UNCTAD Multi-year Expert Meeting on

TRADE, SERVICES AND DEVELOPMENT

Geneva, 18-20 July 2017

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Paper prepared for UNCTAD Multi-year Expert Meeting on Trade, Services and Development, fifth session, 18 - 20 July 2017, Palais des Nations, Geneva, Switzerland

THE SERVICIFICATION OF GLOBAL VALUE CHAINS: EVIDENCE AND POLICY IMPLICATIONS

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The global value chain (GVC) framework has gained a lot of traction in the past decade to describe global production, analyse value creation along supply chains and answer policy questions related to trade, competitiveness and development (Gereffi, 2014). As it focuses on the sequences of value added within an industry, from conception to production and end use, the GVC framework fully acknowledges the fact that services and manufacturing activities are intertwined.

However, the GVC paradigm only tells part of the story on the role of services in GVCs. First, services are exported not only by services firms but also by manufacturing firms. These firms increasingly export services that are bundled with material goods (e.g. installation, maintenance and repair services). Through this process, firms create more value and try to accompany the existing product all along its life cycle (Vandermerwe and Rada, 1988).

Moreover, services are not just inputs or products bundled with goods, they are also the output of value chains. While supply chains are generally shorter for services, there is also a fragmentation and internationalisation of production for services (De Backer and Miroudot, 2013).

More recently, services have also been described as value-creating activities as their role is to create value all along the GVC. Services lead to higher value creation and are part of a shift towards more productive and more customer-centric production models where value can be seen as co-created with consumers (Demirkan *et al.*, 2011).

The servicification of manufacturing means that the manufacturing sector is increasingly relying on services, whether as inputs, as activities within firms or as output sold bundled with goods (National Board of Trade, 2016). The phenomenon is intrinsically related to global value chains as it is through the deployment of services that GVCs operate. But it goes beyond as services are also redefining the way companies produce value. Against this backdrop, the paper presents some recent evidence on the 'servicification' of GVCs as well as some policy implications related to the specificities of services in GVCs.

1. Services account for about one third of value-added in manufacturing sales and exports

An important result from the trade in value-added (TiVA) literature is that services account for a much bigger share of sales or exports when looking at flows in value-added terms. The decomposition of manufacturing exports according to the industry of origin of value-added highlights the important role played by services inputs in GVCs.

The share of services VA in manufacturing exports goes as high as 40% for ‘textiles & apparel’ and ‘food & beverages’. On average, a bit more than one third of manufacturing exports consists in value-added originating in services industries. All manufacturing industries tend to rely on the same mix of services inputs.

Over time, there is an increase in the share of foreign services value-added rather than more services value-added in manufacturing value chains. The main trend is the internationalisation of services in GVCs.

2. Adding their in-house provision, the contribution of services increases to half of manufacturing value-added in sales or exports

Another important dimension of the ‘servicification’ is the role played by in-house services within manufacturing firms. These activities can be identified as services in the sense that if they were outsourced they would belong to services industries. This servicification inside manufacturing firms is more difficult to assess and to measure.

One way to look at services activities within manufacturing firms is to analyse labour force surveys and occupations related to services activities in manufacturing industries. Using this methodology, some recent work at OECD suggests that on average 18% of the value-added in exports comes from the in-house provision of services (Miroudot and Cadestin, 2017). As a result, instead of one third of the value-added originating in services, we now have on average half of the manufacturing value-added corresponding to services activities, either outsourced or insourced.

3. Services are often sold bundled with goods

A third aspect of the ‘servicification’ is that services are increasingly sold bundled with goods. When statistics distinguish goods and services and identify firms producing goods or producing services, it is to a large extent artificial as manufacturing firms are responsible for a significant share of services sales and exports.

Some empirical work done at OECD with the ORBIS firm-level dataset indicates that manufacturing firms are often involved in wholesale and retail trade activities, and that it is often the same firms providing the manufacturing and the distribution activity. Related to distribution services, many manufacturing firms are also involved in transport services, particularly when the goods to be transported require specific types of technologies and skills that generally come from the same sector.

