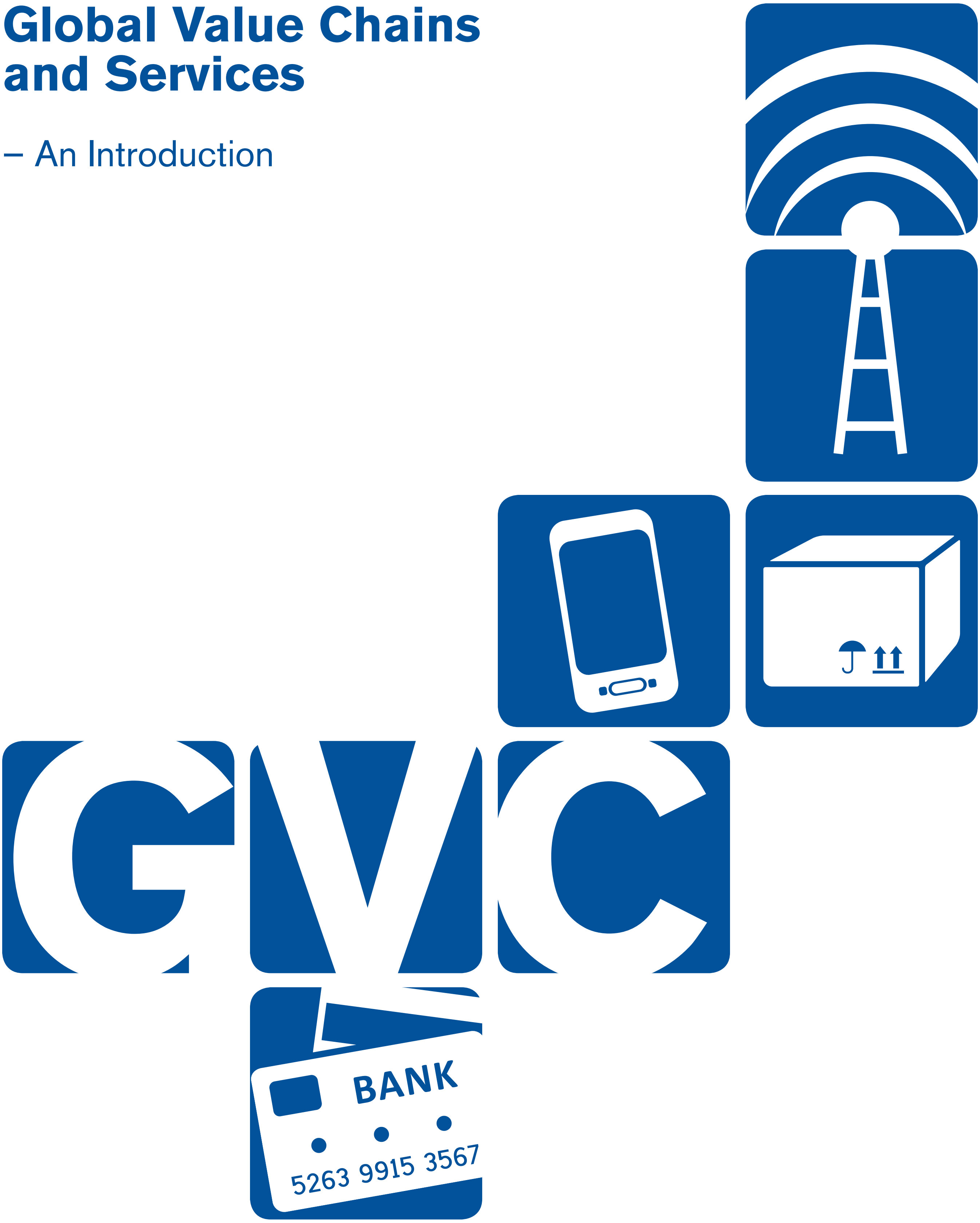
Kommerskollegium 2013:1

Global Value Chains and Services

– An Introduction



Kommerskollegium
National Board of Trade

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

As the expert authority in trade and trade policy, the Board provides the Government with analyses and background material, related to ongoing international trade negotiation as well as more structural or long-term analyses of trade related issues. As part of our mission, we also publish material intended to increase awareness of the role of international trade in a functioning economy and for economic development. Our publications are the sole responsibility of the National Board of Trade.

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

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

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Foreword

Trends and developments in international trade, as well as their trade policy implications, are crucial parts of the National Board of Trade's analytical work. This includes services trade – and the role of services in trade and production. The role of global value chains (GVCs) in international trade and their implication for trade policy is thus naturally a focus area. Services are indispensable in all value chains. GVCs depend on enabling services for their existence and functioning. Pure services value chains with a global remit are also increasingly being created. These phenomena are discussed in this report. This report aims to link the policy discussions on services in GVCs to the Board's previous work on the servicification of manufacturing companies. Those companies are increasingly buying, producing, selling and exporting services, thus blurring the line between goods and services companies. In this publication, we discuss how the policy conclusions from the Board's studies on servicification are also relevant in the GVC context.

