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**Article**

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Marc Atkins, Bernard Michael Gilroy and Volker Seiler

# New Dimensions of Service Offshoring in World Trade

This paper discusses the growing dimensions of the offshoring of service activities both in manufacturing and service industries. Trade in Value-Added data implies a great potential of service offshoring for global welfare, however, the negative effects have to be balanced by appropriate institutions in domestic and foreign countries.

In the past few decades, the continuously changing pattern of global production has seen an increasing fragmentation of production and the rise of global value chains (GVCs) in which production, trade and investments are increasingly organised on different stages and skills are spread over different countries.<sup>1</sup> Offshoring in particular plays a key role in this context. Ideally, GVCs allow both developed and developing countries to participate increasingly in the world economy. Provided that they are open to foreign investment and offer effective and efficient institutions, that ensure the benefits of offshoring and their equal distribution, they should both benefit from knowledge transfers and engage in higher-skilled activities.<sup>2</sup>

Although offshoring can cause structural unemployment and lower post-displacement wages for some employees,

especially increasing offshore outsourcing of service inputs can be driver of overall gains in welfare as well as higher productivity, wages, skill levels and greater product variety.<sup>3</sup>

Trade in Value-Added (TiVA) data in particular, e.g. a trade measure capturing only the value a country adds to a good or service, illustrates that service offshoring is larger and is growing faster than suggested by conventional trade measures.

## Defining terms

### Offshoring

This paper's analysis follows the OECD's definition of offshoring, which is the total or partial transfer of domestic manufacturing or service activities abroad.<sup>4</sup> In this sense industrial activities can be transferred either to a foreign affiliate, e.g. in the form of foreign direct investment (FDI), or to an external supplier by means of 'offshore outsourcing', as defined by Feenstra and Hansen.<sup>5</sup> The former, which the OECD calls offshoring in the strict sense, is distinguished from offshore outsourcing by the ownership characteristic of the supplier.<sup>6</sup> In both cases offshor-

1 W.J. Baumol, A.S. Blinder, E.N. Wolff: *Downsizing in America: Reality, Causes, and Consequences*, Russell Sage Foundation, 2003; K. De Backer, N. Yamanó: *International Comparative Evidence on Global Value Chains*, Paris 2012, OECD Publishing, available at <http://www.oecd-ilibrary.org/docserver/download/5k9bb2vcwv5j-en.pdf?expires=1518607786&id=id&accname=guest&checksum=9B118D9943BADFC51A0E43EF57E40599>.

2 See e.g. B.M. Gilroy, E. Lukas, C. Heimann: *Technologiestandort Deutschland und internationale Wissensspillover*, in: *Jahrbücher für Nationalökonomie & Statistik*, Vol. 233, No. 2, 3, 2013, pp. 575-599.

3 See e.g. H. Görg, A. Hanley, E. Stroble: *Productivity Effects of International Outsourcing: Evidence from Plant-Level Data*, in: *Canadian Journal of Economics*, Vol. 41, No. 2, 2008, pp. 670-688.

4 OECD: *Offshoring and Employment: Trends and Impacts*, Paris 2007, OECD Publishing, available at <http://dx.doi.org/10.1787/9789264030947-en>.

5 R.C. Feenstra, G.H. Hanson: *Globalization, outsourcing, and wage inequality*, National Bureau of Economic Research, Working Paper No. w5424, Cambridge MA 1996.

6 This paper evaluates the general impact of relocation of service intermediate activities abroad. It is noted, that trade in TiVA can give only a limited account on offshoring, as it does not entail intra-firm trade (affecting prices and volumes) and other forms of FDIs. Service TiVA data, however, reflects a general trend that also holds for offshoring in the strict sense that leads our conclusions and policy recommendations to cover service offshoring as a single phenomenon.

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ing entails trade in intermediate inputs as opposed to final goods and the production of the final good can involve several border crossings of its components.<sup>7</sup>

### Trade in Value-Added

Recent empirical evidence illustrates the emergence of GVCs based on harmonised international trade data as well as input-output data.

