

# Services Trade and Employment

**Johannes Schwarzer**

**June 2015**

Discussion Note 2015/2

---

## ABSTRACT

Driven by spectacular technological advances and the emergence and intensification of global value chains, trade in services has been the most dynamic part of global trade over recent years. All regions of the world have witnessed growth in services trade, albeit at different paces. Europe and North America have been the most successful regions in terms of services exports. Serious data limitations still prevent a deeper understanding of the exact nature of global services trade flows, but indicate that the magnitude of services trade is currently rather under- than overestimated.

The services sector is the largest employer worldwide and absorbs labor at faster rates than other sectors across regions and throughout various development stages. However, the link between employment shares in services and services trade remains unclear. Services trade occurs across all economic sectors and even nontradable sectors may host tradable occupations, which can potentially be offshored (services imports). While some studies estimate the number of potential jobs directly related to services trade to be up to 50% of the workforce, most studies estimate that this number is significantly lower. Due to the services sector's importance for the wider economy, however, the indirect effects of services trade on employment generation are estimated to be much larger.

On average, jobs in tradable services appear to be of better job quality than those in nontradable services and manufacturing. In particular, workers in tradable services are better paid and usually enjoy higher education as compared to other sectors or occupations in the economy. This finding seems to hold across both developed and developing countries. Moreover, it appears that the services sector as a whole absorbs female labor at a higher rate than other sectors, effectively contributing to greater female labor participation notably in developing countries.

---

## ABOUT THE AUTHOR

Johannes Schwarzer is a trade policy fellow at CEP, where he is focusing on the links between services trade and sustainability.

---

## ACKNOWLEDGEMENTS

CEP Discussion Notes are published by the Council on Economic Policies (CEP) — an international economic policy think tank for sustainability focused on fiscal, monetary, and trade policy. The views expressed in these publications are those of the authors and do not necessarily represent those of CEP or its board. Discussion notes describe policy-related analysis and research and are published to elicit comments and further debate.

## Table of Contents

<b>1. Introduction</b>	<b>2</b>
<b>2. The Rise of Trade in Services</b>	<b>3</b>
2.1. What is Trade in Services?	3
2.2. Drivers of Global Trade in Services	4
2.3. Trends in Global Services Flows	6
2.4. Data limitations	10
<b>3. The Service Sector, Trade and Jobs</b>	<b>11</b>
3.1. Structural Change and Premature Deindustrialization	12
3.2. Services Trade and Employment Generation	15
3.3. Services Trade and Job Quality	18
3.4. Services Trade and Gender	20
<b>4. Conclusion</b>	<b>21</b>
<b>5. References</b>	<b>22</b>

---

## 1. INTRODUCTION

Driven by spectacular technological advances and the emergence and intensification of global value chains (GVCs), trade in services has been the most dynamic part of global trade over recent years. The concurrent rise of services trade provisions in existing and forthcoming trade agreements bears testimony to their relevance in contemporary international policymaking.

At the same time, stalled negotiations on services within the context of the WTO and persistent controversies over services provisions in discussions of the Transatlantic Trade and Investment Partnership (TTIP), the Trade in Services Agreement (TiSA), and other regional trade agreements reflect substantial discord on the desirability of services trade rules and their optimal design in international treaties.

The outcome of these negotiations is critical for employment. Services have been the key driver of job growth in recent years — directly, but also indirectly through their connection with the broader economy. According to data from the International Labor Organization (ILO), its share in global employment in 2013 stood at 45%, as opposed to 32% in agriculture and 23% in industry.

Nonetheless, research on the effects of international trade in services on employment remains in its infancy. While a growing strand of the literature looks at the links between services trade policy, flows, output and productivity, very little is currently known on labor market outcomes.

This paper summarizes the current discussion about and evidence on services trade and employment, offering an overview for both policy makers and researchers. The first part sketches the rise of services trade by discussing its drivers and global dynamics. The second part looks at global employment patterns and links them to developments in services trade. We conclude with a brief synthesis of the findings presented.

---

## 2. THE RISE OF TRADE IN SERVICES

---

### 2.1. WHAT IS TRADE IN SERVICES?

---

The notion of “international trade” is generally associated with trade in goods. One can easily picture large container ships carrying physical goods from one country to another. The long-established practice of registering foreign goods and levying differential import duties depending on product types and origins has provided economists with copious amounts of data for analyzing structures, drivers and effects of international trade in goods. For example, US data on international goods transactions is classified into over 8’000 subsectors for exports and over 10’000 subsectors for imports, covering each and every commercial partner country worldwide.

Both concept and measurement of international trade in services are less tangible. Certain forms of cross-border supply of services largely resemble traditional cross-border trade in goods. Other modes of international service provision, however, have very different features. Against this background, the General Agreement on Trade in Services (GATS), in force since 1995, provides a working definition of what constitutes international trade in services that distinguishes four different modes:

1. Mode 1: Cross-border provision
2. Mode 2: Consumption abroad
3. Mode 3: Commercial presence abroad
4. Mode 4: Temporary movement of natural persons

Mode 1 trade in services occurs when producer and consumer do not meet in person, for example when the service is delivered through the Internet. Another such case would be a call center, which exports customer service from India to consumers in Great Britain. Mode 2 refers to the consumer travelling to another country to consume a certain service abroad. For example, the United States exports educational services when foreign students pay tuition fees to attend US universities. Mode 3 exports capture the delivery of services by the foreign subsidiary of a firm, as would be the case with foreign branches of a bank, restaurant chain or telecommunications provider. This mode of supply is hence closely linked to service-related foreign direct investment (FDI). Finally, Mode 4 service exports again reflect movement of natural persons. However, unlike Mode 2, this type of service delivery describes the temporary movement of the service provider, such as an engineer who travels abroad to fix a power generating plant.

While providing a helpful conceptual framework, the four different modes of supply are often intertwined. Hence, it is not always possible to associate a single service transaction with one single mode of supply. This can be illustrated using the last example. The engineer travelling abroad to fix a power plant might work for the same firm whose foreign subsidiary operates

that power plant (Mode 3). She might board an airplane owned by the host government, stay in a host country hotel and dine in local restaurants (Mode 2). At the same time, she might be seeking guidance by phone from a specialist at headquarters in the home country (Mode 1).

---

## 2.2. DRIVERS OF GLOBAL TRADE IN SERVICES

The relative ‘obscurity’ under which trade in services operates results also from the fact that services have long been regarded as non-tradable: While goods could be stored and transported over long distances, the same was difficult to imagine for services, as these often require direct and immediate interaction between supplier and consumer. This perception has, however, dramatically changed over recent years. The literature describes three key developments that have contributed to driving international trade in services: growing tradability of services as a result of technological progress, an expanding share of service-related value added in manufacturing goods, as well as increasing demand for services worldwide.

### Technological Progress

Major advances in transport as well as information and communications technology (ICT) have significantly reduced the effect of time and distance as a barrier to trade, making the temporal and geographical link between modern service supply and demand increasingly obsolete. Average US international airfares have halved from 1987 to 2007 and the cost of a one-minute international phone call from the US has dropped by over 90% from 1992 to 2007 (Jensen, 2011). Analogous trends can be observed for the prices of personal computers and hardware. Internet usage has expanded rapidly into all corners of the world (Figure 1). While internet penetration rates are still highest in Europe, Oceania/Australia and North America, other parts of the world have seen the highest growth rates over the past fourteen years.