The report aims to provide an introduction to the subject matter and can be read in parallel to a new report from the Board on a services value chain in the game industry: *Minecraft Brick by Brick – A Case Study of a Global Services Value Chain*. Together they provide a services perspective to the series of reports on GVCs previously published by the Board. All reports can be downloaded from: http://www.kommers.se/in-english/global-value-chains/

This report is written by Andrew Jenks and Sofia Persson with the help of Magnus Rentzhog, Emilie Anér and Robert Leijon.

Stockholm in February 2013

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Executive Summary

Global value chains (GVCs) is one of the most important factors shaping international trade today. A global value chain includes the full range of activities that firms undertake to bring a product or service from its conception to its end-use by final consumers. These activities include design, production, marketing and support. A separate but closely related phenomenon is that of *servicification*, whereby manufacturing firms increasingly buy, produce, sell and export services as integrated or accompanying parts of their primary offer.

Services are a critical but often overlooked part of the GVC phenomenon. They are playing an ongoing critical role in the transformation of international trade and investment patterns, both through enabling the development of value chains and through the creation of value chains in their own right.

The enabling services in GVCs support the creation of value chains in both goods and services and include a variety of key services such as communications, insurance, finance, computer and information services, and other business services. These enabling services are important since the competitiveness of GVCs in goods is dependent upon efficient services inputs.

Services are also being disaggregated and traded as separate tasks. Firms are outsourcing not only the assembly of goods but also many services-related tasks. Information technology services support this phenomena whereby services can be separated from consumption and scaled up, creating higher value added final services. There has been little research to date on pure services value chains, nonetheless services experts believe that such chains are being created in a variety of service sectors, including banking, tourism, audiovisual and possibly also education and health services, as well as IT and business processing services.

Trade analysis has only recently started to investigate how comparative advantage is defined or modified when trade is mainly about intermediate products and services. It might be that for the most part GVCs simply provide stronger arguments in support of existing theories in favour of trade liberalisation.

This study by the National Board of Trade contributes to the policy discussion on GVCs and services, which is still very much in its infancy. On the outset, it can be noted that open trade and investment policies are critical to allow services to be enablers of global value chain creation and operation. Two more specific factors that contribute to that end are services modal neutrality and regulatory coherence. Modal neutrality means that all modes of services supply (like cross-border, investments, movement of people) should be equally open. As most services firms provide services through several modes of supply, their operations flourish best in a regulatory environment of modal neutrality that allows them to switch freely between modes and to combine them when necessary for cost purposes. Selective liberalisation of services modes does not make sense. Regulatory simplicity and efficiency are important determinants of services competitiveness and the ability of a country to capture services tasks in the value chain. Finally, it can be noted that that policy formulation should treat goods and services together, and not separately. Manufacturing companies need to be consulted on the formulation of services trade policy, and vice versa.

It is important to also see the broader policy context in which global value chains function. The most important policy response to GVCs, particularly in economies which are already relatively open, is probably not trade policy, but rather response in other areas, for example, investment in horizontal policy measures, such as education, infrastructure, and technology transfer in order to enhance access to GVCs.

Contents

1. Introduction

The increasing predominance of *global value chains* (GVCs) is arguably one of the most important factors shaping international trade today.[1] A global value chain includes the full range of activities that firms undertake to bring a product or service from its conception to its end-use by final consumers. These activities include design, production, marketing and support. With the offshoring of some of these activities, coupled with trade in intermediate inputs, production is increasingly spread over different countries, and so the value chains become global.[2]

At the heart of this phenomenon is a connection (or intersection) of trade, investment and services. There is an intertwining of i) trade in parts and components; ii) international movement of investment in productions facilities, training, technology and long term business relationships; and iii) demand for services to coordinate this dispersed production, especially infrastructure services such as telecoms, internet, courier, air cargo trade related finance, customs clearance etc.[3]

A separate but closely related phenomenon is that of *servicification*, whereby manufacturing firms increasingly buy, produce, sell and export services as integrated or accompanying parts of their primary offer.[4] This is in part a reflection of the key role played by services as both the glue and facilitator of GVCs, especially in the logistics chain: transport, insurance, finance, distribution etc.[5]

The proliferation of GVCs has increased strongly since the 1990s. This development, which would not have been possible without the information and communication technology (ICT) revolution, has reshaped the global economy.[6] However, the actual implications of these developments are not yet fully understood. The empirical evidence on GVCs remains relatively limited. What does exist, at the aggregate level, nonetheless confirms the fragmentation of production and demonstrates that world trade and production are increasingly structured around GVCs. While most studies have focused on Asia, all OECD economies show a comparable level of participation in GVCs. The differences are between larger economies that rely less on international trade and production and small open economies that are more inserted in global production networks.[7]

The academic and policy debate on global value chains has largely focused on trade in goods and related trade policy. This paper concentrates on the role of services in GVCs. It also revisits the literature on trade policy related to services and GVCs.

