in goods trade (%), most beneficial areas for reform, by main income group**



Source: OECD (2013).

Analysis of the indicators also shows that comprehensive trade facilitation reform is more effective than isolated or piecemeal measures. The potential cost reduction of all the trade facilitation measures combined adds up to almost 15% for low-income countries, 16% for lower-middle-income countries, 13% for upper-middle-income countries and 10% for OECD countries. The most beneficial areas for reforms by main income group are as follows:

- Harmonising and simplifying documents would reduce trade costs by 3% for low-income countries and by 2.7% for lower-middle-income countries.

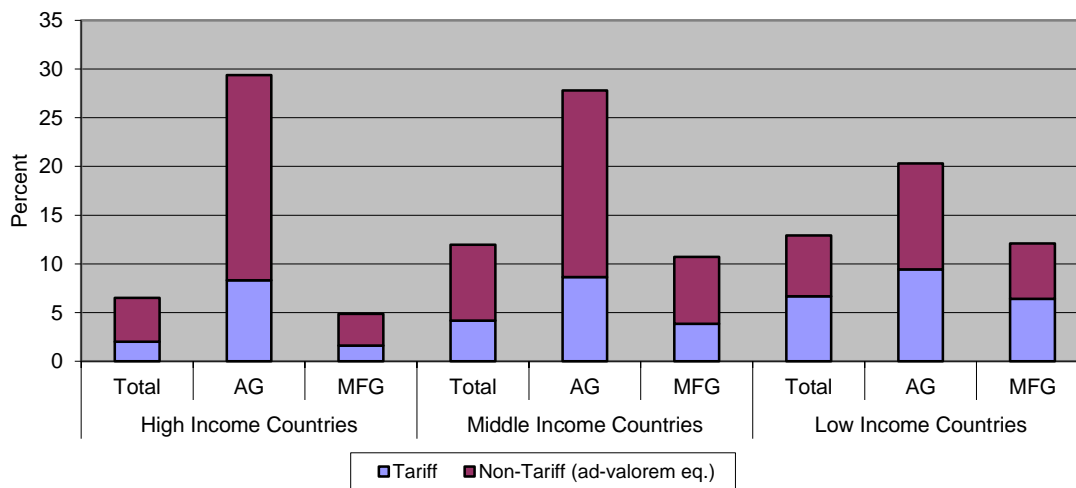
- Streamlining procedures would bring further trade cost reductions of 2.8% for upper-middle-income countries, 2.2% for lower-middle-income countries and 1% for OECD countries.
- Automating processes would also reduce trade costs by 2.3% for low-income countries, 2.1% for lower-middle-income countries, 2.4% for upper-middle-income countries and 2.1% for OECD countries.
- Ensuring the availability of trade-related information would generate cost savings of 2% for OECD countries, 1.6% for low-income countries and 1.4% for lower-middle-income countries.
- Advance rulings on customs matters would also bring cost reductions of 1.5% for lower-middle-income countries, 1.2% for upper-middle-income countries and 1% for OECD countries.

To the extent that the costs for some developing countries prove to be an impediment, this can be mitigated through effective aid for trade measures.

#### *Non-tariff measures raise specific concerns for GVC participation*

Beyond administrative procedures at the border, there is a range of non-tariff measures that also affect producers along the value chain. Although non-tariff measures should not have protectionist intent, they nevertheless can have an impact on trade costs that is of much larger magnitude than tariffs (Figure 12).

**Figure 12. Average level of restrictiveness imposed on imports (agricultural and manufactured goods)**



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

Further increases in trade costs can originate from the required compliance with a multitude of standards and technical regulations which may be particularly burdensome for SMEs that participate in GVCs.

The rising number of quality and safety standards is in part driven by concerns about information, coordination and traceability which are more acute in a world dominated by GVCs. While the need to protect final consumers through appropriate quality standards is

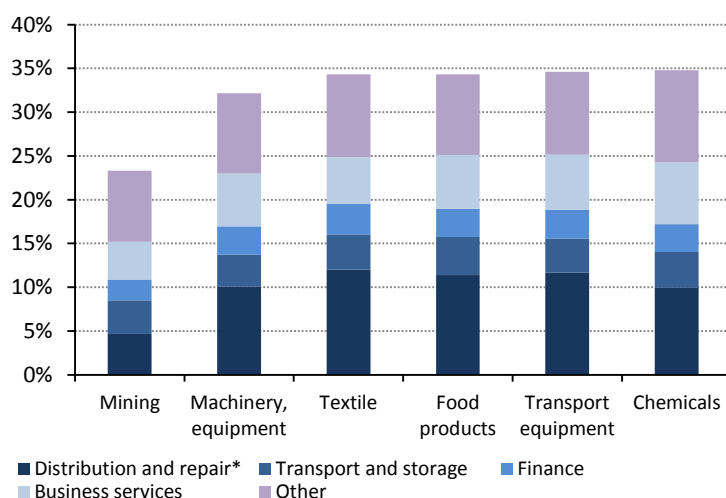
clear, the complexity and above all the heterogeneity of such standards has become one of the main barriers to insertion into GVCs, in particular for small and medium-sized enterprises.

Upstream firms supplying components to several destinations may have to duplicate production processes to comply with conflicting standards, or incur burdensome certification procedures multiple times for the same product. In food value chains, process standards adapted to one country's requirements may render exporting to another country infeasible. Promoting the convergence of standards and certification requirements and encouraging mutual recognition agreements can go a long way to alleviating the burden of compliance and enhancing the competitiveness of small-scale exporters.

### ***Reducing inefficiencies in services markets enhances the competitiveness of all firms***

Global production networks rely on the logistics chain, which requires efficient network infrastructure and complementary services. There would be no GVCs without well-functioning transport, logistics, finance, communication, and other business and professional services to move goods and coordinate production along the value chain. As previously emphasised, trade flows in value added terms reveal that services play a far more significant role than suggested by gross trade statistics. The value created directly and indirectly by services as intermediate inputs represents over 30% of the total value added in manufactured goods (Figure 13). Liberalisation of services trade would allow for more efficient and higher quality services, thus enhancing the competitiveness of manufacturing firms and allowing them to better participate in global production networks.