The fragmentation of production explains how production stages are split internationally based on potential cost reductions through differences in factor inputs across locations. Global value chains, by contrast, encompass production, trade and investments jointly organised along different production stages located in different countries. This concept includes other motivations for a fragmentation of production stages, for instance, the entry into new markets, the proximity to customers or the access to strategic resources and specific knowledge. Moreover, the role that services play in international production is explicitly considered. Therefore, GVCs explain today's pattern of world trade more precisely.

In GVC activities, value-added is created across national borders embedded in trade flows of intermediate inputs. Depending on whether the goods cross one or several borders, they can be segmented into simple or complex GVC activities.<sup>8</sup> Since the end of the 20<sup>th</sup> century, complex GVCs have been the most important drivers of globalisation.

Traditional international trade data measures the value of a product at each border crossing including the value of intermediate inputs, regardless of any potential previous border crossings. This double-counting problem, which in many cases overstates the value of trade between countries, arises because international trade data is expressed in output terms. As a result, the double-counting problem combined with the increasing importance of trade in intermediate inputs are the central explanations for increasing trade-to-GDP ratios. As official statistical information systems measure the gross value of transactions, they are not able to precisely identify a large fraction of international production processes in value chains.<sup>9</sup> The role of foreign producers supplying intermediate inputs in the value chain cannot be captured. Consequently, it is nec-

essary to analyse the value-added in trade and GVCs in order to obtain a more accurate picture of reality.

TiVA is able to surpass the shortcomings of conventional measures of trade by measuring only the value a country adds to a good or service. The economic globalisation indicators, which include measures on capital movements, FDI and international trade, are calculated by using international input-output tables that capture the value of imported intermediate goods and services.<sup>10</sup>

### Service offshoring

Service offshoring is the relocation of service activities from the domestic economy abroad.<sup>11</sup> Analogous to the offshoring of goods, offshoring of services encompasses activities of internal suppliers abroad in the form of FDI and activities of independent suppliers in the form of offshore outsourcing. It may include a sourcing strategy in service networks as well as manufacturing value chains.

### Differentiations

Similar to goods, the conventional division among offshored service activities is between low-skilled and high-skilled tasks, whereas the latter are typically offshored to countries with lower wages or lower unit labour costs, the ratio of average wages-to-GDP per capita, as well as the former, are performed domestically.<sup>12</sup>

The typical example of low-skilled service activities is related to call centres, as well as other customer service occupations. High-skilled activities that are offshored encompass data manipulation, software development, accounting and finance, banking services, analysis of medical test results such as X-rays, as well as R&D and product design tasks in manufacturing industries. The degree to which these skill-intensive activities are offshored varies depending on how easily they are transferable abroad and how economies with lower wages or lower unit labour costs are able to supply such services.

7 R.C. Feenstra, A.M. Taylor: *International Economics*, Vol. 3, New York 2014, Worth Publishers.

8 Z. Wang, S.J. Wei, X. Yu, K. Zhu: *Measures of Participation in Global Value Chains and Global Business Cycles*, National Bureau of Economic Research, Working Paper No. 23222, Cambridge MA 2017.

9 OECD: *Offshoring and Employment: Trends and Impacts*, op. cit.

10 OECD: *Measuring Globalisation: OECD Economic Globalisation Indicators 2010*, Paris 2010, OECD Publishing, available at <http://dx.doi.org/10.1787/9789264084360-en>.

11 R. Lanz, A. Maurer: *Services and global value chains: Some evidence on servicification of manufacturing and services networks*, WTO Staff Working Paper No. ERSD-2015-03, 2015, available at [https://www.wto.org/english/res\\_e/reser\\_e/ersd201503\\_e.htm](https://www.wto.org/english/res_e/reser_e/ersd201503_e.htm).

12 A.S. Bliinder: *Offshoring: the next industrial revolution?*, in: *Foreign Affairs*, Vol. 85, No. 2, 2006, pp. 113-128.

In order for service offshoring to result in gains from trade, it is important that their electronic delivery is possible with little or no deterioration in quality.<sup>13</sup>

A fundamental differentiation is made between personal and impersonal service activities. For personal services, production and consumption occur simultaneously and require the face-to-face interaction of the service's supplier and consumer, for example, a hairdresser or plumber.<sup>14</sup> Impersonal services, by contrast, can be delivered electronically and thus, production and consumption do not necessarily occur at the same time. Therefore, the differentiation between personal and impersonal service tasks is more helpful in determining which activities can be offshored than relying on the conventional division.