2. The Role of Services in GVCs

Services are an important but often overlooked part of the GVC phenomenon. They are playing a critical role in the transformation of international trade and investment patterns, both through enabling the development of value chains and through the creation of value chains in their own right.[8]

Services play a key role as *enablers* (or glue or facilitators) of GVCs. Examples of these enabling services in GVCs are communications, insurance, finance, logistics etc. Services themselves are also being unbundled and traded as *tasks*. The archetypal examples are back-office and data processing services. Other services such as banking and research are also being unbundled, with the various tasks traded across national borders creating pure services GVCs.

2.1 Services as enablers in value chains

Offshore services emerged as a dynamic global sector in the past two decades. The ICT revolution that began in the early 1990s transformed the way companies do business by allowing for the separation of the production and consumption of services. In the search for efficiencies and economies of scale, firms began offshoring and outsourcing a variety of corporate functions.[9]

The enabling services in GVCs support the creation of value chains in both goods and services and include a variety of key services such as communications, insurance, finance, computer and information services, and other business services. They constitute the category of "other commercial services" and have experienced the most rapid growth in world services trade, increasing from 40% to 53% of total services trade between 1995 to 2010. Business and ICT services have in fact been the single fastest growing component of *all* world trade over the past years.[10] UNCTAD estimated in 2009 that almost half of cross-border trade in services was enabled by ICT services.[11] Some services industries such as financial services or transport services are also a part of nearly all value chains.

Stephenson identifies two examples of goods GVCs in order to highlight the role of services as enablers in GVCs:

The first is that of the production of the Texas Instruments' high-speed telecommunications chip TCM9055, which benefits from substantial value-added input by services (in bold) into the value chain as it undergoes the following steps:

1. **Information technology experts**: Design quality improvement strategies for digital phone equipment (Ericsson: Sweden)
2. **Designers create blueprints for the chip** (France)
3. Subsidiary firm produces prototypes (Japan)
4. Production takes place in various locations (worldwide)
5. **Engineers:** Fix problems remotely through
6. **Telecommunications System** (Taiwan)
7. Firms package the finished chips (Southeast Asia)
8. Chips implanted into Ericsson phone switches (U.S., Mexico, Australia)
9. **Transport/ insurance:** Chips are shipped to global outlets.
10. **Distribution:** Chips are distributed to sellers worldwide.[12]

It can also be noted that any of steps 3, 4, 7 and 8 could also involve services if that part of the production is done by a third party on a contract basis.

The second example, from the automotive industry, is a familiar illustration of that industry's link to global value chains, but less known as an illustration of the input of services. Close to thirty percent of the value of the finished car consists of services inputs.

Activities and components that go into the production of the typical American car are the following (services in bold):

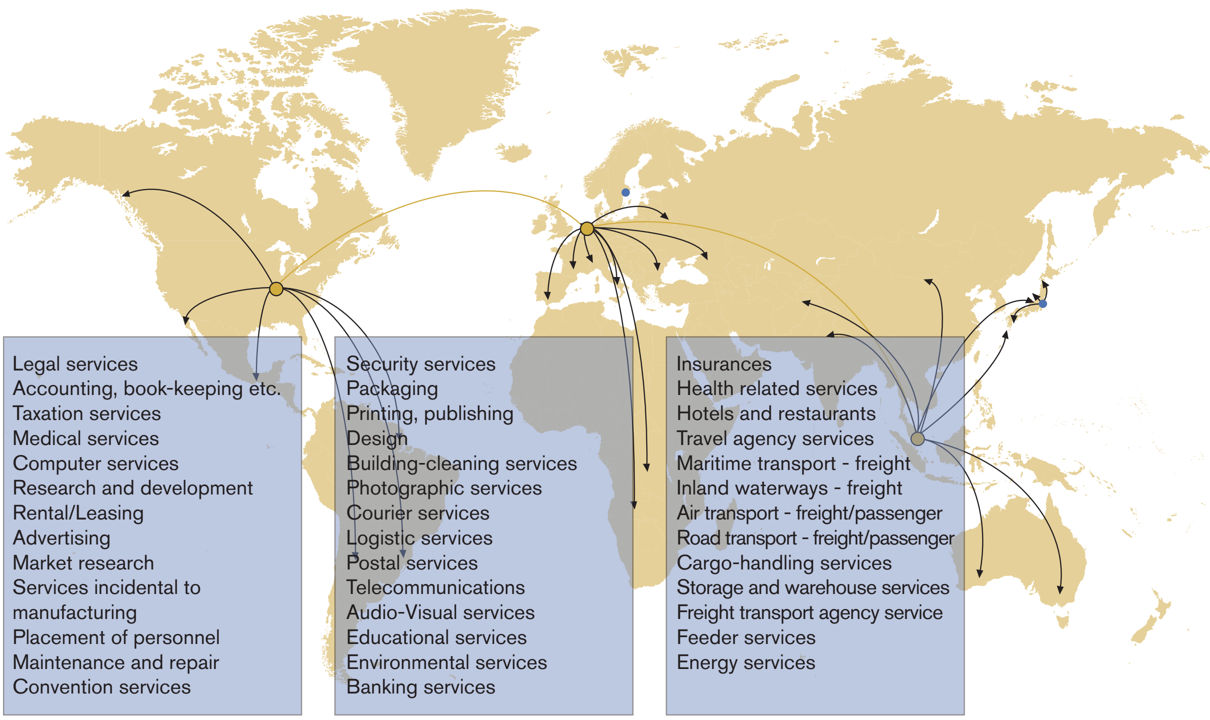
1. **R&D for advanced technology** (Japan – 17.5%)
2. **Design** (3% (estimate))
3. Assembly (Korea – 30%)
4. Assembly (US – 37%)
5. Supply of minor parts (Taiwan – 4%)
6. **Advertising and marketing** (UK – 2.5%)
7. **Data processing** (Ireland and Barbados – 2%)
8. **Transport and insurance** (4% (estimate)).[13]