**Figure 13. Services share of value added in manufacturing trade (2009)**



*Looking at where the value added is generated reveals the high importance of services inputs in "core" manufacturing sectors. Distribution and transport services are the main contributors as they provide the necessary links in supply chains; financial and business services improve the efficiency of goods production.*

\*The share of distribution does not include distribution services for final goods.

Source: OECD (2013).

### ***New competition issues arise with GVCs***

Globalisation has given rise to a new set of international competition issues that is best understood by looking at the global organisation of industries and how countries perform within these industries. In particular, the operations of global value chains highlight how the new patterns of international trade, production and employment that shape prospects for development and competitiveness may be hampered by anti-competitive practices if competition authorities are not vigilant.

Despite increased competitive pressures between economies trading in tasks within global value chains, and notwithstanding the strong enforcement record of many antitrust laws



worldwide, the number of international collusive agreements and anti-competitive mergers is on the rise. While the number of countries that have adopted new antitrust laws has increased to 127 in 2013 from 60 ten years ago, overall enforcement efforts remain mostly concentrated in the OECD countries and a few emerging economies. To ensure that benefits arising from GVCs are not negated by adverse effects of anti-competitive practices on trade and investment, particularly those of developing countries, it is imperative to strengthen enforcement of domestic competition laws and international cooperation in this area.

***Trade agreements have to cope with the new reality of business***

Global value chains are changing the patterns and structure of international trade. Multilateral and regional trade agreements will need to reflect the fact that goods and services are now from “everywhere,” rather than, as they are defined today, from “somewhere.”

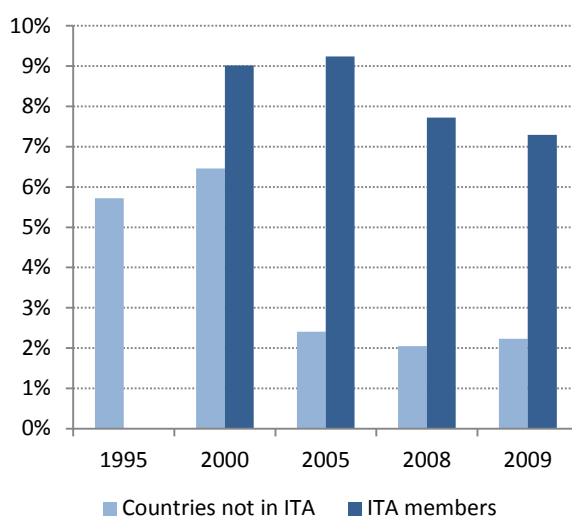
With the emergence of GVCs, the mercantilist approach that views exports as good and imports as bad, and that views market access as a concession to be granted in exchange for access to a partner’s market, is even more clearly counterproductive. Domestic firms depend on reliable access to imports of world class goods and services inputs in order to improve their productivity and their competitiveness. Responses to this reality can be undertaken unilaterally, and have indeed led to unilateral liberalisation in recent years. “First movers” in liberalisation can also be the first to gain from specialisation and improve their position on international markets in downstream industries.

The gains are even greater when more countries participate and markets are opened on a multilateral basis. GVCs strengthen the economic case for advancing negotiations at the multilateral level, as barriers between third countries upstream or downstream matter as much as barriers put in place by direct trade partners and are best addressed together. A good illustration of this approach is the 1997 Information Technology Agreement (ITA), whose success lies in covering as many products and as many countries involved in the IT value chain as possible (Figure 14). The ITA also highlights the benefits of applying the Most Favoured Nation principle even in plurilaterally negotiated agreements, which eliminates “red tape” related to rules of origin and their potential distorting impact on trade.

Sound economics is one thing; political feasibility is another. While multilateral agreements are widely accepted as the best way forward, most of the liberalisation outside of purely unilateral opening has occurred at the regional level in the past two decades. To promote the expansion of GVCs, regional trade agreements (RTAs) are more effective when their membership is consistent with regional production networks. They also have a role to play in deepening integration provisions: the convergence of standards or the recognition of qualifications can start bilaterally or regionally. But the RTAs of the future should be careful to avoid the pitfalls of distorting firms’ choices and losing the connection with the rest of the value chain. For example, looking at rules of origin from the perspective of what would make RTAs more GVC-friendly and increase their impact on firms’ productivity would seem to be a sensible option to explore. Regional value chains could be of particular relevance for achievement of food security and other development goals in areas such as Africa and in particular LDC. In the longer term, consolidating and multilateralising RTAs would help turn the “spaghetti bowl” of preferential agreements into a clearer and more efficient trading regime for all actors in GVCs.

With the deadlock in multilateral trade negotiations, there is a risk that countries will slow the process of trade liberalisation. Unilateral reforms have been successful in the past decade when trade negotiations did not provide companies other opportunities to enter GVCs. There is no reason to abandon such strategies, as they can complement efforts to reach mutually supportive outcomes. However, there are areas, such as the recognition of qualifications or the harmonisation of standards, which require international co-operation.

**Figure 14. ITA membership and participation in IT GVCs  
(participation index in % of gross exports)**



*The ITA removed tariffs on key technology and telecoms products for 75 countries covering 97% of trade in IT products. Over a decade later, ITA members are more involved in GVCs in the sector than non-signatories. The GVC participation index accounts for the import content of exports and for exports of domestic intermediate inputs used in third countries' exports. Before the agreement entered into force, it was under 6% of gross exports on average for all countries. It then increased significantly for signatories, up to over 9% in 2005 before declining slightly during the crisis, while non-members remain on the sidelines of IT value chains.*

Source: OECD (2013).