Nevertheless, there are intermediate cases such as medical tourism for which, despite the face-to-face interaction of provider and consumer and the simultaneous production and consumption of the service, such skill-intensive personal service activities can be offshored.

Service activities can also be differentiated by the industry in which they are performed, either in the service or the manufacturing industry. R&D, product design, maintenance and support, and technical engineering services are all activities related to the manufacturing of goods that are either necessary for the production itself or complementary, adding value for the customer.<sup>15</sup>

Due to continuous improvements in information and communication technology (ICT), it is not merely possible but economical to engage in service offshoring; this applies in particular to higher value-added services.<sup>16</sup> Consequently, the skill intensity of offshored activities is increasing in both manufacturing and service industries. This has led to an increase in the number of jobs at risk of being offshored to rise, especially in industrialised countries.

Additionally those jobs that were already threatened by offshore alternatives before substantial improvements in ICT are now becoming increasingly redundant. This is due to the growing participation of developing countries in the world economy as well as increasing international trade in services.

13 J. Craig, A. Gunn: Higher skills and the knowledge economy: the challenge of offshoring, in: Higher Education Management and Policy, Vol. 22, No. 3, 2010, pp. 1-17.

14 Ibid.

15 S. Miroudot, C. Cadestin: Services In Global Value Chains: From Inputs to Value-Creating Activities, OECD Trade Policy Papers No. 197, Paris 2017, OECD Publishing, available at <http://dx.doi.org/10.1787/465f0d8b-en>.

16 R.C. Feenstra, A.M. Taylor, op. cit.

Conventional statistical frameworks, such as the balance of payments, struggle more and more to classify products as goods or services. This is due, among other things, to the 'servicification' of manufacturing, i.e. the growing share of service offshoring in the manufacturing industry.<sup>17</sup> This emphasises the need to analyse service offshoring in a value-added context.

### Geographical distribution of world commercial services trade

World commercial services trade experienced a strong expansion in 2017 succeeding two years of weak or even negative growth. As Table 1 further illustrates, the United States, the United Kingdom, Germany, France and China are among the top five exporters as well as importers of commercial services. Further below, it becomes obvious that many countries appear on both sides of the table, both as a leading exporter and importer of commercial services.

Resident special purpose entities, which are entities such as foreign financial holding companies that channel investment flows and tax benefits for certain companies or industries through countries, influence this distribution.<sup>18</sup> This becomes especially apparent for geographically small but economically large countries such as Hong Kong and Luxembourg.

### Evidence from TIVA

Figures 1 and 2 compare gross exports of goods and services with value-added exports of goods and services for the years 1980, 1995 and 2009. They show that the fraction of services is higher and increased faster in TIVA than in trade in gross terms over time. The relative role of goods and services changes when exports are measured in value-added terms instead of gross terms. From 1980 to 2009 goods exports decreased and at the same time service exports increased faster in TIVA than in trade in gross terms. Therefore, value-added data indicate that the share of services is large and increasing over time, which is partly due to the servicification of manufacturing. In fact, the share of services in total world value-added exports increased from below 30% in 1980 to more than 40% in 2009. This reflects the increasing importance of service offshoring in world trade.

17 R. Lanz, A. Maurer, op. cit.

18 OECD: Global Value Chain Development Report 2017, The World Bank, available at [https://www.wto.org/english/res\\_e/publications\\_e/gvcd\\_report\\_17\\_e.htm](https://www.wto.org/english/res_e/publications_e/gvcd_report_17_e.htm).