**Figure 1: World Internet Usage and Population Statistics**

	Internet Users (2000 Estimates)	Internet Users (2014 Estimates)	Penetration (% Population)	Growth 2000- 2014
<b>Africa</b>	4,514,400	297,885,898	26.5%	6,498.6%
<b>Asia</b>	114,304,000	1,386,188,112	34.7%	1,112.7%
<b>Europe</b>	105,096,093	582,441,059	70.5%	454.2%
<b>Middle East</b>	3,284,800	111,809,510	48.3%	3,303.8%
<b>North America</b>	108,096,800	310,322,257	87.7%	187.1%
<b>Latin America/Carib.</b>	18,086,919	320,312,562	52.3%	1,672.7%
<b>Oceania/Australia</b>	7,620,480	26,789,942	72.9%	251.6%
<b>World</b>	360,985,492	3,035,749,340	42.3%	741.0%

Source: Internet World Stats

As such, previously untradeable services such as legal services, business consulting, accounting, medical services (telemedicine) etc. have become tradable over large distances. Accordingly, data generated in one country can easily be stored and processed in another, taking advantage of labor cost and skill differences across international borders.

This development has been favorable to the expansion of global trade and has, together with other factors, given way to the emergence of so-called global value chains (GVCs), in which production processes are increasingly split up and located across different countries. Offshoring of service components in the production process is an integral part of this trend.

### **The Servicification of Manufacturing**

Services are becoming an ever more important part in manufacturing output. Manufacturing firms buy and import more services than before, also selling and exporting more services as integrated or accompanying parts of their goods. This phenomenon has been documented by a series of influential studies commissioned by the Swedish National Board of Trade, which refer to it as the “servicification” of manufacturing (Kommerskollegium, 2012). The first of these studies finds that the cost of bought-in services more than doubled between 1975 (12%) and 2005 (25%) as a share of total sales in Swedish manufacturing (Kommerskollegium, 2010). Similarly, the McKinsey Global Institute estimates that for every dollar of output, US manufacturing firms use 19 cents of services input, with similar figures for Germany and China (Manyika et al., 2012). According to the authors, this is because service-like activities such as R&D, marketing and sales, and customer support are becoming an increasing part of manufacturing companies’ offering. This share of services inputs varies, depending on the industry under study. A case study on the Nokia N95 smartphone reveals that the material and assembly costs of the smartphone amount to only 35% of final value added, whereas Nokia’s internal support services (31%), licenses, retailing and distribution (19%) and operating profit (16%) make up the rest (Ali-Yrkkö et al., 2011). A concomitant trend can be observed in employment patterns, where service-related activities take on an increasingly predominant role in the manufacturing sector, and currently provide for 30-55% of manufacturing jobs across countries (Manyika et al., 2012). In general, the final retail price of a manufactured good increasingly also includes value created through services both upstream (e.g. R&D, design and branding) and downstream (e.g. marketing, advertising and retailing) (Elms & Low, 2013). Meanwhile, service value-added embedded in goods is completely unaccounted for when goods cross international borders. This has led some observers to advocate for an extension of the existing definition of trade in services. Cernat & Kutlina-Dimitrova (2014) are a case in point: They suggest a Mode 5 of international trade in services that captures the service value-added content embedded in internationally traded manufacturing goods.

### **Increasing Services Demand**

A well-documented fact in the literature on structural transformation is the positive association between higher incomes per capita and the increased share of expenditure

devoted to the consumption of services (see e.g. Kongsamut et al., 2001). As countries grow richer and incomes rise, demand for services rises and so the structure of the economy changes both in terms of GDP and employment from agriculture via manufacturing to services. In economics, this empirical phenomenon is often explained theoretically through sectorally varying income elasticities of demand, i.e. the responsiveness of the demand for a good or a service to a change in the income of the people demanding it. Accordingly, the primary sector (agriculture) delivers basic products that are a necessity for survival. At low levels of income, the share that consumers spend on agricultural products in total expenditure is high, but diminishes in favor of products from the secondary sector (manufacturing) as incomes rise. In other words, the share of spending on food diminishes with rising income, as the needs for food get gradually satisfied and more money is spent on other goods, like e.g. clothes and cars. Subsequently, with rising incomes, a saturation of demand for manufactured goods kicks in and a rise in demand for services ensues, providing for a rising share of spending on services in total expenditure.

Traditionally, service providers' expansion has been circumscribed by the "straightjacket" of domestic demand in their home country. Accordingly, growth in services demand in a particular economy would only have benefitted domestic service providers. However, with services becoming increasingly tradable, providers in any single country, regardless of its income levels, see their markets expand as other countries increase services demand.

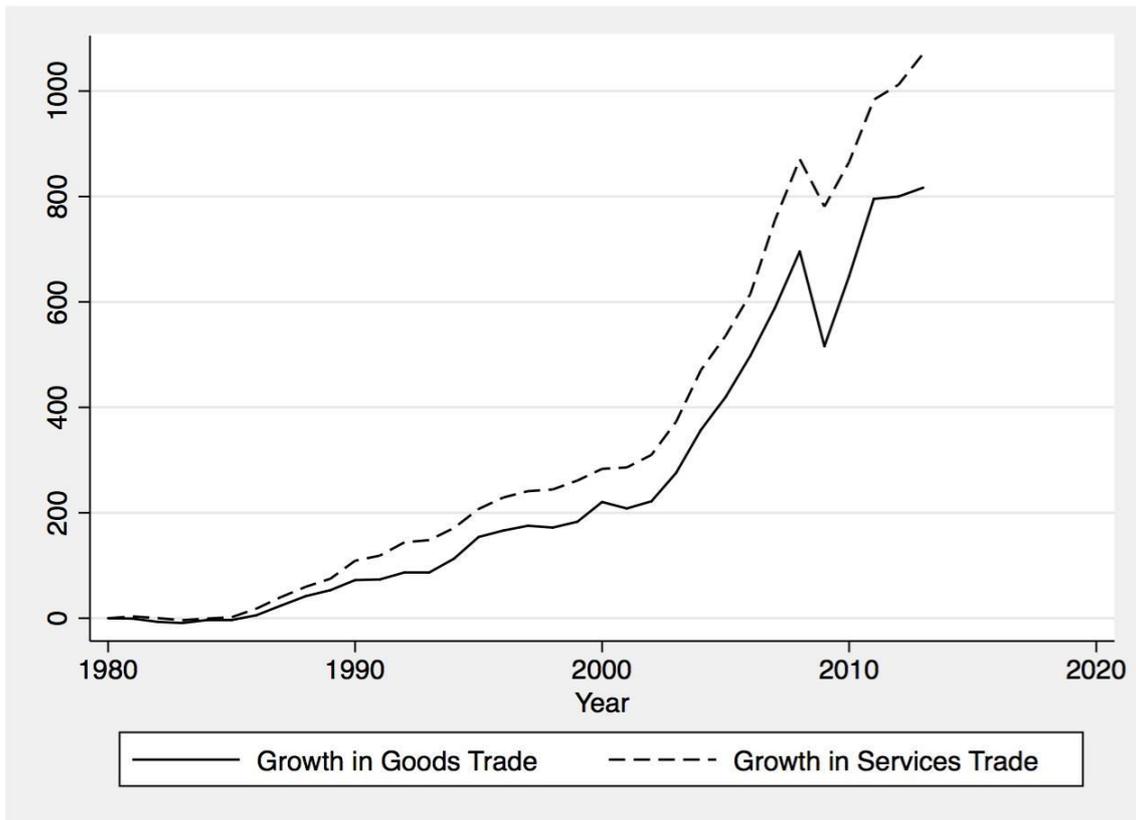
Given the speed of technological innovation in ICT, the number of services that can be provided from a distance keeps growing and entirely new, tradable ICT-enabled services are being created, almost on a daily basis (think of e.g. developing smartphone applications, web portals, transcribing medical records, processing insurance claims etc.). As the global market for such services expands, the geography of trade in services is also changing and the possibilities for countries to develop based on their comparative advantage in service provision increase (Ghani, 2010).