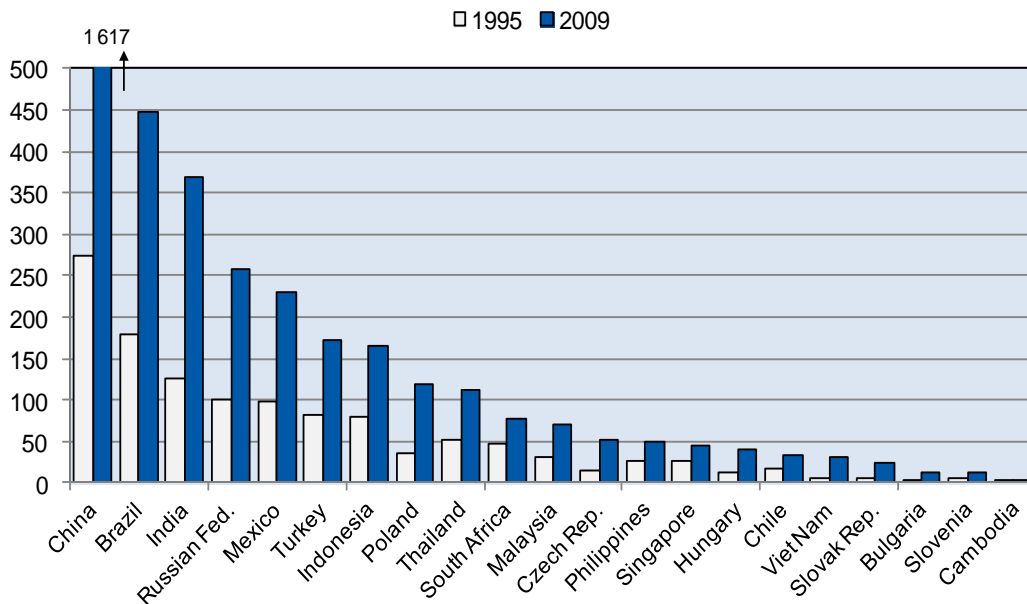
In a world of GVCs, fostering the building of a complete value chain is a huge task. However, even where this is not optimal or even possible, governments can nevertheless encourage firms to join an existing global value chain, which may have low entry barriers and enable firms to realise export success relatively quickly and at low cost. Indeed, this can provide increased opportunities: rather than being obliged to develop vertically integrated industries (producing both intermediates and final products), firms can become export-competitive by specialising in specific activities and tasks. For example, China specialised in the assembly of final products in the electronics industry and has become the largest exporter of ICT products; other countries specialised in the assembly of intermediates (e.g. sub-systems for motor vehicles in Mexico), the production of parts and components, or ICT services, e.g. India.

The experience of a number of emerging economies demonstrates that this engagement in GVCs can offer a fast track to development and industrialisation. The value added that some emerging economies have gained from participation in manufacturing GVCs has increased steadily over time (Figure 15). Motivated by the success of these economies, other developing and emerging economies are also aiming to increase participation in international production networks. Specialization in specific tasks such as automobile parts has allowed engagement in value chains in ways which would not have been possible just a decade ago. Developing countries wanting to participate in GVCs will need to consider how they can open to foreign trade and investment, strengthen trade facilitating measures and reform the business environment as core components of any strategy to participate in GVCs.

But this is clearly only part of the story. The particular situation and development objectives of any economy need to be taken account of as an integral part of any strategy. What is needed is a tailored approach for particular situations and much would need to be done for those developing countries which are currently experiencing the greatest difficulty in getting engaged in value chains. Recognizing that, it is also clear that there are some broad areas that require particular attention in many cases. Skills and infrastructure are very important elements in any strategy to participate in value chains and these are often areas where developing countries, particularly LDCs, face considerable challenges including in terms of mobilizing foreign and domestic financial resources. In addition, improving public governance, the tax system and corporate governance framework may also often be important.

Aid for trade initiatives and trade facilitation can have an important role to play in supporting the efforts of less developed countries. But beyond this, what is needed are country-specific strategies and future work needs to give more emphasis to this aspect.

**Figure 15. Income derived from GVCs in manufacturing, selected economies, 1995 and 2009**



Source: OECD (2013).

Another important dimension for emerging and developing countries relates to their involvement not just as passive ‘recipients’ of GVCs but as active creators of GVCs. This can be seen in the rapidly growing shares of international investment originating from emerging economies. An interesting feature of international investment from emerging economies is that it has involved significant investment from state-owned enterprises (SOEs). As a greater share of international investment comes to be controlled by SOEs, these firms might become more prevalent in GVCs. Concerns have been expressed over the effects of this investment on competition and markets, and, within GVCs, how SOE concentration in upstream markets might eventually have implications on firms further downstream.

A final point relates to the social implications of GVCs. GVCs are more than just an efficient way of producing goods and services. They are also an international channel for ideas. These ideas can take the form of new knowledge and innovations, as embodied in intermediate goods and services and production methods. They can also convey social expectations of responsible business conduct. Governments are recognising this and are seeking to leverage this dimension of GVCs, which is increasingly aligned with firms' interest in reputation and branding as a way of ensuring their future in global value chains. In order for developing countries to reap the full benefits of participating in global value chains, it is essential that business be conducted in a manner respectful of human rights and dignity as prescribed by the OECD Guidelines for Multinational Enterprises, and by ILO and UN recognized standards.

### 3. The importance of complementary policies, starting with skills

The benefits of GVCs do not accrue automatically, and complementary policies are needed to achieve positive effects on growth and employment. Moreover, the process of GVC-induced growth necessarily entails the reallocation of resources away from less productive activities to more productive ones, and this can mean that, even as average wages and employment conditions improve, some workers may experience unemployment or may see their real wages decline as they change jobs.