**Table 1**  
**Leading exporters and importers of commercial services, 2017**

\$bn and %

Rank	Exporters	Value	Share	Annual % change	Rank	Importers	Value	Share	Annual % change
1	United States of America	762	14.5	3.8	1	United States of America	516	10.2	6.8
2	United Kingdom	354	6.7	4.9	2	China*	464	9.2	3.3
3	Germany	296	5.6	7.0	3	Germany	319	6.3	5.2
4	France	249	4.7	5.5	4	France	244	4.8	3.4
5	China*	226	4.3	8.7	5	United Kingdom	218	4.3	4.2
6	Netherlands	216	4.1	15.6	6	Netherlands	211	4.2	14.7
7	Ireland	182	3.5	19.6	7	Japan	196	3.9	-3.4
8	Japan	180	3.4	6.7	8	Ireland	189	3.7	3.5
9	India	179	3.4	11.0	9	Singapore	171	3.4	5.2
10	Singapore	165	3.1	4.3	10	India**	150	3.0	13.1
11	Spain	137	2.6	8.0	11	Korea, Republic of	120	2.4	8.1
12	Switzerland	122	2.3	4.0	12	Belgium	116	2.3	7.3
13	Belgium	113	2.2	1.8	13	Italy	111	2.2	8.8
14	Italy	110	2.1	10.4	14	Canada	105	2.1	6.5
15	Hong Kong, China	104	2.0	5.3	15	Switzerland	104	2.1	4.9
16	Luxembourg	102	1.9	6.5	16	Russian Federation	87	1.7	18.8
17	Korea, Republic of	86	1.6	-8.0	17	United Arab Emirates***	84	1.7	1.9
18	Canada	86	1.6	5.8	18	Hong Kong, China	77	1.5	3.7
19	Thailand	75	1.4	11.7	19	Luxembourg	75	1.5	4.5
20	Sweden	73	1.4	2.4	20	Spain	74	1.5	6.2
21	United Arab Emirates***	70	1.3	7.5	21	Sweden	68	1.3	11.5
22	Australia	65	1.2	13.5	22	Australia	66	1.3	8.5
23	Denmark	64	1.2	7.0	23	Brazil	66	1.3	7.9
24	Austria	64	1.2	5.0	24	Denmark	62	1.2	6.0
25	Russian Federation	58	1.1	15.9	25	Austria	53	1.1	9.3
26	Poland	57	1.1	14.8	26	Saudi Arabia, Kingdom of	53	1.0	5.6
27	Chinese Taipei	45	0.9	9.0	27	Chinese Taipei	53	1.0	3.4
28	Israel	44	0.8	11.1	28	Norway	49	1.0	1.7
29	Turkey	44	0.8	17.4	29	Thailand	46	0.9	5.5
30	Macao, China****	38	0.7	16.2	30	Malaysia	42	0.8	5.2
	Total of above	4366	82.7	-		Total of above	4189	82.9	-
	World	5252	100.0	7.4		World	5072	100.0	6.5

\* China revised its methodology to compile travel transactions. As a result, its trade in services statistics were revised downward starting in 2014 on both the credit and the debit side; \*\* Imports adjusted to f.o.b valuation; \*\*\* Preliminary annual estimates. Quarterly data not available; \*\*\*\* Follows BPM5 services classification; - Indicates non-applicable.

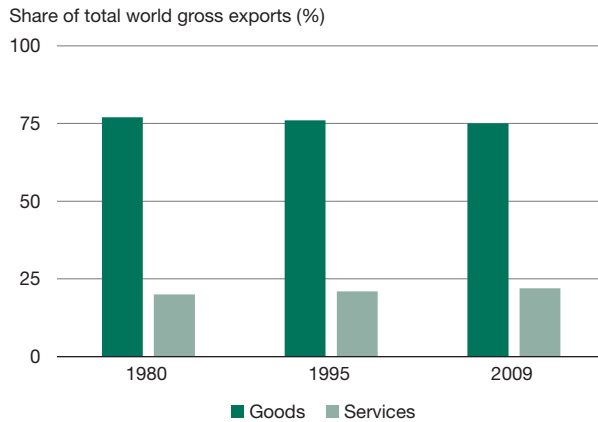
Source: World Trade Organization: Strong Trade Growth in 2018 Rests on Policy Choices, Press release 820, 2018, available at [https://www.wto.org/english/news\\_e/pr820\\_e.pdf#page=21](https://www.wto.org/english/news_e/pr820_e.pdf#page=21).