Another example of a breakdown of the automotive industry into services tasks can be found in National Board of Trade (2012). Inputs from services represent 24 percent of total output or production value in the Swedish motor vehicle sector. By using input-output tables the Board shows how these services are allocated. The two sectors representing the highest shares are: Transport and storage (18%) and Distribution and repair (18%).

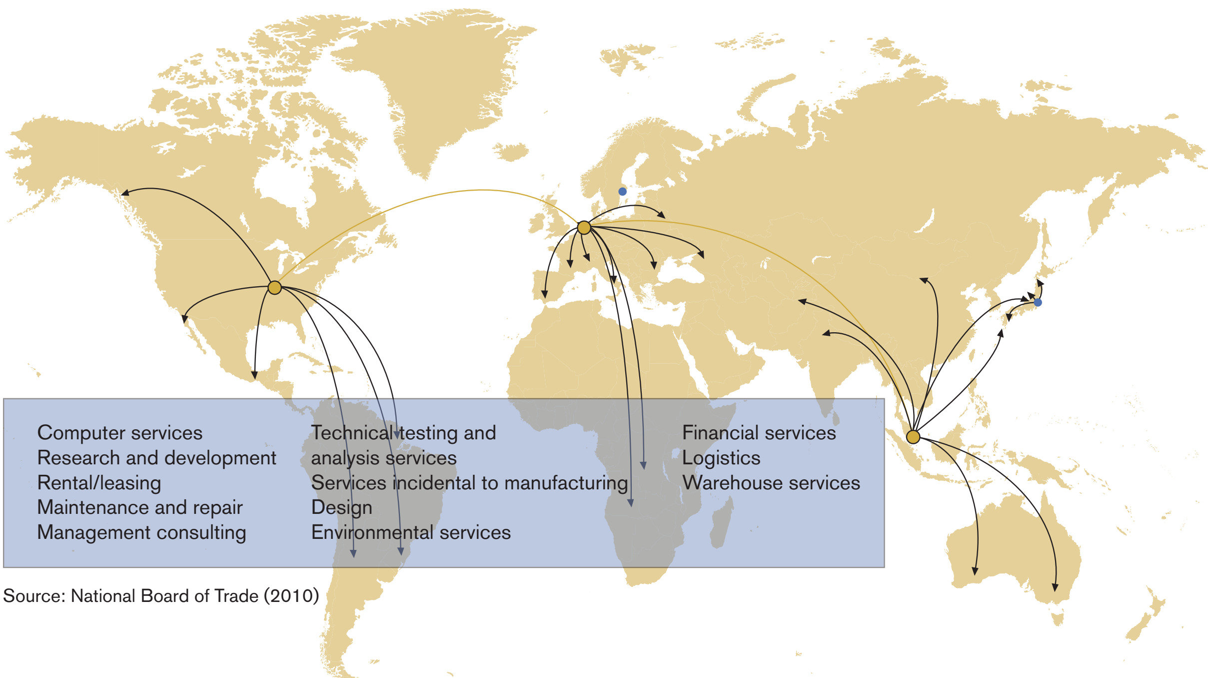
The distinction between services as enablers in global value chains, or tasks in their own right in the value chain, is not clear-cut. Some of the services categorized as enabling by Stephenson could also be seen as services tasks, for instance design and engineering services.

In a study from 2010, the National Board of Trade identifies the services required by a goods manufacturer, Sandvik Tooling[14]. Sandvik Tooling is a high-technology engineering group whose operations are in tools and tooling systems for metalworking, in mining and constructing and in material technology. The Board's study shows that the company needs 40 different services to deliver the products to its customers worldwide. The company also supplies around 15 services themselves (see figure 1 below). The study illustrates the servicification phenomenon whereby goods producing companies increasingly buy, produce, sell and export services.