Facilitating this adjustment process and helping displaced workers find a new job is crucial, and requires well-designed social policies and a well-functioning labour market. For example, effective re-employment services can help the unemployed find new job opportunities. Training programmes and even publically subsidised work-experience programmes can help dislocated workers take advantage of new job opportunities. The next stage of the joint OECD/WTO TiVA project will focus specifically on this crucial issue of trade in value added and jobs.

A broad package of labour and product market reforms is more likely to deliver larger overall gains in job creation and labour market performance than individual reforms. For instance, several countries have recently announced or implemented reforms to tackle labour market duality by reducing the gap in employment protection between permanent and temporary workers. The impact of such reforms both on employment growth and on the efficiency in the allocation of labour to the most productive uses could be boosted by competition-enhancing product market reforms in sectors in which there is a strong potential for job creation, such as retail trade and professional services.

Labour market and social policies are important, but cannot help address the main challenge, which concerns skills. Without sufficient investment in skills, people languish on the margins of society, technological progress and involvement in GVCs do not translate into productivity growth, and countries can no longer compete in an increasingly knowledge-based global economy.

At a time when growing economic and social inequalities are a major challenge, effective skills policies must therefore be part of any response to address this challenge. But skills can quickly depreciate as skill requirements evolve and individuals lose the skills they do not use. For skills to retain their value, they must be continuously maintained and upgraded throughout life so that people can collaborate, compete and connect in ways that drive economies forward. An effective skills strategy is therefore key to engagement and upgrading in GVCs and to the necessary adjustment.

## PART II.

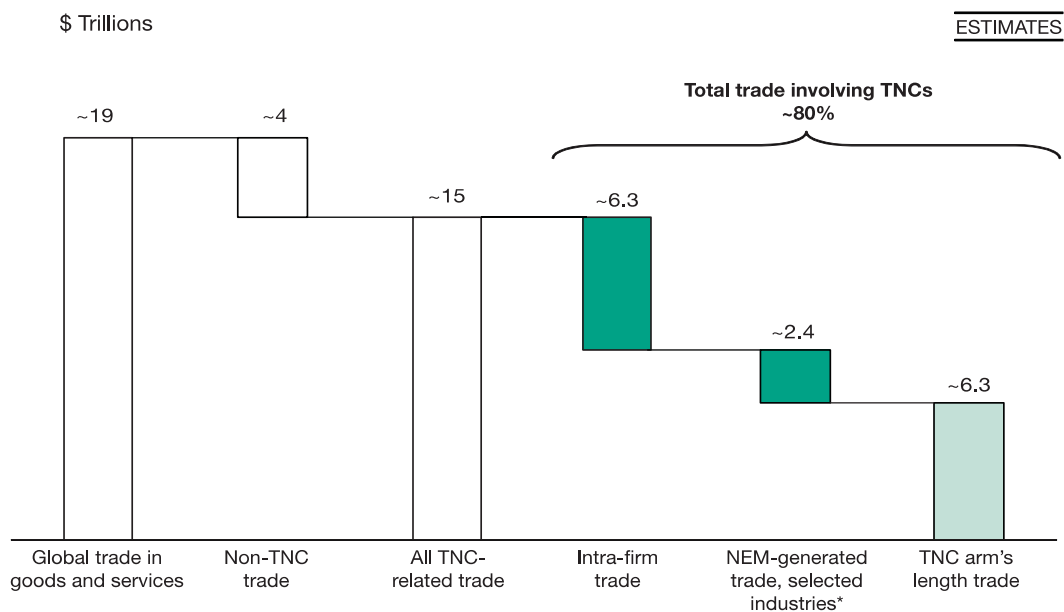
### GVCs, INVESTMENT, AND DEVELOPMENT<sup>1</sup>

#### 1. GVCs and investment

##### *Investment decisions of MNEs impact on patterns of value added trade in GVCs*

GVCs are typically coordinated by MNEs, with cross-border trade of inputs and outputs taking place within their networks of affiliates, contractual partners and arm's-length suppliers. MNE-coordinated GVCs are estimated to account for some 80% of global trade (Figure 16).

**Figure 16. Global gross exports (goods and services), by type of MNE involvement, 2010**



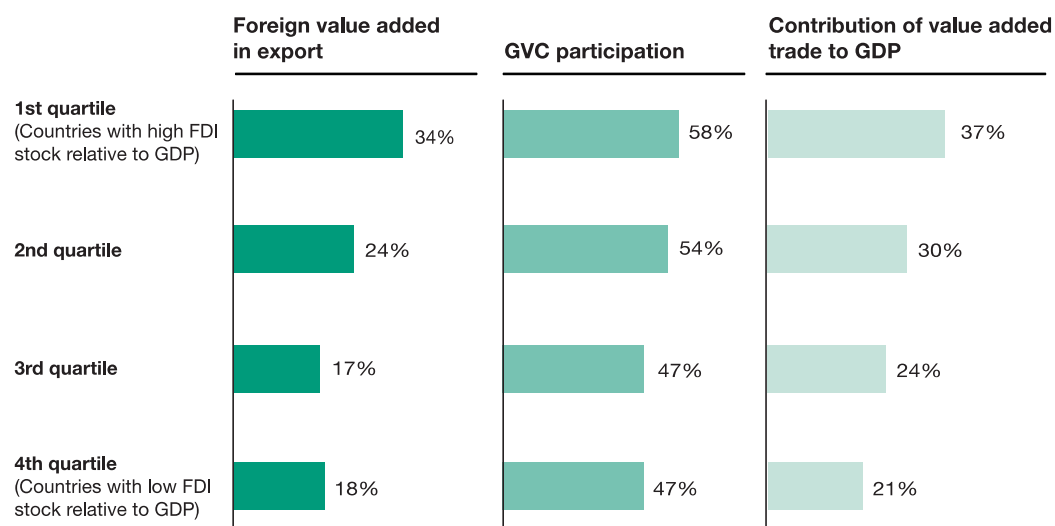
Source: UNCTAD, *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

Patterns of value added trade in GVCs are thus shaped to a significant extent by the investment decisions of MNEs. Countries with a higher presence of FDI relative to the size of their economies tend to have a higher level of participation in GVCs and to generate relatively more domestic value added from trade (Figure 17).