Additionally, even though certain developing countries participate increasingly in GVCs, they maintain relatively high restrictions on service offshoring overall in the form of service trade policies that inhibit service imports. While OECD member countries as well as Europe, Cen-

tral Asia and Latin America observe relatively low restrictions, all other regions remain protected against service offshoring to a larger extent.<sup>19</sup> Protection is par-

<sup>19</sup> Ibid.

Figure 1  
Gross exports of goods and services



Source: Authors' illustration based on R. Johnson, G. Noguera: A Portrait of Trade in Value Added over Four Decades, in: National Bureau of Economic Research, Working Paper No. 22974, Cambridge MA 2016.

ticularly high for professional services, such as law and medicine, followed by transportation, telecommunication and financial services. This explains why a large share of offshoring occurs in developed rather than developing countries.

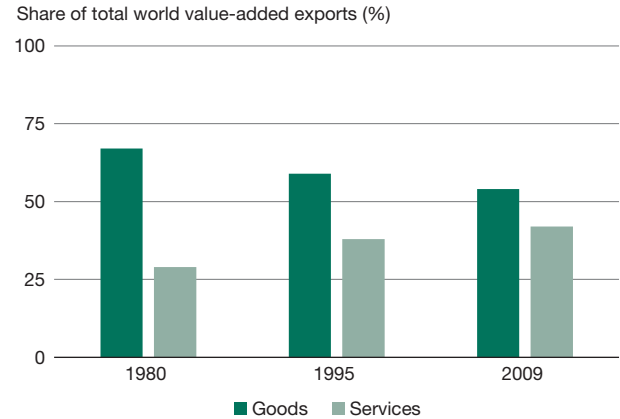
Lanz and Maurer show that the shares of direct (exported by an industry itself) and indirect (included in other industry's exports) service value-added vary across industries.<sup>20</sup> The business services industry exhibits the highest increase in export volume from less than 500 billion US dollars in 1995 to more than 1.5 trillion dollars in 2008, followed by wholesale and retail, transport and telecoms, finance and insurance, and construction. The comparison between 1995 and 2008 reveals that the share of direct value-added in exports increased in all industries except for wholesale and retail. This is caused by the increasing relevance of service networks, reduced trade costs and liberalisation in the context of ICT improvements as well as service innovations. Moreover, all industries show high shares of indirect service exports in manufacturing, which indicate the high and rising importance of service activities in the manufacturing industry.

TiVA data further point to the increasing importance of service activities in the manufacturing industry. In 2015, manufacturing exports of most OECD economies consisted of service inputs of 37% on average.<sup>21</sup> If we include

<sup>20</sup> R. Lanz, A. Maurer, op. cit.

<sup>21</sup> S. Miroudot, C. Cadestin, op. cit.

Figure 2  
Value-added exports of goods and services



Source: Authors' illustration based on R. Johnson, G. Noguera: A Portrait of Trade in Value Added over Four Decades, in: National Bureau of Economic Research, Working Paper No. 22974, Cambridge MA 2016.

service activities performed within manufacturing companies, this share rises to 53%.

Service exports exhibit a significantly higher share of service value-added and consist of 91% of domestic and foreign service value-added in developed countries and 83% in developing countries in 2008.<sup>22</sup> The comparison of service value-added between industries shows that the international fragmentation is less pronounced in service than in manufacturing industries.

Nevertheless, the rising share of service inputs in the manufacturing sector's products is partly due to factors such as outsourcing of services previously performed internally by manufacturing companies as well as high-income elasticity of service demand and relative price shifts due to lower productivity growth of services in comparison to goods.<sup>23</sup>

Concerning the number of jobs in service and manufacturing activities in OECD countries in 2015, more than 50% of total employment was in commercial services on average. At the same time, service jobs in manufacturing companies and manufacturing employment combined constituted less than 20% in most countries, which illustrate the relatively high importance of service industry jobs compared to the less relevant manufacturing jobs

<sup>22</sup> R. Lanz, A. Maurer, op. cit.