---

### 2.3. TRENDS IN GLOBAL SERVICES FLOWS

International trade in services has been the most dynamic part of world trade over the last decades, as revealed by data from the World Trade Organization (WTO). Figure 2 plots the cumulative growth in goods and services trade, on the basis of the respective 1980 value until 2013.

**Figure 2: Growth in Global Trade Flows (1980=0)**

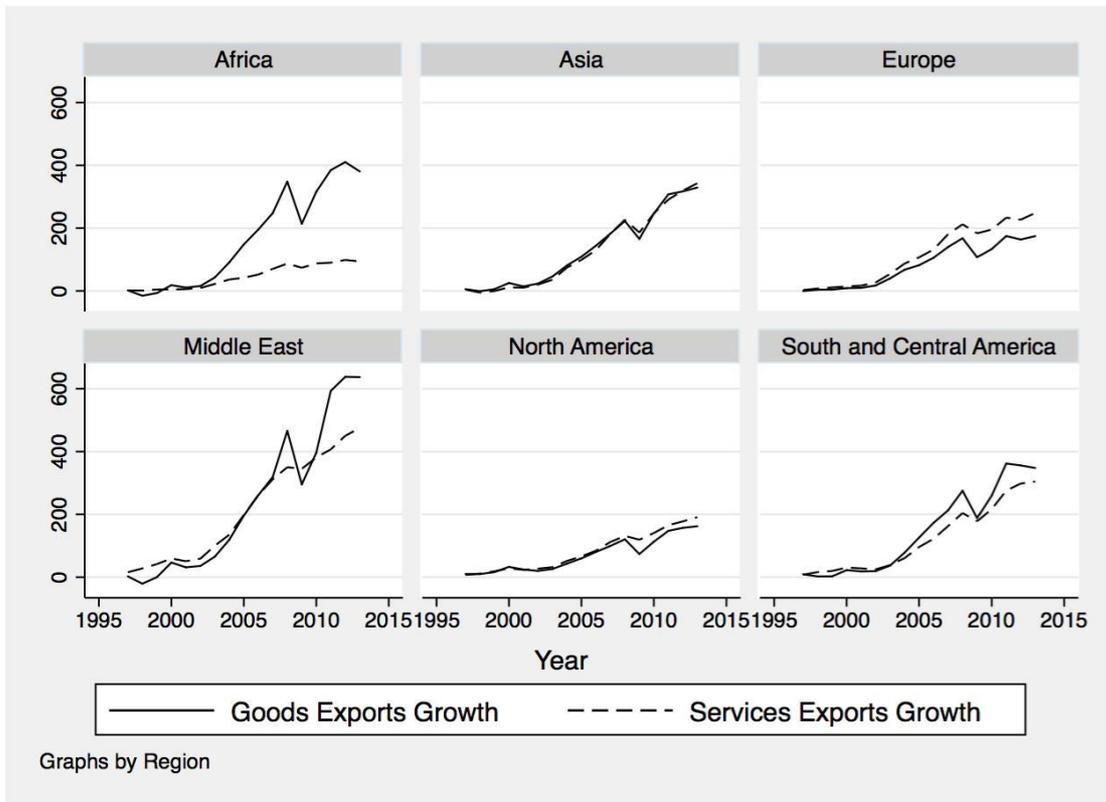


Source: World Trade Organization, Time series on international trade

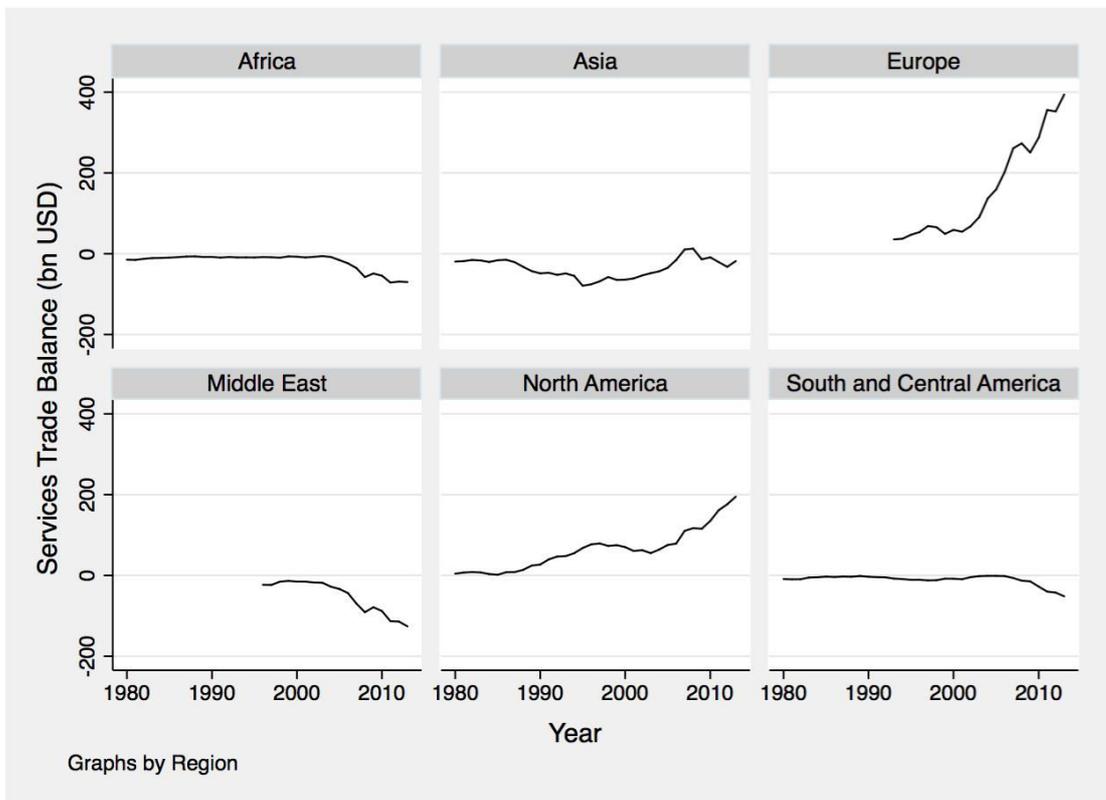
On aggregate, growth in services trade has outpaced growth in goods trade and appears to have been more resilient to the financial crisis of 2008/2009, also picking up much faster subsequently. The value of world trade in goods has exceeded 800% of its 1980 value in 2013, world trade in services has grown more than ten-fold during the same period (albeit from a lower initial level).

However, growth in services trade has been highly unequal across world regions. Figure 3 reveals that North America and Europe have been the drivers of global service export growth, outpacing growth in goods exports. In Asia, service export growth was on par with growth in goods exports, while South and Central America as well as the Middle East displayed lower growth figures in services compared to goods exports. Africa recorded the most striking relative lag of service export growth. While part of the explanation may lie in booming global commodity prices and hence rapid expansion of African goods exports, the overall very low percentage increase in African service exports also points towards further obstacles to exporting services from the region.