1. For a fuller discussion of the material presented in this section see OECD (2013), *Interconnected Economies: Benefiting from Global Value Chains*, and UNCTAD (2013), *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

MNEs coordinate GVCs through complex webs of supplier relationships and various governance modes, from direct ownership of foreign affiliates to contractual relationships (in non-equity modes of international production, or NEMs), to arm's-length dealings. These governance modes and the resulting power structures in GVCs have a significant bearing on the distribution of economic gains from trade in GVCs and on their long-term development implications.

**Figure 17. Key value added trade indicators, by quartile of inward FDI stock relative to GDP, 2010**



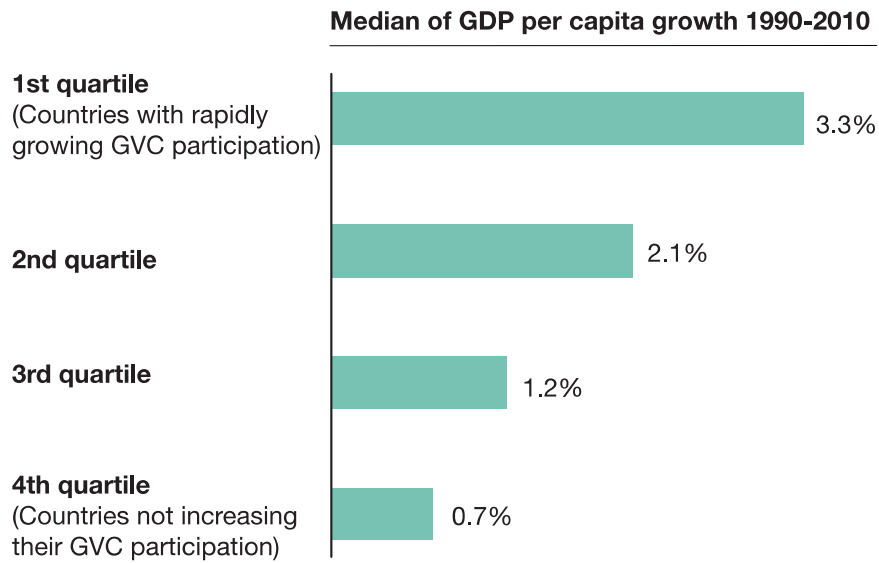
Source: UNCTAD, *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

***Investment in GVCs can generate development benefits, but these are not automatic: policies matter***

Domestic value added created from GVC trade can be very significant relative to the size of local economies and make an important economic contribution. There is also a positive correlation between participation in GVCs and GDP per capita growth rates: economies with the fastest growing GVC participation have GDP per capita growth rates some 2 percentage points above the average (Figure 18). Furthermore, GVC participation tends to lead to job creation in developing countries and to higher employment growth, even if GVC participation depends on imported contents in exports.

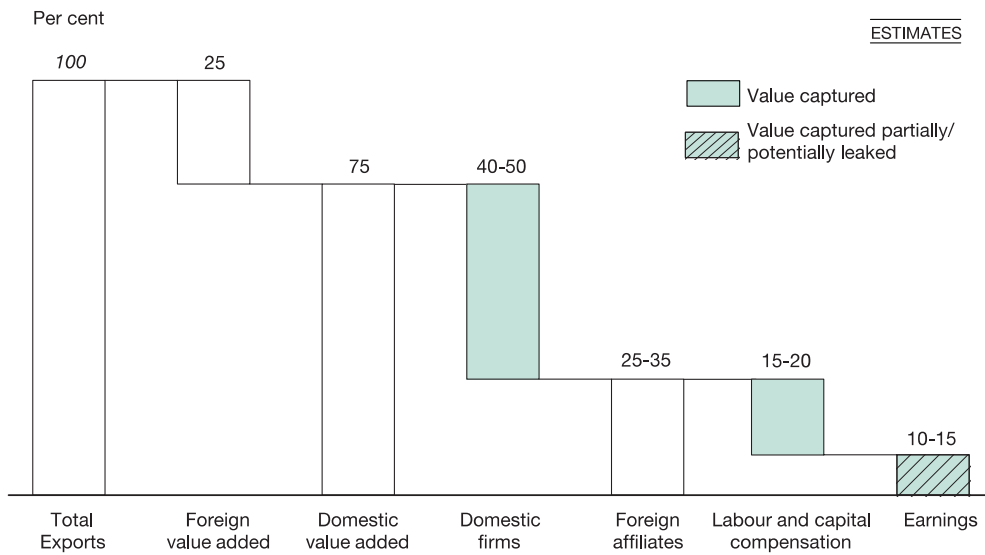
But the experiences of individual economies have been mixed. The value added contribution of GVCs can be relatively small where imported contents of exports are high and where GVC participation is limited to low-skilled and low-value parts of the chain. Also, a large part of GVC value added in developing economies is generated by affiliates of MNEs, which can lead to relatively low “value capture” – the share of value added in exports that remains in domestic hands (see Figure 19 for estimates of the distribution of value capture). Foreign affiliates may repatriate earnings on GVC trade, and the total value added created in individual economies can be influenced by profit shifting by MNEs. However, even where exports are driven by MNEs, the value added contribution of local firms in GVCs is often very significant. And reinvestment of GVC earnings by foreign affiliates is, on average, almost as significant as repatriation.