<sup>23</sup> J.N. Bhagwati: Splintering and Disembodiment of Services and Developing Nations, in: The World Economy, Vol. 7, No. 2, 1984, pp. 133-144.



in total employment across OECD economies. This reinforces developed countries' growing fears of the threat to their economies.

## Consequences

The possibility of offshoring allows companies to focus on activities related to their comparative advantage or other high value-added tasks.<sup>24</sup> This, in turn, may increase their productivity, which creates a chain effect that leads to lower prices, increased demand and new jobs – thereby offsetting any potential job loss due to offshoring. Amiti, Wei, Haskel and Auriol report that US-based companies experienced such productivity increases because of offshoring of service activities.<sup>25</sup> Analysing nine Western European countries, Crinò finds that a one percentage point rise in service offshoring raises total factor productivity by 0.5% to 0.6%.<sup>26</sup>

Improvements in ICT have enabled companies to offshore services that were previously restricted to domestic sources. Another positive aspect of companies' ability to offshore service activities is that it allows developing countries to participate in the world economy to a larger extent and expand their economies.<sup>27</sup>

Despite its positive impact, service offshoring entails several negative consequences. Two factors contribute to a decrease in the domestic service industry. First, as services are sourced from abroad, the domestic economy faces less demand, which in turn reduces the service sector in the long run. Secondly, ICT improvements cause the amount of potentially offshored service activities to increase.

Crinò reviews the empirical literature with regard to the labour market effects of offshoring in developed economies.<sup>28</sup> He finds that the offshoring of service activities generates small negative effects for total employment, while simultaneously transforming the workforce into a more highly skilled, white-collar employment environment. These results imply that service offshoring creates

investments in education and knowledge as these are required to benefit from increased service offshoring.

With regards to wages, Kim and Hwang as well as Geishecker and Görg find that service offshoring, just as material offshoring, has a positive impact on the wages of high-skilled jobs but a negative effect on the wages of middle and low-skilled workers.<sup>29</sup>

## Policy implications

Service offshoring has important policy implications because of its relevance for both service and manufacturing output as well as for connecting production stages in GVCs. Service policies should be considered separately from goods due to differences in trade and regulation as well as their ability to integrate national economies and create value.<sup>30</sup> Consequently, policy regarding service offshoring is particularly relevant because of its unique ability to positively affect economies' productivity, comparative advantage, participation in the world economy and the skill-intensity of activities performed.

Public criticism in developed countries often concerns the effect of offshoring on domestic labour markets in respect to the threat of job losses and related lost tax income. This criticism is not unwarranted due to the negative effects on the labour market in the form of the reallocation of jobs. The result is structural unemployment as well as post-displacement wages which are likely to be lower.<sup>31</sup>

This emphasises the need for active labour market policies that provide appropriate training and retraining as well as income support for affected workers. Offshoring can affect both lower and higher-skilled workers, and therefore programmes should be designed to support both. As the non-tradeable sector is destined to decline, the labour market should prepare to focus on jobs that will remain in the domestic economy. The differentiation between personal and impersonal services does not correspond to the distinction between low-skilled and high-skilled activities, which is why it is important to provide appropriate vocational training.<sup>32</sup> Kim and Hwang accentuate the importance of further research to assess the

24 K. De Backer, N. Yamano, op. cit.

25 M. Amiti, S.J. Wei, J. Haskel, E. Auriol: Fear of Service Outsourcing: Is It Justified?, in: *Economic Policy*, Vol. 20, No. 42, 2005, pp. 307-347.

26 R. Crinò: Service offshoring and productivity in Western Europe, Università commerciale Luigi Bocconi, 2008, available at <http://www.iae.csic.es/investigadorsMaterial/a8159160859archivoPdf90907.pdf>.

27 D. Trefler, D. Rodrik, P. Antràs: Service Offshoring: Threats and Opportunities, Brookings Trade Forum, 2005, pp. 35-73.

28 R. Crinò: Offshoring, multinationals and labour market: a review of the empirical literature, in: *Journal of Economic Surveys*, Vol. 23, No. 2, 2009, pp. 197-249.