Figure 1: Services needed for effective supply chain and delivery of goods, Sandvik Tooling



Services delivered to the customer, Sandvik Tooling



Source: National Board of Trade (2010)

Stephenson concludes that competitiveness in GVCs in goods is dependent upon efficient services inputs. She uses the World Bank's Logistics Performance Index (LPI) as a measure of this efficiency, and notes that countries that perform best in logistics also rank highest in terms of their share of world trade. She also notes an inverse relationship between quality of infrastructure service sectors (e.g. transport, telecommunications, distribution etc.) and the policy restrictiveness of distribution services; more open services markets allow for more efficient or higher quality distribution/logistics services, thus enabling a greater participation in world trade and contributing to creation of GVCs.

A forthcoming OECD paper studies how services contribute to international competitiveness in manufacturing[15]. The paper lends support to Stephenson's conclusions that services are important for competitiveness of goods producing companies. The services indicators used in the study[16] contribute substantially to product differentiation, export prices and the duration of trade. Product differentiation in trade literature means the ability for companies to design products for which consumers are willing to pay a premium. The indicator "duration of trade" measures the resilience of the relationship between the company and its customers. Telecommunication density and time for export and import were the two services indicators with the strongest impact on product differentiation and export prices. Telecommunication density also had a positive impact on the duration of trade for all sectors. The clothing sector and the electronics sector are most sensitive to services performance, followed by motor vehicles. The policy barriers that are most important, according the OECD study, are foreign direct investment restrictions (FDI) in services, particularly in the transport sector, and regulations in air transport.

Ferrantino has identified the importance of non-tariff measures (NTMs) affecting logistics and related services. He finds that in almost all cases, the successful operation of supply chains is facilitated by third-party logistics firms, which provide coordinated services in supply-chain consulting, transport management, freight transport services, trade finance, express delivery, wholesale trade, packing, product returns, customs brokerage, and other areas. In many countries national policies create barriers to entry for logistic services, which inhibits the growth of supply chains and thus international trade. This suggests one direct connection between trade policy and supply chains. Measures to liberalise market access in logistic services, whether unilateral, embodied in FTAs, or in the form of GATS commitments, can substantially enhance the feasibility and lower the costs of operating supply chains, with a concomitant growth in international trade.[17]

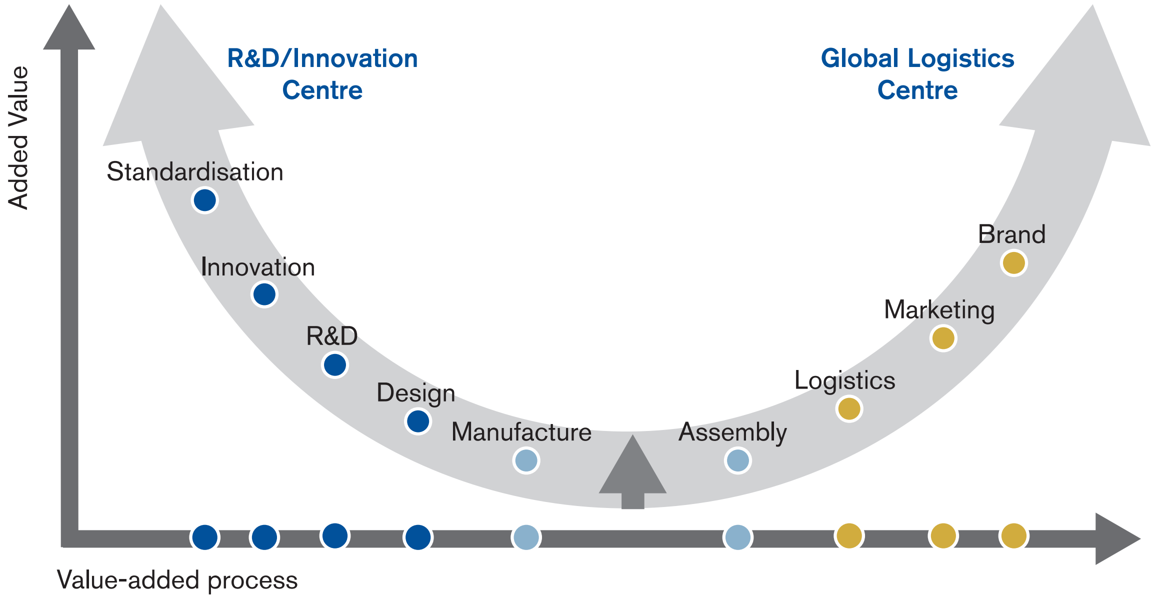
2.2 Services as tasks in value chains

Beyond their roles as enablers of GVCs, and in a similar way to goods, services are being disaggregated and traded as separate tasks. Firms are outsourcing not only the assembly of goods but also many services-related tasks. Information technology services support this phenomena whereby services can be separated from consumption and scaled up, creating final services with higher value added. Cross-border digital trade then enables these services to be used anywhere in the world, supporting the creation of pure services value chains with a global or regional spread.[18]

This development leads to new competitive opportunities for specialisation and for the participation of emerging suppliers in these tasks. As in the case of goods, the objective of services firms is to engage in increasingly higher value-adding tasks, namely design, R&D, innovation and marketing/ brand development.