**Figure 3: Regional Export Growth (1996=0)**



**Figure 4: Services Trade Balance**

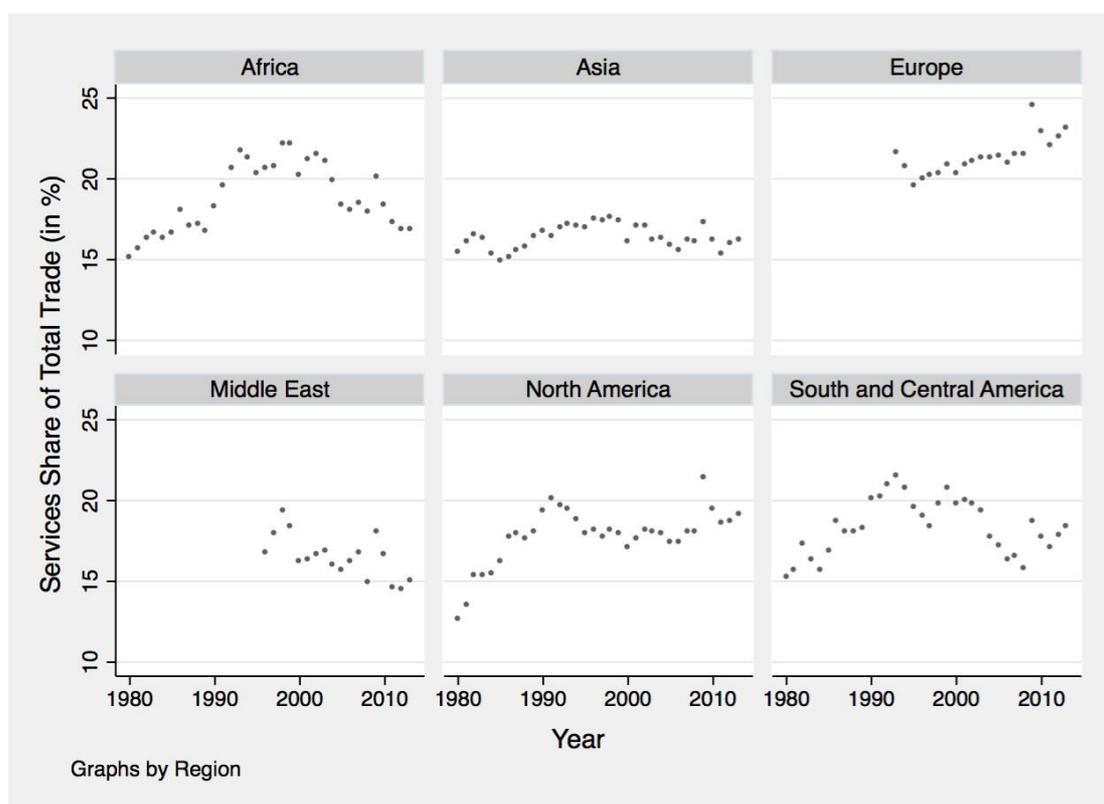


Source: World Trade Organization, Time series on international trade

Obviously, focusing on exports alone disregards the potential benefits of imports (in terms of e.g. greater variety and higher quality, as well as cheaper prices of foreign supplied services). At the same time, export data does provide important insights to determine which regions have been more successful in international service provision than others. Regional services trade balances, as depicted in Figure 4, provide further evidence in this regard. Again, North America and Europe lead the way while most other regions (except Asia) record a deterioration of their services trade balances.

Despite its dynamic growth since 1980, services trade as a share of total trade has not consistently followed a single particular trend throughout all regions and across time (Figure 5). A certain increase of this share is observable in North America between 1980 and 1990, as well as in Europe, while the share has diminished in the Middle East.

**Figure 5: Services Share of Total Trade**



Source: World Trade Organization, Time series on international trade

Figure 6 reveals more details on the structure of services exports of low and middle-income countries worldwide. While service exports have increased across all regions (albeit at different paces, as illustrated in Figure 3), the composition of services exports — in terms of broad economic service subsectors — has varied significantly across regions. Most regions have witnessed a decrease in the share of ‘traditional’ services exports, such as transport and travel (tourism) between 2005 and 2012. This decrease has generally translated into increased shares of ‘modern’ services, roughly classified as “computer, ICT and other services”. This increase has been most spectacular in the Middle East and North Africa. In Sub-Saharan Africa,

however, the reverse has happened. There, all services sub-sectors have witnessed a decreasing share of total exports, except travel services, i.e. tourism.

**Figure 6: Structure of Services Exports (% of total)**

	Transport		Travel		Insurance and Financial		Computer, ICT and other	
	2005	2012	2005	2012	2005	2012	2005	2012
<b>East Asia &amp; Pacific</b>	19	17	36	34	1	2	44	46
<b>Europe &amp; Central Asia</b>	29	31	40	34	1	2	30	33
<b>Latin America &amp; Caribbean</b>	18	15	55	53	6	8	21	24
<b>Middle East &amp; North Africa</b>	31	35	42	38	9	7	18	31
<b>South Asia</b>	20	18	15	13	4	5	62	64
<b>Sub-Saharan Africa</b>	37	31	40	52	6	4	18	13

Source: World Bank, World Development Indicators

## 2.4. DATA LIMITATIONS

Services trade is subject to serious data limitations, which suggest a significant underestimation of actual trade flows. The data underlying the previous figures are all based on national balance of payments data, which record total trade for a number of service subsectors such as transport services, travel, financial and insurance services, computer and information services, business services, personal and cultural services. We have been considering only commercial services, defined as all services except government services, whose provision may not follow the same market-logic as commercial services.

Balance of payments data, however, paints only a broad picture. Its granularity is significantly lower in comparison to goods classifications. The number of sub-sector classifications varies from country to country, but even the most advanced national statistics on services trade record data on 35 distinct sub-categories at most. Meaningful time series that are comparable across countries are hence available not even at this level of disaggregation. In addition, total figures are estimates, as their compilation is usually based on surveys, and not all countries apply the same methodology for collecting services data.

A further complication arises from the fact that balance of payments data can only serve as a basis to derive the magnitude of mode 1 and mode 2 trade in services. Mode 4 services trade flows can only be estimated on the basis of remittance flows that, however, do not distinguish between permanent and temporary migration. A major limitation of using balance of payments data is that it only records transactions between a country's residents and non-

residents. It thereby completely bypasses sales of home country owned foreign affiliates, effectively disregarding services trade arising from FDI (Mode 3). This omission is significant, as can be gauged from Eurostat data: Extra-EU services exports in terms of balance of payments data stood at 684 billion Euros in 2013, whereas outward FDI flows were 341 billion Euros. More than 62% of EU FDI stocks are in services.

To remedy this situation, a new statistical framework has been developed recently, recording economic activities of enterprises producing goods and services and in which foreign investors own more than 50% of the voting power (The Foreign Affiliates Trade Statistics, FATS). As these are relatively recent and implementation varies significantly across countries, FATS data is not yet fully comparable across time and countries. Nevertheless, given all these shortcomings, one may reasonably expect the share of services trade to be much larger than current balance of payments data suggest. Recent estimations for the OECD countries confirm the conjecture that traditional balance of payments data has systematically underestimated the volume of trade in services, suggesting that the share of services in total trade (if measured in value-added terms) is actually close to 50% ([OECD TiVA Database](#)).

---

### 3. THE SERVICE SECTOR, TRADE AND JOBS

Having reviewed global trends in services trade, this chapter will sketch global developments in service sector employment. We will tie the discussion to the extent possible to developments in services trade, as described above. At least one important caveat, however, should be kept in mind throughout this discussion. Studies generally focus on reported employment and unemployment rates and are hence inevitably dealing with systematic measurement errors. Developing country economies in particular are usually characterized by a large degree of informality. Sinha (2011) estimates that on average 80 per cent of workers in low-income countries, 40 per cent of those in middle- income countries and 15 per cent of workers in high-income countries are employed in the informal economy. Informality comes with a lot of drawbacks for workers, like lack of social security, insurance, etc. While the percentage of informal jobs is estimated to be largest in agriculture, services jobs display a higher degree of informality than jobs in manufacturing.