29 S.M. Kim, J.T. Hwang: Offshoring, wages, and heterogeneity, in: *Japan and the World Economy*, Vol. 37, 2016, pp. 65-72; I. Geishecker, H. Görg: Services offshoring and wages: Evidence from micro data, in: *Oxford Economic Papers*, Vol. 65, No. 1, 2011, pp. 124-146.

30 OECD: Global Value Chain Development Report 2017, op. cit.

31 R. Crinò: The Effects of Offshoring on Post-displacement Wages: Evidence from the United States, in: *The World Economy*, Vol. 33, No. 12, 2010, pp. 1836-1869.

32 A.S. Blinder, op. cit.

precise effects of service offshoring on labour markets, with special attention on projected future increases on offshored service activities.<sup>33</sup>

Potential short-term job losses are offset by overall gains in welfare and productivity, which apply to both service offshoring and offshoring in general.<sup>34</sup> If the offshoring of certain activities is prevented, for instance by inhibiting service trade policies, some developing economies might suffer as their participation in GVCs depends on supplying intermediate inputs to other economies. From the perspective of developed countries, offshored activities would not necessarily return to the domestic market as a result of unfavourable policy changes but rather may not be performed at all. For some companies, their competitiveness may depend on their ability to offshore certain activities. Hence, inhibiting offshoring, for instance, by increasing taxation of MNEs, may decrease affected companies' productivity, competitiveness and thus domestic employment as well as tax income. Stated differently, offshoring can lead to improvements in companies' productivity, competitiveness and increased domestic employment and tax income. Therefore, the consequences of inhibiting offshoring of MNEs through increased taxation or other policies are more far-reaching than its short-run effects due to MNEs' importance for domestic sustainable growth and private-sector employment.<sup>35</sup> If companies decrease their offshoring share voluntarily, however, the consequences on the domestic economy are likely to be positive.<sup>36</sup>

Even though many developing countries participate increasingly in GVCs, in East Asia for example, many others do not. Therefore, countries with limited access to the world economy are in need of policies that open their economies to foreign investment and induce international trade and investment. Since an increasing share of value-added originates from service activities, the relevance of such policies increasingly encompasses the service industry and GVCs.<sup>37</sup> Moreover, for a growing number of developing countries it is important that policies consider small and medium-size companies as they are most inhibited by impediments such as weak institutions, corruption and poor infrastructure. The lower share of domestic service value-added in manufacturing exports of developing economies emphasises the need for policies

that attract investment, for instance in the form of FDI, to reduce the distance to developed countries. FDI may increase domestic companies' productivity and export competitiveness through service activities such as finance, transportation and telecommunications.<sup>38</sup> This, in turn, can enable developing economies to perform higher value-added activities.

The importance of institutions should be noted since institutional factors can inhibit increased participation of developing countries in GVCs and prevent a shift towards higher value-added activities. Impediments such as corruption, low bureaucratic efficiency as well as weak rule of law and property rights protection prevent developing countries from becoming attractive locations for service offshoring, as well as offshoring in general. Trefler, Rodrik and Antràs find that contract-intensive high-skilled output in developing countries where institutions are scarce discourages their participation in service GVCs.<sup>39</sup> These would be much more effective, for instance, if companies did not have to fulfil different regulations in each country. Therefore, harmonised regulations, as is the case in the EU, would increase the potential of exploiting economies of scale.<sup>40</sup>

In the context of the 'servicification' of manufacturing, Miroudot and Cadestin emphasise the importance of a consistent international trade regime because merely reducing tariffs and non-tariff impediments to trade does not sufficiently guide trade in GVCs.<sup>41</sup>

Consequently, policies ought to induce investments into developing economies with the goal of increasing their productivity and participation in GVCs. In addition, such policies should positively affect the efficiency of institutions. From the perspective of developed economies, policies are required that limit offshoring of certain activities to an extent that ensures gains in welfare and productivity and hampers detrimental economic effects. Policies need to support the offshoring of services and other activities in both developed and developing in order to encourage positive productivity, comparative advantage, participation in the world economy and skill development.

33 S.M. Kim, J.T. Hwang, *op. cit.*

34 See W.J. Baumol, A.S. Blinder, E.N. Wolff, *op. cit.*; and R.C. Feenstra, A.M. Taylor, *op. cit.*

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