Stephenson presents one conceptual model of a GVC where services feature prominently (see figure 2)[19, 20]. In the stylised model, the value chain begins with upstream activities such as R&D and design, continues via manufacturing and assembly to downstream activities such as marketing, brand management and after sales services. The most value (and knowledge) intensive activities are usually found in the beginning and the end of the chain where intellectual property is created, and this is also where services dominate over manufacturing. Standardized services are also used, for example in the middle of the chain, but here they generate less value. This relationship between services and value chains can be depicted in the shape of a "smiley face".

Figure 2: "Smiley Face": Conceptual model of a value chain



Source: World Economic Forum (2012)

The "smiley model" is constructed with a goods producing company in mind. The question is if the model is also a good representation of a pure services value chain. The different stages in a services value chain probably mirror those in a goods value chain quite well, but the value added in the different stages would most likely be different in a services value chain.

There has been little research to date on pure services value chains, nonetheless services experts believe that such chains are being created in a variety of service sectors, including banking, tourism, audiovisual and possibly also education and health services, as well as IT and business processing services.[21] A case study by the National Board of Trade focuses on the value chain of Mojang, a company in the video game industry[22]. In the case of Mojang, most value is added in the brand and innovation, followed by design, R&D, and manufacturing and assembly. Distribution provides less value. More research on how services value chains looks like and where value is created could contribute to a revision of Stephenson's model that provides a better representation of a pure services GVC.

The OECD, in its GVCs mapping exercise, has looked more closely at the business services sector, although still at an aggregate level[23]. The OECD postulates that services are less prone to vertical specialisation when face-to-face contact between the provider and the consumer is required. A large part of the services sector is made up by small domestic companies that provide services directly to domestic consumers with limited foreign inputs. But this is obviously not the case for all services industries. The OECD identifies the business services sector as a good example where fragmentation of production has occurred (and, moreover, as a key enabler of most GVCs, both goods and services).

The market for business services is concentrated in high income countries where most firms operate and in particular have their headquarters. But the industry has become global and offshored some of these services to developing economies where skilled labour can be found at lower cost. Services trade statistics are not detailed enough to capture the bilateral flows of specific business services, but, based on what is known, the OECD has characterised the role of countries in the business services value chain for two segments: computer and related activities (information technology outsourcing, software and infrastructure services); and other business services.

Several factors appear to be important for the creation of services supply chains. In particular, there seems to be a strong correlation between human capital and services exports as well as a strong correlation between electronic infrastructure (as measured by internet penetration) and services exports. Human resource inputs have been shown in various case studies of services exporters to be overwhelmingly important for the decisions of IT firms on where to outsource services work. Factors including access to numbers of trained people, the quality of training and the associated wage structures are determinant in these decisions.[24]

3. GVCs and Services – Revisiting the Policy Literature

There is limited analysis regarding the implications of GVCs for trade policy.[25] Trade theory has only recently started to investigate how comparative advantage is defined or modified when trade is mainly about intermediate products and services.[26] It might be that for the most part GVCs simply provide new arguments in support of existing theories in favour of trade liberalisation. However, there are also clearly new issues, or old issues that may require new treatment.[27]

At this stage, we consider there are some general assumptions or conclusions that can be safely made.

The first is a very general but fundamental one: the increasing dominance of GVCs means that policy makers need to look beyond traditional trade policies to address the new reality – i.e. to address the gap between policy and business reality.[28] Baldwin's analysis is that, previously, the trading system was primarily about selling things, a reality reflected by the business and GATT/WTO agendas. Today, GVCs mean that business has come to rely on the trade system when producing things, and so they care more about policies and barriers that interfere with the production, rather than *selling* things. Hence today's prioritised trade barriers are increasingly about infrastructure, shorter term business visas, capital restrictions and anticompetitive behavior.[29]

Second, when goods or services are "made in the world", domestic producers capture a share of the GVC income and what happens to them depends on trade barriers put in place by all countries involved in the value chain. The position of countries in the value chain and their share of the overall GVC income become determinants of how trade barriers affect producers. The consequence is that countries' trade policies are much more interdependent.

Third, given the importance of imports for exports for GVCs, the costs of national borders are presumably higher than currently thought. Inefficiency in logistics and in customs and other agencies at the border is an increasingly important type of trade barrier when more and more goods are traded across borders. Thus the rise in intermediates underscores the importance of efficient logistics and trade facilitation in fostering involvement in GVCs.