We will further restrict our discussion to *ex-post* analyses. *Ex-ante* analyses are often based on *Computable General Equilibrium (CGE)* modeling, which offers a way of simulating and quantifying expected gains and losses from changes in trade policy. Our omission of such *ex-ante* results in our discussion is warranted by the relative underdevelopment of the literature with respect to services trade, and notably two key shortcomings:

First, unlike for goods, international services flows do not face tariffs or other impediments at the border. In fact, borders are often immaterial to services flows. Hence negotiations in services are more to be likened to negotiations of non-tariff barriers (NTBs) to trade or behind-

the-border impediments in goods. Following the somewhat more established literature on quantifying NTBs, existing modelling exercises hence proceed by estimating so called “ad-valorem equivalents” (AVEs) of barriers to services trade. This method consists of translating a given level of regulatory protectionism into a “tariff-equivalent”, which raises the price of an internationally delivered service by a certain percentage. It is debatable whether these are ‘good proxies’ for actual costs services exporters are facing. But even if they are, the discrepancy in estimated trade costs across studies and depending on methodology is striking (see figure 7 as an example).

**Figure 7: Bilateral AVEs in services subsectors (in %)**

	USA		EU	
	A	B	A	B
Construction	2.5	95.4	4.6	48.4
Insurance	19.1	43.7	10.8	40.8
Finance	31.7	51.3	11.3	40.8
Telecommunications	1.7	36.9	11.7	27.3
Trade	N/A	42.3	N/A	26.8
Air Transport	2	17.5	2	15.8
Maritime Transport	8	98.4	8	48.3
Public Services	N/A	8.8	N/A	29.9
Business Services	3.9	N/A	14.9	N/A

Source: TTIP impact assessment studies by A: Francois et al. (2013) and B: Felbermayr et al. (2013)

Second, CGE modeling results depend crucially on a baseline, initial level of trade flows. We have seen above how services trade is notoriously underestimated, notably due to the failure to account for FDI and value-added content of services embedded in goods trade flows. Hence, CGE based simulations for services trade cannot yet be used to predict liberalization outcomes in an authoritative way.

### 3.1. STRUCTURAL CHANGE AND PREMATURE DEINDUSTRIALIZATION

The process of structural change in countries’ employment patterns appears to have accelerated over recent years, with manufacturing absorbing less labor than has traditionally been the case in the interim stage of development. Long-term economic development is generally associated with the *successive* increase in employment shares by sector and with country income. The poorest countries tend to have the bulk of the labor force employed in the agricultural sector. As countries get richer, labor shifts away from agriculture into

manufacturing and finally the richest countries will observe an increase of labor shares in services. A quick glance at the trends over the last 15 years across regions illustrates this trend (Figure 8).

**Figure 8: Employment Shares by Sector (in %)**

	Agriculture		Industry		Services	
	2000	2012	2000	2012	2000	2012
<b>World</b>	40.4	31.9	20.5	23	39.1	45
<b>Developed Economies and EU</b>	5.5	3.6	27.2	22.5	67.3	73.9
<b>Central and South Eastern Europe</b>	25.3	20.1	25.1	24.0	49.6	55.9
<b>East Asia</b>	47.4	31.0	23.7	30.9	28.9	38.1
<b>South East Asia and Pacific</b>	49.8	39.2	16.4	19.8	33.9	41.1
<b>South Asia</b>	59.5	48.5	15.6	22.2	25.0	29.3
<b>Latin America and Caribbean</b>	21.5	15.7	21.2	21.1	57.3	63.2
<b>Middle East</b>	22.9	14.9	23.9	27.2	53.2	57.9
<b>North Africa</b>	33.8	30.1	20.1	21.5	46.1	48.3
<b>Sub-Saharan Africa</b>	65.5	61.1	8.1	8.9	26.3	30.0

Source: ILO, Key Indicators of the Labor Market

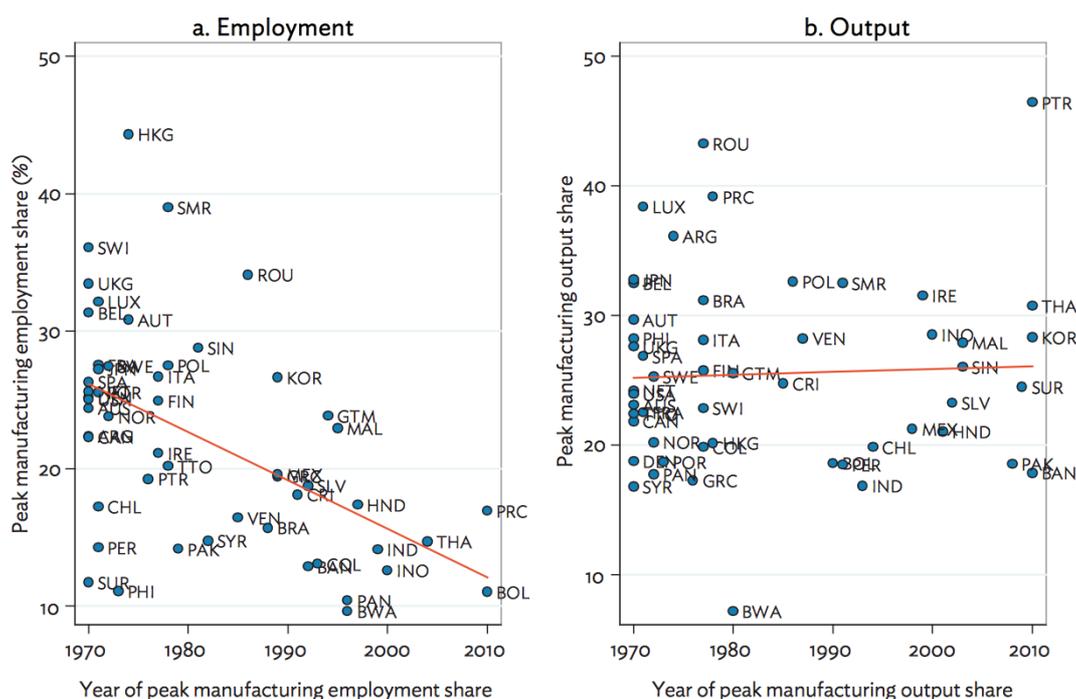
Agriculture still accounts for the bulk of employment in low-income regions. As such, the labor share in agriculture in South Asia was 48.5% in 2012, and as high as 61.1% in Sub-Saharan Africa. Developed economies contrast starkly with those figures, with only 3.6% of labor employed in the agricultural sector in 2012. At 30.9%, the share of labor employed in industry is highest in East Asia, driven by the large Chinese labor force in the manufacturing sector. As expected, the importance of the service sector grows with income levels and we see the richest countries having the largest shares of labor employed in the sector (73.9% for the developed economies and the European Union).

Looking at sectors globally, employment shares in services increased by 5.9 percentage points between 2000 and 2012, whereas the increase in manufacturing amounts to 2.5 percentage points during the same period. The agricultural sector shed labor relatively to the others and saw its employment share reduced by 8.5 percentage points. A more detailed look at single regions reveals that growth in service sector employment shares has been positive throughout. This suggests that services take on a much more prominent role in employment generation than is currently acknowledged, absorbing labor at relatively faster rates

throughout various development stages. Similar results hold when looking at more disaggregated, firm-level data. Indeed, based on an analysis of over 45,000 firms in 106 countries between 2006 and 2010 the International Finance Corporation (IFC) finds that the service sector led job creation for developing countries and that firms in services had higher employment growth than manufacturing (8.8 percent and 5.2 percent, respectively).

In fact, it appears that the interim stage of industrial expansion is becoming less important for the move to high employment shares in services than it used to be. Such ‘premature deindustrialization’ in terms of employment is manifest in the observation that peak manufacturing employment shares have declined over recent decades (figure 9). In other words, the relative importance of the manufacturing sector in absorbing labor is continuously declining, as countries attain their peaks in manufacturing employment shares at much lower levels than the early industrializers did. Meanwhile, peak manufacturing output shares do not display an analogous trend, suggesting that manufacturing remains an important part of countries’ total income.