**Figure 18. GDP per capita growth rates by quartile of growth in GVC participation, developing economies only, 1990–2010**



Source: UNCTAD, *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

**Figure 19. Value capture in GVCs: value added trade shares by component, developing country average, 2010**



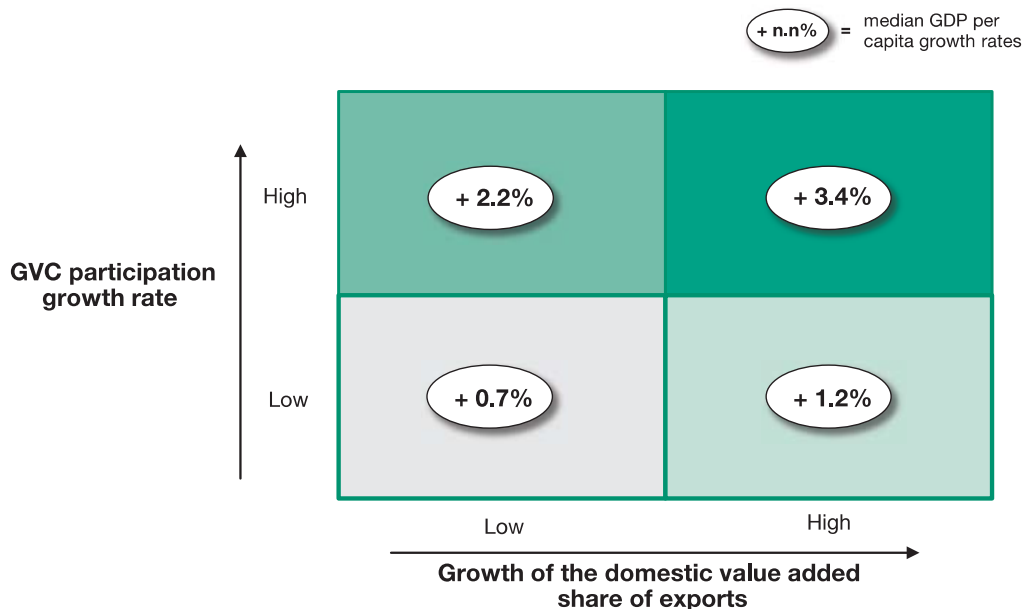
Source: UNCTAD, *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

As to employment gains, pressures on costs from global buyers can mean that GVC-related employment may be unstable and may involve poor working conditions, with occupational safety and health a particular concern, although it should be recognized that this challenge is not limited to GVCs. Also, stability of employment in GVCs can be low as fluctuations in demand are reinforced along value chains, and GVC operations of MNEs can be footloose. Nonetheless, with the support of appropriate policy frameworks (see next section) GVCs can serve as a mechanism to transfer international best practices relating to social and environmental issues.

Longer-term, GVCs can be an important avenue for developing countries to build productive capacity, including through technology dissemination and skill building, opening up opportunities for industrial upgrading. However, the potential long-term development benefits of GVCs are not automatic. GVC participation can cause a degree of dependency on a narrow technology base and on access to MNE-coordinated value chains for limited value added activities.

At the firm level, the opportunities for local firms to increase productivity and upgrade to higher value added activities in GVCs depend on the nature of the GVCs in which they operate, the governance and power relationships in the chain, their absorptive capacities, and the business and institutional environment in the economy. At the country level, successful GVC upgrading paths involve not only growing participation in GVCs but also higher domestic value added creation. Accessing GVCs and increasing participation in GVCs is not enough; the best development outcome results from increased GVC participation as well as increased domestic value added creation (see top right quadrant in Figure 20).

**Figure 20. GDP per capita growth rates for countries with high/low growth in GVC participation, and high/low growth in domestic value added share, 1990–2010**



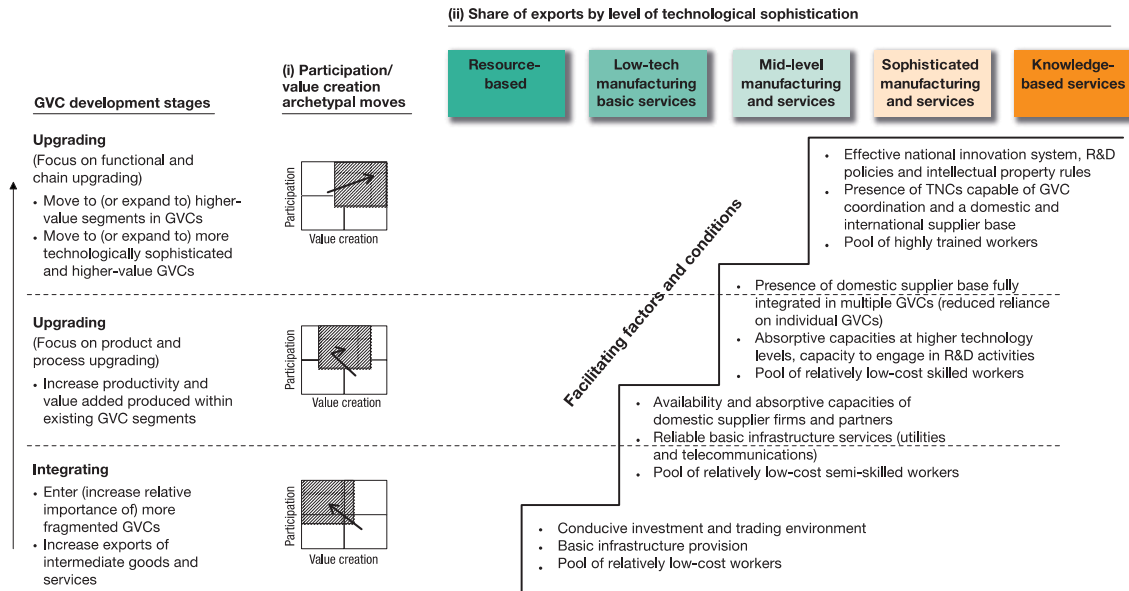
Source: UNCTAD, *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

Successful GVC upgrading paths further depend not just on value added trade considerations of participation and domestic value creation. They also depend on gradual expansion of participation in GVCs of increasing technological sophistication, moving from resource-based exports to exports of gradually increasing degrees of technological sophistication. Figure 21 illustrates the different dimensions that play a role: (i) the value



added trade matrix, and (ii) the export portfolio from resource-based exports to knowledge-based exports. At each step on the GVC development ladder there are a number of facilitating factors and conditions that can help developing country policy makers.