The other categories of services bundled with goods illustrate some indispensable services that are required to export goods. For example, in the case of the machinery industry, maintenance and repair, as well as installation, are the indispensable activities without which companies could not sell the sophisticated machines they manufacture.

4. GVCs in services: value networks and value shops

While the servicification is often referring to the transformation of manufacturing industries, the way services industries operate has also changed in the recent period. In the financial, transport, telecoms, distribution or other business services sectors, companies have broadened the range of services they provide and created new types of relationships with customers.

According to Stabell and Fjelstad (1998), the value chain is well suited to describe industries where raw materials are transformed and value is added to more processed products in a sequential way culminating in the final product. Some service industries, such as construction and food services can fit into this model. But this is not the case of most services, for which two additional types of value creation are suggested.

The first one is the "value network" where value is created by linking customers. In the case of insurance services, for example, the value comes from the fact that there is a large group of insured people who share a risk and pay for the losses of a few.

The second model of value creation more adapted to describe value creation in certain services industries is the "value shop". Value is created by solving customer problems. The value shops involve experts and professionals. While standard processes are required for value chains, tailored solutions are the objective in value shops. Professional services, consultancy services, engineering services, R&D services are all examples of value shops.

It is important to understand that what we regard as global value chains is a mix of these different business models. Some empirical analysis suggests that in all countries there is an increase in the value created as part of value shops. Emerging and developing countries follow the same trend than OECD countries, pointing out that this shift is universal and not the result of the specialisation of specific economies in service activities.

5. Concluding remarks and policy implications

From the TiVA statistics, it was already emphasised that in value-added terms, services account for half of world trade. A new stylised fact is that when adding the in-house provision of services in manufacturing firms, the share of services in manufacturing exports increases from one third to 50%. We can also be more specific about what can be described as the 'servicification of GVCs'. On the one hand, there is a higher use of foreign services as inputs in exports, replacing domestic services inputs. Services value chains are becoming more and more international. On the other hand, there is a more qualitative shift with services redefining the way manufacturing companies produce value.

Some evidence on this shift can be found when looking at bundles of goods and services suggesting that firms increasingly provide 'solutions' to customers that combine goods and services. In addition, an analysis of value creation through the three models proposed by Stabell and Fjeldstad (1998) also highlights the raise of 'value shops' in the value-added in exports, confirming this trend towards activities that consist in solving problems and in co-creating value and productivity with the customers.

In the digital era, services are not only the enablers of GVCs, i.e. the activities that are deployed for international production networks to operate but also the drivers of value creation. Services are part of a 'business ecosystem' (Moore, 2013) where collaboration with customers, partners and contractors is the key to innovation and productivity.

The policy implications of GVCs have been well identified in the case of value chains where what matters the most is to remove tariffs and non-tariff measures affecting imports of intermediate goods, streamline customs procedures and administrative requirements and carry out domestic service reforms that can improve the provision of efficient services inputs (OECD, 2013).

These traditional trade barriers are still relevant in a world of services GVCs, particularly when taking into account the fact that many services are traded embodied in goods and therefore impacted by trade rules on goods (Miroudot et al., 2013, Cernat and Kutlina-Dimitrova, 2014). Through a cascading effect in the value chain, trade policy instruments such as tariffs but also non-tariff measures have an impact on the embodied services. The prevalence of bundles of goods and services also suggests reinforcing the consistency of trade rules on goods and on services.

But the shift towards value networks and value shops also points to additional reforms that could facilitate the expansion of services GVCs. In the case of value networks, the main trade barriers are generally sector specific regulations and the lack of enforcement of competition. Rules related to data localisation or commercial presence requirements can also prevent companies from creating a network of users across borders. In the case of value shops, the main barriers are related to movement of people. Beyond trade, skills and innovation policies play an important role in the development of value shops.

Finally, the prevalence of services activities within firms also suggests looking at whether services outsourcing or offshoring should be facilitated and is not blocked by restrictive policies. There is an economic rationale in keeping some services activities in-house, particularly when they are complementary with the core activities of the firm. For example, the literature has recently put the emphasis on the benefits of co-location for R&D and manufacturing activities. What regulators and policymakers should ensure is that the choice between outsourcing and insourcing is based on economic reasons and not distorted by policies.

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