**Figure 9: Peak Manufacturing, Employment and Output**



manufacturing and agriculture (Ghani & O'Connell, 2014). The latter postulate that the changing nature of the services sector provides opportunities to 'leapfrog' traditional patterns of economic development. This may hence also have implications for trade-led development strategies. Nevertheless, it remains unclear whether the recent rise of services trade and premature deindustrialization are linked. For instance, the services sector in China employs roughly 33% of total employment, whereas the number for India is only 26%. Given that China is known as the global supplier of manufactured goods and India the global services provider, this suggests that structural transformation seems not to have depended — so far at least, and given data related caveats — on what countries export.

---

### 3.2. SERVICES TRADE AND EMPLOYMENT GENERATION

While the services sector is by far the largest employer worldwide, very little is known about the impact of trade in services on employment generation. It is often difficult to precisely associate services trade flows with specific services (sub-) sectors or occupations. Considering the measurement problems regarding services trade as discussed above, it is hence not surprising that research has to date found little evidence for significant *direct* employment impacts. However, the *indirect* effects of services trade can be substantially larger, given the increasing prominence of the services sector for the wider economy.

The service sector is vast and hence the types of jobs it offers are very diverse. Therefore, an analysis of the effects of services trade on employment must also take account of the great heterogeneity of potential employment effects that trade in various services subsectors can have. These may be very specific to a sector for which disaggregated trade data may not be available. Another layer of complexity in gauging potential employment effects is that not all service sectors are engaging in trade, but may nonetheless host tradable service occupations (e.g. back-office operations in retail banks).

While in principle all manufactured goods can be traded, there is currently no agreed definition on which service sectors/occupations are and which are not tradable. A groundbreaking book on services trade by Jensen (2011) employs a novel methodology to assess the extent to which service sectors and occupations are tradable under modes 1, 2, and 4. Accordingly, while 63 percent of all US jobs are in non-tradable sectors, trade in services potentially directly affects almost 50 percent of all US jobs, as a large number of occupations within tradable and non-tradable sectors can potentially be offshored.

At the same time, only a low percentage of firms engages in international trade, suggesting rather limited employment effects. Meltzer (2015) finds that only 5% of US services firms engage in international trade, whereas this number is 25% for manufacturing SMEs. In fact, total trade values are highly concentrated in a few large firms: In the United States, the biggest 1 percent of firms — large multinationals — account for 90 percent of US trade, but only 15

percent of employment. In contrast, SMEs are the main drivers of jobs growth in the US, accounting for 63 percent of net new private sector jobs since 2002. Altogether, these findings suggest that only a fraction of the almost 50% of all US jobs cited by Jensen (2011) is actually affected by trade in services.

Looking at data for countries beyond the US and focusing on exports paints a similar picture. SMEs constitute the overwhelming majority of all companies, and represent the single most important source of employment (Figure 10). Most of the depicted data on export participation is for manufacturing SMEs only, as data for services SMEs is very scarce. Yet, research by Lejarraga et al. (2014) suggests that the export propensity for small services firms is roughly half of their manufacturing counterparts and only one fourth for the case of medium size firms. In line with the evidence on trade participation in the US, these findings suggest a rather limited impact of export participation on overall job creation. Nonetheless, the effects are not negligible. Meltzer (2015) estimates that the total number of jobs supported by services exports in the US was 4.2 million in 2013.

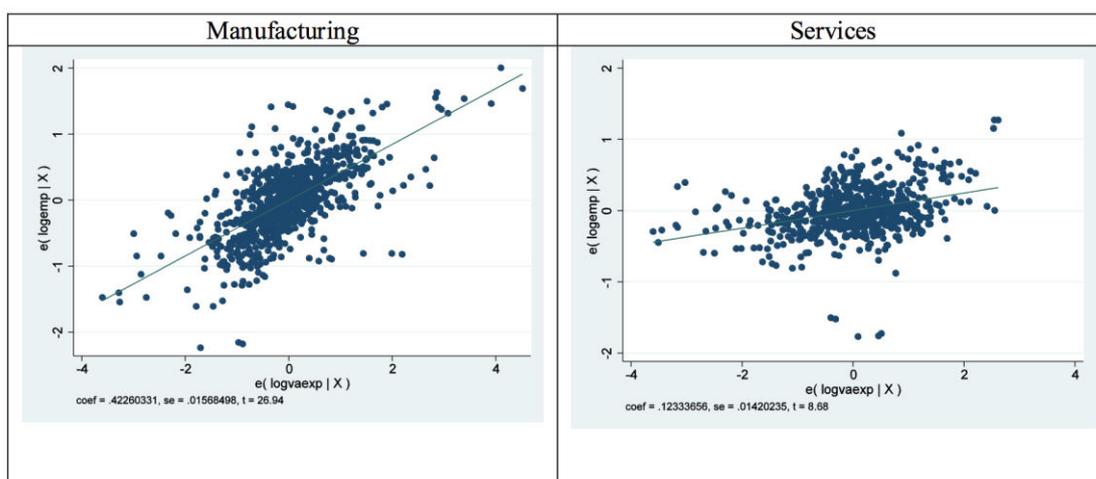
**Figure 10: Contribution of SMEs to the Economy**

	Share of Firms	Share of Employment	Share of SMEs Exporting
<b>Brazil</b>	99.87%	77%	11.4% (S)
<b>Chile</b>	98.92%	80%	14%
<b>China</b>	99%	73%	40-60% (M)
<b>Colombia</b>	96.4%	83.5%	20%
<b>EU</b>	99.8%	70%	--
<b>India</b>	95%	80%	31.5% (M)
<b>Japan</b>	99%	72% (M)	13.5% (M)
<b>Mexico</b>	99.8%	73.8%	--
<b>Sweden</b>	96.3%	60%	24.15% (M)

Source: Lejarraga et al. (2014) – (M)/(S)= Manufacturing/Services firms only

The link between exports and employment can be expressed as the employment elasticity of exports, i.e. the percentage change in total employment that is associated with a one percent change in export value (note that the employment elasticity does not imply any causal direction). According to UNCTAD (2013), a one percent increase in value-added exports in manufacturing is associated with a 0.42 percent increase in manufacturing employment, whereas for services exports and employment this elasticity is only 0.12 (Figure 11). The smaller number for services reflects the lower propensity of exporting in the services sector, but masks the differences in employment across these two sectors, making these two numbers not readily comparable. As employment is much higher in services, the absolute number of jobs that is associated with this elasticity is higher than the low percentage suggests. Hence, it is difficult to gauge the exact number of jobs directly related to services exports, making it even more difficult to assess the impact of liberalization exercises on these jobs.

**Figure 11: Employment Elasticity of Exports**



Source: UNCTAD, 2013

We have so far concentrated on exports. Of course, services imports may also have an effect on employment. For example, the recent trend towards services offshoring is widely seen as an opportunity for developing countries and a potential factor driving job dislocations in developed economies. Offshoring usually implies a movement of jobs from high to low-income countries in response to labor cost considerations. This applies to both highly value-added services, such as accounting and information technology, and lower-skill services, such as back-office and call center activities. Countries such as Egypt, India, Mauritius, the Philippines, South Africa and many others have capitalized on this trend and developed sizable business process outsourcing industries. Studies on services offshoring in developed economies suggest that negative employment effects can ensue in affected industries, but this effect tends to disappear when considering more aggregated sectors (Amiti & Wei, 2009). The reason is that jobs displaced by services offshoring are likely to be offset by new jobs in other parts of the economy. So far, no study has found significantly negative job effects of services offshoring on high-income countries as a whole, as some commentators have feared (Blinder, 2006).