Fourth, goods and services are intertwined in global production networks, so barriers to goods affect services, and vice versa, and barriers to one industry affect others. Thus GVCs reinforce the importance of cross border regulatory coherency.[30] Taking this a step further, to fully understand trade and production patterns requires a focus on business functions, which are the activities along the supply chain, such as R&D, procurement, marketing, customer services. Countries today tend to specialize in specific functions (or tasks) rather than specific industries.[31]

Fifth, multilateral solutions remain first best: GVCs reinforce the primacy of multilateral solutions to trade issues. The nature of production

chains that intermingle exports services, goods, investments, movements of capital and specialised workers, and the role played by in them by efficient trade logistics, all point to the importance of comprehensive multilateral disciplines to facilitate their operation.[32]

3.1 Re-examining trade rules for services in the light of GVCs

The role of services both as enablers and tasks in GVCs requires re-examining current trading rules for services (e.g. WTO GATS and services chapters in RTAs). These rules are designed for application to services that are exported as final activities from national firms or service suppliers, and do not reflect the new reality where there are multiple suppliers and multiple locations for services activities, integrated into GVCs that might cross several borders.

Open trade and investment policies are critical to allow services to be enablers of global value chain creation and operation, according to Stephenson[33]. She also notes two more specific factors that contribute to that end: services modal neutrality[34] and regulatory coherence. The studies on servicification by the National Board of Trade[35] reinforce these conclusions by Stephenson, and also add a third one: the need to treat goods and services together in policy formulation. In the following, we will take a closer look at these three policy conclusions.

The first conclusion is that that policy formulation needs to treat goods and services together, and not separately[36]. Manufacturing companies need to be consulted on the formulation of services trade policy, and vice versa. This includes ensuring a proper understanding of what can be counted as services – some embedded services are not recognized as such - and of the reality of tariffs on services: the fact that embedded services bear part of the duties paid on the intermediate or final good.[37] Services trade barriers are likely to be significantly affecting manufacturing, underlining both the importance for manufacturing of liberalising trade in services, but also why the focus of trade negotiations needs to shift more to services liberalisation, where the barriers remain high compared to goods.[38]

Secondly, there should be modal neutrality[39]. As most services firms are "multi-modal" and provide services through several modes of supply, their operations flourish best in a regulatory environment of modal neutrality that allows them to switch freely between modes and to combine them when necessary for cost purposes. Therefore, all modes of supply should be open. Stephenson points to the importance of modes 1 (cross-border supply) and 3 (commercial presence) which are the most important modes of supply in terms of service trade volume. Firms should be able to choose which of the venues for producing and exporting their service activity along the value chain is the most cost efficient.

The study from the National Board of Trade also underscores the need for complementarity between liberalization in different sectors and modes. Selective liberalisation does not make sense. Particular focus should be put on complementarity between mode 3 (commercial presence) and 4 (presence of natural persons)[40]. These modes of delivering services are important to firms since they enable proximity to the consumer and consequently the ability to offer tailor-made solutions. Mode 3 is already regularly at center stage in service and investment negotiations. Mode 4, though, is far more sensitive and the most restricted mode. It is also traditionally seen as a North-South issue, with strong sensitivities within developed countries. But mode 4 is a key enabler of delivery of services, and is a way for economies to alleviate temporary skill shortages.

The third conclusion is that regulatory coherence should be maximized[41]. Regulatory simplicity and efficiency are important determinants of services competitiveness and the ability of a country to capture services "tasks" in the value chain. This can particularly be important for small and medium-sized enterprises (SMEs). A critical examination of how to achieve greater regulatory efficiency by trading partners will be necessary so that regulations do not impose themselves as bottlenecks in the value chain creation process. Agreements on regulatory coherence, either through the adoption of general principles or sector-specific principles or preferably a combination of both, would be essential in this regard. The quality of institutions is also an important factor in the development of services value chains as it affects the quality and effectiveness of the regulatory environment.

Finally, it can be added that a better appreciation of the importance of services in world trade, and the role they play in in GVCs, would provide important input into policy making. We saw earlier that the services tasks in the value chains often are the ones that provide the most value added, even for manufacturing companies. The importance of services in total trade is also often underestimated in traditional trade statistics. When calculating trade in value-added terms the import content is deducted from the exports, resulting in a lower value of the total exports. The reason why the *share* of services in total export often increases when calculated in value-added terms is that services generally contains less import content than goods exports. According to WTO statistical experts, services may account for around 40% of world trade on a value-added basis. This is about double the share that is attributed to them in official statistical publications (for cross border flows).[42] Using traditional trade statistics services account for 29 % of Sweden's total exports, when measured in value added terms the share account for 36%.[43] This confirms that there is an urgent need to be able to measure trade on a value added basis – a project that is underway at the WTO and OECD. Just as important, but possibly more challenging, is the need to break down services trade into its own components.

3.2 Responses to GVCs in other policy areas

It is important to also see the broader policy context in which global value chains function. The most important policy response to GVCs, particularly in economies which are already relatively open, are probably not trade policy, but rather response in other areas, for example, investment in horizontal policy measures, such as education, infrastructure, and technology transfer in order to enhance access to GVCs.[44] Creation of a positive human resource environment and a critical mass of skilled personnel can be shaped by national government policies that emphasize education and skills training.