**Figure 21. Factors and conditions that facilitate climbing the GVC development ladder**



Source: UNCTAD, *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

## 2. Key policy considerations

### *Whether or not actively to promote GVCs is a strategic choice for policymakers*

Countries need to carefully weigh the costs and benefits of proactive policies to promote GVCs or GVC-led development strategies, in line with their specific situation and factor endowments. Some countries may decide not to promote GVC participation. Others may not have a choice: for the majority of smaller developing economies with limited resource endowments there is often little alternative to development strategies that incorporate a degree of participation in GVCs. The question for those countries is not so much *whether* to participate in GVCs, but *how*. In reality, most are already involved in GVCs one way or another. Promoting GVC participation requires carefully tailored measures which are also coherent with a country's overall development strategy.

If countries decide to actively promote GVC participation, policymakers should first determine where their countries' trade profile and industrial capabilities stand and evaluate realistic GVC development paths. Subsequently, gaining access to GVCs, benefiting from GVC participation and realizing upgrading opportunities in GVCs requires a structured approach that covers a number of policy dimensions, including:

- embedding GVC policies within the broader development framework, including policies aimed at supporting private sector development;
- creating a conducive investment environment and building productive capacities in local firms;
- putting in place a strong environmental, social and governance framework; and
- ensuring coherent trade and investment policies.

*(i) Embedding GVCs in a development strategy*

Policies aimed at supporting a country's involvement in GVCs should not be developed in isolation from the broader context of a country's development strategies and efforts to support private sector development. A broad range of policy areas can influence a country's ability to become involved in and benefit from GVCs. These include education policy and skills development, infrastructure development, initiatives to improve public governance, the tax framework, and the corporate governance framework, to name but a few.

In addition, policies focused on final goods and services are less effective in a global economy characterized by GVCs:

- GVC-related development strategies require more targeted policies focusing on fine-sliced activities in GVCs. They also increase the need for policies dealing with the risk of the middle-income trap, as the fragmentation of industries increases the risk that a country enters an industry only at its low-value and low-skill level.
- The need to upgrade in GVCs and move into higher value added activities strengthens the rationale for building partnerships with lead firms for development. At the same time, GVCs call for a regulatory framework to ensure joint economic and social and environmental upgrading to achieve sustainable development gains.
- Finally, GVCs require a more dynamic view of development. Development strategy and industrial development policies should focus on determinants that can be acquired or improved in the short term and selectively invest in creating others for medium- and long-term investment attractiveness, building competitive advantages along GVCs, including through partnerships with business.

For policy makers, a starting point for the incorporation of GVCs in a development strategy is an understanding of where their countries and their industrial structures stand in relation to GVCs. That should underpin an evaluation of realistic GVC development paths, exploiting both GVC participation and upgrading opportunities.

*(ii) Enabling participation in GVCs*

Enabling the participation of local firms in GVCs implies creating and maintaining a conducive environment for investment and trade, and putting in place the infrastructural prerequisites for GVC participation. A conducive environment for trade and investment refers to the overall policy environment for business, including trade and investment policies, but also tax, competition policy, labour market regulation, intellectual property, access to land and a range of other policy areas (see for example the OECD's Policy Framework for Investment and UNCTAD's Investment Policy Framework for Sustainable Development, which address relevant trade and other policy areas). Trade and investment facilitation is particularly important for GVCs in which goods now cross borders multiple times and where there is a need to build up productive capacity for exports.

Providing reliable physical and "soft" infrastructure (notably logistics and telecommunications) is crucial for attracting GVC activities. Developing good communication and transport links can also contribute to the "stickiness" of GVC operations. As value chains are often regional in nature, international partnerships for investment in infrastructure development can be particularly beneficial.

Policies to assist SMEs and to encourage entrepreneurship can also help deepen domestic participation in GVCs. Such policies can include addressing financing constraints faced by SMEs and start-ups, cutting red tape, and helping SMEs achieve international standards for responsible business conduct. Policymakers should consider effective application of anti-trust

law to ensure, *inter alia*, that there is no abuse of market power in relations between e.g. smaller suppliers and large purchasers in GVCs.

*(iii) Providing a strong environmental, social and governance framework*

A strong environmental, social and governance framework and policies are essential to maximizing the sustainable development impact of GVC activities and minimizing risks. Host countries have to ensure that GVC partners observe international core labour standards. Equally important are the establishment and enforcement of occupational safety, health and environmental standards in GVC production sites, as well as capacity-building for compliance. Buyers of GVC products and their home countries can make an important contribution to safer production by working with suppliers to boost their capacity to comply with host country regulations and international standards.

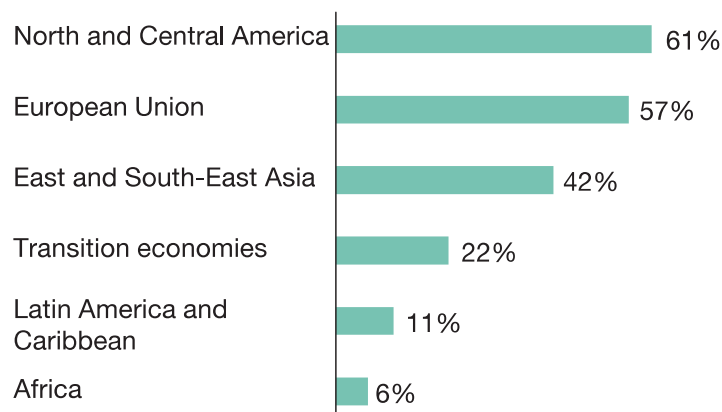
International policy frameworks, such as the ILO Tripartite Declaration, the United Nations Global Compact, and the OECD Guidelines for Multinational Enterprises can play an important role in supporting responsible business conduct in GVCs. Although implementation of standards for responsible business conduct below the first tier of the supply chain remains challenging, the incorporation of supply chain due diligence, and multi-stakeholder initiatives, based upon instruments such as the UN Guiding Principles on Business and Human Rights and the OECD Guidelines on Multinational Enterprises, hold promise for addressing such challenges. The International Conference on the Great Lakes Region-OECD-UN Forum on due diligence in the mineral supply chains is a good example of the potential of such multi-stakeholder approaches for coordinating the actions of business, civil society, home and host-state governments, and development assistance agencies to respond to responsible business conduct challenges in GVCs.