Given the various modes of international service provision, as well as the importance of services for the greater economy, it would be misleading to think of services trade as being confined to service sector activity only. The services trade – employment nexus described above is driven by both direct and indirect job effects. Service imports and exports are also closely linked to the agricultural and manufacturing sectors, warranting a differentiated analysis that takes care of these interdependencies when attempting to identify an impact of services trade on employment outcomes. For example, Min & Rossotto (2012) illustrate four channels through which broadband deployment may translate into job opportunities:

- Direct job creation through the construction of broadband networks related to civil works and installation of network equipment

- Indirect job creation through incremental employment generated by businesses selling goods and services to those directly involved in broadband network construction
- Induced job creation through additional employment induced by household spending based on the income earned from direct and indirect effects
- Transformational job creation, through new jobs created by new businesses as well as business innovations and flexible work practices in existing firms, enabled through broadband adoption.

All but the first (direct job creation) are crosscutting channels and may imply opportunities throughout all broad economic sectors. More importantly, the potential for job creation increases when indirect, induced and transformational job creation is considered, but empirical assessments become more complex.

Indeed, emerging evidence suggests that services trade often has relatively little direct employment effects, but can have substantial indirect effects, due to linkages that exist with other parts of the economy. In India, for every job created in the information technology and information technology enabled services (IT/ITES) sector, four additional jobs are created in the rest of the economy (e.g. in training, transport and real estate) (UNCTAD, 2014). While these relationships are yet to be fully understood, it is estimated that on average a new job in services leads to the creation of another two jobs elsewhere. Such linkages have also recently been identified in the tourism industry, where the ratio increases to up to almost three jobs for any one job created in the tourism sector. Interestingly, the effect becomes stronger the richer a country gets and has also become stronger over time (Figure 12). From a development perspective, it is crucial to generate more knowledge on the extent to which services trade may foster the creation of wider employment opportunities in parts of the economy other than those directly concerned.

**Figure 12: Tourism's Contribution to Employment (%)**

Countries	2000-2005		2006-2011	
	Direct	Total	Direct	Total
Least Developed	3.03	7.67	3.41	8.72
Other Low Income	2.50	6.30	3.54	8.95
Lower Middle Income	3.80	9.41	4.07	10.38
Upper Middle Income	6.29	16.76	6.29	17.31

Source: Jansen, 2013

### 3.3. SERVICES TRADE AND JOB QUALITY

In addition to the relationship between services trade and employment generation, a few studies have also assessed implications for job quality. Echoing the findings from a large body of literature on trade in goods, jobs in the tradable service sector appear to be offering

relatively good working conditions, while certain services imports may lead to rising firm/industry level wage inequality.

A frequently used indicator to assess the quality of jobs is wages, which in turn is usually a function of education levels and productivity. According to Jensen (2011), US workers in tradable service activities (both industries and occupations) have, on average, a substantially higher education than those in non-tradable services activities and manufacturing. Likewise, average wages are substantially higher in these sectors as well (see figure 13).

**Figure 13: Average annual earnings (US\$) of US workers**

	<b>Tradable industry</b>	<b>Nontradable industry</b>
<b>Tradable occupation</b>	69,279	59,916
<b>Nontradable occupation</b>	39,062	33,342

Source: Jensen, 2011

While it is hard to find evidence for developing countries in general, the structure of wages appears to be similar. Ghani (2010) provides an analysis of India, suggesting that service sector wages as a whole have grown faster than in other sectors. A study by the International Labor Organization on offshoring and working conditions in Argentina, Brazil, India and the Philippines concludes that overall, “jobs in the business process outsourcing (BPO) industry in developing countries are of reasonably “good” quality by local standards in terms of their working and employment conditions” (regarding wages, hours of work and non-wage benefits, for example) (ILO, 2010). The most rapidly growing service sectors employ relatively highly educated workers in South Asia, despite the chronic shortage of education and skills in the region. Ghani (2010) argue that rapid development of the service industry has increased demand for education, which has a pull-effect on education supply. This tendency of service-led development may hence be beneficial for countries in the long run, offering prospects of higher returns to education.

The findings on the effects of services offshoring (services imports) on wages in (mostly) high-income home countries are generally mixed. A number of studies reviewed in Newfarmer and Sztrowsjka (2012) indicate that service offshoring may be driving low-skilled wages in affected firms or industries down, while higher skilled wage premia are generally maintained or even rising. Other studies, however, cannot discern significant wage effects. It seems that the level of analysis matters, as rising wage inequality may occur at the firm or industry level, while job reallocation may cancel out these effects in the economy as a whole.

Export-oriented services in turn appear to create higher paying jobs and offer better working conditions than others. Moreover, firm-level evidence suggests that there is no discernable correlation between firm size and propensity to export for small and medium enterprises in the services sector (Lejarraga et al., 2014). This finding stands in contrast to a strongly positive association between those variables for manufacturing firms, suggesting that services SMEs

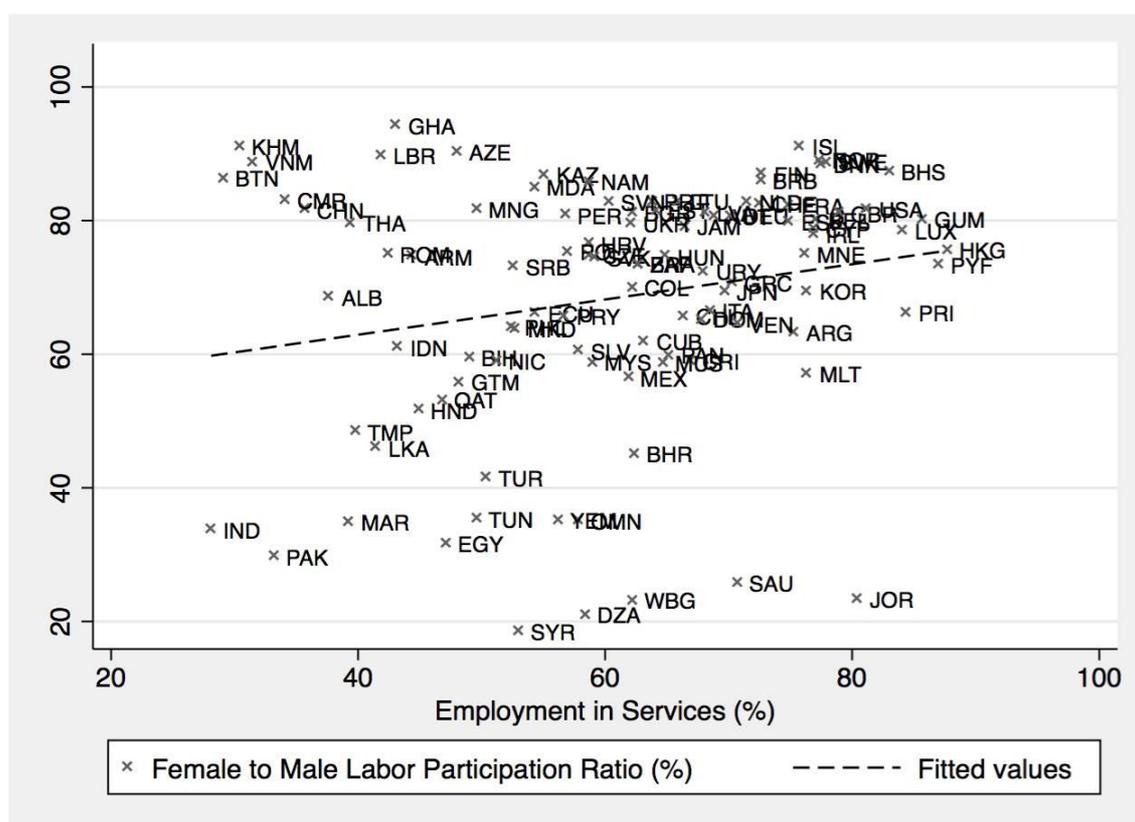
find it relatively easier to internationalize. A large body of literature has established that exporters tend to be more productive and pay higher wages (Bernard, 2007), a finding that lends credence to the deduction that jobs created in such SMEs are beneficial in terms of job quality.