New ways of organizing production and relations to customers also has implications for competition policy. As part of the servicification phenomenon goods and services are increasingly bundled and sold on long-terms contracts. This move away from on-off transactions may raise the costs for consumers for changing suppliers and also raise the entry barriers for new goods and services, with market concentration as a result. This raises new issues for competition policy and possibly a need to coordinate competition policy across international borders.[45] Efficient electronic infrastructure also depends upon a pro-competitive policy in the telecom sector.[46]

4. From the Perspective of Developing and Least-Developed Countries

Global value chains are reshaping the global economy and presents new challenges and opportunities for all countries, not least developing and least-developed countries. How will GVCs affect these countries' opportunity to participate in and benefit from the global economy and the global trading system? Over the years it has been increasingly clear that developing countries are not a homogeneous group. The degree to which developing and emerging economies are integrated into GVCs vary between countries. Among the emerging economies, China stands out as a country with a high imported content share in export (about 30 percent). The share in India and Brazil is about half that of China. Knowledge on the role most developing and least-developed countries play in GVCs is however still limited; but it is an area which is increasingly in focus, not least in the WTO and the OECD.

In a World Economic Forum report on developing countries and global value chains, it is argued that the geography of value chains is likely to change within the next decade. Five drivers of change are cited in the report, namely the rising cost of energy and associated transportation costs, increasing prices on resource due to export restrictions, a shift in China's growth model which could lead to wage cost increases in China, lower costs for information technology; and growth in southern markets while growth in Europe stays structurally repressed for the foreseeable future. This will have important implications for those countries that have specialized in value chains niches, and for those countries that are looking to secure new niches.[47]

In this report we have discussed the two roles that services can play in GVCs, as enablers and as tasks. For many developing and least-developed countries enabling services is a key factor in determining their ability to participate in supply chains. The efficiency of local trade facilitation (e.g. the procedures of customs, health, immigration, ports and other agencies at the border) and logistics services is central for a country that wishes to be integrated in GVCs. Firms in countries that are plagued by high transactions costs and inefficient logistics services will not be able to compete with firms that benefit from an efficient logistics environment.[48] The relevance of this conclusion for the clothing industry is supported by the Nordås' paper on how services contribute to international competitiveness in manufacturing[49]. In the clothing sector, global value chains have been an important feature for years. It is also a sector where many low-income countries have their strongest comparative advantage. According to Nordås (2012) improved telecommunication services, lower transport costs and less time at ports and customs would significantly improve low-income countries ability to engage in product differentiation in the clothing sector, hence making them more competitive in an important sector which is characterized by GVCs.[50]

Trade and production patterns will continue to change as companies seek optimal levels of fragmentation. As part of the GVC phenomena, services themselves are being unbundled and traded as 'tasks'. For developing and least developed countries this development could present an opportunity for specialization and, through this specialization, integration into GVCs.

Notes

1 Lamy, *Global value chains are "binding us together"* Speech at the WTO-MOFCOM-OECD-UNCTAD seminar on Global Value Chains, Beijing 19 September 2010.

2 Miroudot, de Backer, *Mapping Global Value Chains*, TAD/TC/WP(2012)6 OECD (2012). The European Commission estimates that more than two thirds of EU imports are of intermediate goods (European Commission, *Trade as a driver of prosperity*, Commission staff working document, 2010)

3 Baldwin *'Global Manufacturing Value Chains and Trade Rules'*, in World Economic Forum The *Shifting Geography of Global Value Chains: Implications for Developing Countries and Trade Policy*, World Economic Forum (2012)

4 National Board of Trade At your service – *The Importance of Services for Manufacturing Companies and Possible Trade Policy Implications*, Kommerskollegium 2010:2; National Board of Trade *Servicification of Swedish Manufacturing*, Kommerskollegium 2010:1; National Board of Trade, *"Everybody is in services" The Impact of Servicification in Manufacturing on Trade and Trade Policy*, National Board of Trade (2012). Some similar conclusions relating to US companies are made by Barefoot, Koncz-Bruner, *A Profile of US Exporters and Importers of Services: Evidence from New Linked Data on International Trade in Services and Operations of Multinational Companies*, U.S. Department of Commerce, Bureau of Economic Analysis (2012) p. 66-87

5 Miroudot *Trade policy implication of global value chains: Scoping paper*, TAD/TC/WP(2012)11/REV1, OECD (2012)

6 Miroudot, de Backer (2012); National Board of Trade, *Business Reality and Trade Policy - Closing the Gap*, Kommerskollegium 2012:2.

7 Miroudot (2012). There is ongoing work at the OECD and WTO and related organisations to measure trade in value added terms which will capture the domestic value that countries are adding to goods and services, and therefore give a better picture of the integration of and position of countries in GVCs.

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