*(v) Ensuring coherence between trade and investment policies*

As investment and trade are inextricably linked in GVCs, it is crucial to ensure coherence between investment and trade policies. Avoiding inconsistent approaches requires paying close attention to those policy instruments that may simultaneously affect investment and trade in GVCs.

The current international investment regime does not adequately reflect the interconnected nature of economies in GVCs. Increased multilateral co-operation and co-ordination are important to maintain the open and predictable international investment climate that has supported international investment in GVCs to date. In the meantime, policymakers need to be aware of potential interactions and overlaps between international investment and trade law with a view to promoting policy synergies and avoiding inconsistencies.

Regional trade and investment agreements are particularly relevant from a value chain perspective, as regional liberalization efforts are shaping regional value chains and the distribution of value added. Many value chains are more regional in nature than global, and most value chain hubs thrive only with strong regional supply bases. Regional chains are strong especially in Europe, North America and East and South-East Asia, but weaker in Latin America and in Africa (Figure 22). The relevance of regional value chains shows the potential for using trade and investment agreements in broader cooperative efforts for regional industrial development. Such efforts could focus on liberalization and facilitation of trade and investment and establish joint investment promotion mechanisms and institutions. They could extend to other policy areas important for enabling GVC development, such as the harmonization of regulatory standards and convergence of standards on environmental, social and governance issues. And they could aim to create cross-border industrial clusters through joint investments in GVC-enabling infrastructure and productive capacity building.

**Figure 22. Share of intraregional GVC flows in total GVC participation, major regions, 2010**

Source: UNCTAD, *World Investment Report 2013 – GVCs: Investment and Trade for Development*.

### ***The broader investment policy framework remains important to benefit from GVCs***

Specific measures to promote and facilitate investment in GVCs can be successful if they take place within the context of, and not substitute for, broader policies for improving the investment environment. Policy tools such as the OECD’s Policy Framework for Investment and UNCTAD’s Investment Policy Framework for Sustainable Development have been designed around the whole-of-government approaches needed to establish an environment conducive to receiving international investment linked to GVCs.

As governments become more aware of the role of international investment in GVCs, inward investment policies increasingly target individual production stages and tasks instead of industries. Governments may therefore be tempted to create a new generation of investment incentives aimed at specific sections of GVCs that appear to add more value. This could give rise to incentive wars for “prized” parts of certain value chains. In the absence of disciplines or international co-ordination of investment incentives, this could effectively transfer a share of the value created to international investors, at significant cost to taxpayers.

This is particularly a concern in the current context of weak growth, as governments are under intense pressure to assist domestic companies and to preserve jobs. As a result, they may sometimes resort to policies or practices that discriminate against foreign investors or discourage outward investment. They may also be tempted to yield to this pressure in informal and diffuse ways that are not manifested as policy changes, thereby undermining investors’ confidence that frameworks in host countries are predictable and transparent. Strengthening multilateral co-operation and avoiding such policies can help ensure that the multilateral investment system continues to strengthen GVCs and support future growth.

## CONCLUSIONS AND NEXT STEPS

The increasing international fragmentation of production that has occurred in recent decades has challenged conventional perceptions of trade and investment. There is a new understanding that traditional statistics may not best facilitate optimal policy measures and that sound policymaking requires more adequate and accurate data. The OECD, WTO and UNCTAD have started to provide new metrics and will extend their work to better assess the impact of GVCs on trade, investment, development, growth and jobs.

The message from on-going work presented in this report is clear: Global value chains are the consequence of and depend upon open markets, and need to be complemented with appropriate policy frameworks including for strengthening of productive capacities. The fragmentation of production in GVCs should also be accompanied by at least a changed emphasis in trade and investment policies which takes more actively into account the growing interdependence between policy stances of exporters and importers, host countries and home countries. Moreover, ambitious economic integration agreements that more coherently cover all dimensions of market access (not least access to key inputs) can help countries to maximise the gains from production sharing. At the same time, open and stable trade and investment policies need to be accompanied by a range of other sound policies to pave the way for any economy to access, and benefit from, those value chains. One of the key challenges remaining is to properly understand and address the obstacles to such participation in those economies, particularly some developing economies, which are currently less able to access and benefit from value chains. Finally, international competition in GVCs will entail adjustment costs, as some activities grow and others decline, and as activities are relocated across countries. Policy needs to facilitate the adjustment process, including through well-designed productive capacity-building measures, environmental sustainability and labour market, social and competition policies, and through investment in education and skills, as well as infrastructure and technology.

International co-operation can help to reap the full benefits of GVCs and to ensure that new strategies of firms benefit all. Opportunities exist within the G20 structural policy agenda to address some of the policy challenges. The work initiated by the OECD and WTO, together with a network of international organisations and partner institutions, including UNCTAD, should be strengthened and mainstreamed. OECD is ready to establish and maintain an observatory that would invite widespread collaboration on future work related to measuring trade in value added terms and the implications of GVCs, as proposed during the G20 Russian Presidency – OECD Stocktaking Seminar on GVCs held in Paris on 29 May 2013.

### *For more information*

Visit the OECD-WTO TiVA Database and analysis [OECD-WTO Trade in Value Added](#).

Visit UNCTAD's [World Investment Report 2013](#).