In sum, services trade appears to unfold dynamics in terms of job quality that are very similar to the effects of goods trade, perhaps offering somewhat better working conditions associated with exporting. Nevertheless, hard evidence is still hard to come by. Much more robust findings on who stands to lose and who stands to gain will need to emerge in order to offer a sound basis for designing adequate policies for workers, as international trade in services becomes an ever more present reality .

### 3.4. SERVICES TRADE AND GENDER

In terms of workforce composition, it is interesting to note that countries with high employment in services tend to have a higher ratio of female to male participation rate in the labor force.

**Figure 14: Services Employment and Female-to-Male Labor Participation Ratio**



Source: World Bank, World Development Indicators

Over the last two decades, women’s share in manufacturing rose only slightly in developing countries, as most women seem to be moving directly out of agriculture into services (ILO, 2012). As such, it appears that the services sector as a whole absorbs female labor at a higher

rate than other sectors, especially in developing countries. The five subsectors in services in Asia with more than 50% female labor participation are health and social work, education, private households with employed persons, hotels and restaurants, and financial intermediation (ILO/ADB, 2011). While many of these subsectors can in principle offer decent jobs, one needs to keep in mind that this does not necessarily apply to the jobs held in these sectors by women. Despite female domination in numbers within these sectors, they do not tend to hold the upper level, managerial positions that are associated with high quality jobs (ILO/ADB, 2011). Women in the health sector are more often nurses than doctors; in the education sector they are more often primary school teachers than university teaching staff.

With regard to ICT and ICT-enabled services, the situation appears to be more favorable for women than in other sectors, even though research is far from conclusive on that question. Ayers et al. (2010) find that women account for about 65% of the total professional and technical workers in ICT services and ICT-enabled services in the Philippines. In Ireland, 70 percent of call center employees are women. In India, women make up 30 percent of the ICT labor force — a much higher rate of female participation than in the service sector in general. According to this study, women in ICT account for a greater share of high-paying jobs than in most other sectors of the economy in each of these countries.

---

#### 4. CONCLUSION

Services trade is becoming an increasingly important feature of international economic relations that poses both challenges and opportunities for decent job creation. Serious data limitations still prevent a deeper understanding of the exact nature of global services trade flows, but indicate that the magnitude of services trade is currently rather under- than overestimated. The services sector is the most important employer worldwide, and increasingly so. Depending on the precise sector under examination services trade may have limited direct employment effects, but its indirect employment effects may be much larger, providing opportunities for both developed and developing countries even outside the services sector. Moreover, services trade related employment generally offers relatively better working conditions than other sectors do. However, further research is critical to deepen our understanding on both the quantitative effects of services trade on employment, as well as repercussions on job quality.

---

## 5. REFERENCES

- Ali-Yrkkö, J., Rouvinen, P., Seppälä, T., & Ylä-Anttila, P. (2011). *Who Captures Value in Global Supply Chains? - Case Nokia N95 Smartphone*. ETLA - Elinkeinoelämän Tutkimuslaitos.
- Amiti, M., & Wei, S.-J. (2009). Does Service Offshoring Lead to Job Losses? Evidence from the United States. In M. Reinsdorf, & M. J. Slaughter (Eds.), *International Trade in Services and Intangibles in the Era of Globalization*. University of Chicago Press.
- Ayers, S., Dongier, P., Munte-Kunigami, A., Randeep, S., & Qiang, C. (2010). *The Global Opportunity in IT-Based Services*. World Bank.
- Bernard, A. J. (2007). Firms in International Trade. *Journal of Economic Perspectives*, 21(3), 105-130.
- Blinder, A. (2006). Offshoring: The Next Industrial Revolution? *Foreign Affairs*.
- Cernat, L., & Kutlina-Dimitrova, Z. (2014). Thinking in a Box: A 'Mode 5' Approach to Services Trade.
- Elms, D. K., & Low, P. (Eds.). (2013). *Global Value Chains in a Changing World*. World Trade Organization with the Temasek Foundation and the Fung Global Institute.
- Felbermayr, G., Larch, M., Krüger, F., Flach, L., Yalcin, E., & Benz, S. (2013). Dimensionen und Auswirkungen eines Freihandelsabkommens zwischen der EU und den USA. *ifo Forschungsberichte*.
- Felipe, J., Mehta, A., & Rhee, C. (2014). *Manufacturing Matters... But It's The Jobs That Count*. Asian Development Bank (ADB).
- Francois, J., Manchin, M., Norberg, H., Pindyuk, O., & Tomberger, P. (2013). *Reducing transatlantic barriers to trade and investment: An economic assessment* (No. 20130401). Centre for Economic Policy Research.
- Ghani, E. (Ed.). (2010). *The Service Revolution in South Asia*. Oxford University Press.
- Ghani, E., & O'Connell, S. D. (2014). Can Service Be a Growth Escalator in Low Income Countries? World Bank.
- IFC. (2013). Assessing Private Sector Contributions to Job Creation and Poverty Reduction. International Finance Corporation.
- ILO. (2012). *Global Employment Trends for Women*. Geneva: International Labor Organization.
- ILO. (2010). Offshoring And Working Conditions In Remote Work. International Labor Organization.
- ILO/ADB. (2011). *Women and Labor Markets in Asia: Rebalancing for Gender Equality*. International Labor Organization and Asian Development Bank.
- Jansen, M. (2013). Aid For Trade And Value Chains In Tourism. OECD/UNWTO/WTO.
- Jensen, J. B. (2011). *Global Trade in Services: Fear, Facts, and Offshoring*. Peterson Institute of International Economics.

- Kommerskollegium. (2012). Everybody is in Services - The Impact of Servicification in Manufacturing on Trade and Trade Policy.
- Kommerskollegium. (2010). Servicification of Swedish Manufacturing.
- Kongsamut, P., Rebelo, S., & Xie, D. (2001). Beyond Balanced Growth. *Review of Economic Studies* (68 (4)), 869-882.
- Lejarraga, I., Rizzo, H. L., Oberhofer, H., Stone, S., & Shepherd, B. (2014). *Small and Medium-Sized Enterprises in Global Markets: A Differential Approach for Services?* . OECD Publishing.
- Manyika, J., Sinclair, J., Dobbs, R., Strube, G., Rasse, L., Mischke, J., et al. (2012). *Manufacturing the future: The next era of global growth and innovation*.
- Meltzer, J. P. (2015). Using The Internet To Promote Services Exports By Small- And Medium Sized Enterprises . Brookings Institution.
- Min, W., & Rossotto, C. M. (2012). Broadband And Job Creation: Policies Promoting Broadband Deployment And Use Will Enable Sustainable ICT-Based Job Creation. World Bank.
- Rodrik, D. (2015). *Premature Deindustrialization*. National Bureau of Economic Research.
- Sinha, A. (2011). Trade and the Informal Economy. In M. Jansen, *Trade and Employment: From Myths to Facts*.
- UNCTAD. (2014). Exploiting The Potential Of The Trade In Services For Development. In UNCTAD, *Services: New Frontier for Sustainable Development*. United Nations .
- UNCTAD. (2013). *The Impact Of Trade On Employment And Poverty Reduction*. United Nations Conference on Trade and Development.