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# TRADE IN SERVICES AND ECONOMIC TRANSFORMATION

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# EXECUTIVE SUMMARY

While much of the debate on economic transformation centres on transforming agriculture and moving into manufacturing, services are often an unexplored component of such strategies. A proper understanding of the trade dimension of services lies at the frontier of new analytical work on economic transformation. It is also important for policy-makers in low-income countries (LICs),<sup>1</sup> many of whom may not regard services, let alone trade in services, as a prime focus of action on economic transformation. By contrast, we argue that policy (including policy directly affecting trade in services) can have a major impact in terms of raising the contribution of services for economic transformation.

This paper examines the role of trade in services by discussing how the trade aspects of services help promote economic transformation. A sceptical view often exists that services follow rather than lead transformation. However, we argue it is important for economies to follow a balanced growth path because of the explicit and implicit linkages between the various sectors. We suggest policy-makers need to update their evidence base on the linkages between sectors and consider more carefully what specific actions deserve priority. Even when promoting manufacturing exports is the top priority, the answer can actually be found in trade in services policy. This paper provides information on how such linkages might work, updating the evidence base.

The paper addresses two main questions: What is the role of trade in services in economic transformation and what can be done to improve the contribution? It tackles these using mixed methods. We review what we know about the relationships between trade in services and economic development and identify areas in need for further research (Section 2). The statistical analyses at micro and macro levels in Sections 3 and 4 provide new insights by quantifying how these relationships work, directly through trade in services or indirectly, by services production being embodied in goods trade. Section 5 selects five services sectors and undertakes brief case studies. It focuses on how the trade aspect matters for transformation and on how selected countries have promoted more exports of services, distinguishing between trade policy and other factors.

In exploring whether and how trade in services and other policy can have a major impact in raising the contribution of services for economic transformation, we summarise the main findings into three categories: 1) improved knowledge relevant for trade experts; 2) implications for trade policy directly; and 3) implications for other policy.

## Improved knowledge on trade in services

- Trade in services in LICs is expanding. We find that trade in services has grown faster than trade in goods since 1991, including in many LICs.
- The services sector is involved in exports directly (trade in services) and also indirectly (by being embodied in goods exports). LICs services are increasingly traded as intermediates into other countries' production and as part of value chains of goods and services, albeit with a low baseline. The share of services value added in goods exports has also grown, from 16% in 1992 to 22% in 2012.
- Productivity differentials are large and occur across countries, across services and other sectors and between firms within services sectors. This suggests there are a lot of opportunities for economic transformation in the services sectors. However, the debate about the determinants of these differentials is far from being settled and more detailed surveys and studies are needed.

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<sup>1</sup> Our definition includes all those countries classified as LICs by the World Bank plus other countries that were reclassified recently as low-middle-income countries. These include Bangladesh, Pakistan, Myanmar, Kenya, Zambia and Tajikistan.

- Services play a key role in aggregate productivity change and successful countries have seen productivity change in services and other sectors at the same time. This balanced growth story is not surprising given the many links (qualitative and quantitative) between services and other sectors. This confirms previous conceptual discussions with new empirical evidence on how services are embodied in goods trade – developing manufacturing without quality services is difficult if not impossible.
- We use case studies to complement quantitative work. The case studies identify the ways in which services sectors contribute to economic transformation. For instance, there is heterogeneity in the impacts of different services sectors on employment. Certain services are important revenue and foreign exchange earners (hydropower, tourism, information and communication technology (ICT)); and, in some, visible linkages with the rest of the economy are more prominent (e.g. suppliers in the tourism sector). Finally, some sectors are key for supporting productivity/trade in other sectors (e.g. ICT, logistics, finance) and these linkages are perhaps less visible.

### Trade policy (directly affecting trade in services) in LICs

- Firm-level evidence suggests exporting is good for productivity in services firms. This means that, as it is in the case for goods, **openness** (defined as the extent to which firms export) is related to transformative effects in the services sector. We should add that the relationship between exporting and services firms is based on an unbalanced sample, with limited data on services firms. The sample covers formal firms and the time series element is limited. As a result, we cannot adequately test the direction of causality between exporting and productivity. Also, because of the limited number of observations, we cannot test for heterogeneity of results. However, broadly speaking, we have initial evidence that suggests that **export promotion** is also likely to be important for services producers and economic transformation more generally.
- As imported services are an important part of the value added embedded in a country's goods exports, it is also necessary to remain open towards imports in services.
- Openness to foreign direct investment (FDI) is also important. The effect of foreign ownership on labour productivity is large and positive, although the effects in the services sector in LICs are not as strong as elsewhere. The effect of foreign ownership is not homogenous within services and foreign ownership in some services sectors has higher labour productivity.
- Trade policy plays a role and is frequently crucial in **opening markets**, regionally as well as internationally (e.g. in airline services).
- An open service sector will **increase competition** and help domestic services firms become more competitive.
- In the selected case studies, trade in services is mostly **regional**. In these contexts, it is important to liberalise trade in services within individual regions. Trade in hydropower services is a good example of this for landlocked (small) states.

### Other policy in LICs

- The presence of certain basic factors is key for success in some services sectors (e.g. natural resources/endowments and structural factors for hydropower (Lesotho, Nepal) and tourism (Mauritius, Tanzania) or a skilled workforce and telecommunications infrastructure for ICT).
- Active services policy can play an important role in promoting exports of services (e.g. the development of software technology parks (India) and a cyber city (Mauritius) to support ICT services).
- Iterative, adaptive and flexible approaches (where governments and other local actors experiment with policy interventions and adapt when needed) have proven successful in setting up mechanisms to coordinate investment in certain services sectors (e.g. hydropower in Nepal).
- An appropriate domestic regulatory framework for services is important to promote competition and improve efficiency (as, for example, the liberalisation of domestic regulations in the

telecommunications sector, allowing entry of new players, has shown in Mauritius and Senegal), thereby ensuring services exports are competitive in international markets.

- Regulation and political economy considerations are particularly important in large services sectors.
- We find the productivity of services firms in LICs that supply exporters is low on average, so there is economic transformation potential by raising the productivity of these services firms, which will have knock-on effects on trade in goods and services, etc.

These suggestions on liberalisation, however, need to recognise the complicated nature of the regulations that affect trade in services. Many regulations are not border measures but are, instead, embedded in the respective domestic regulatory frameworks. These regulations may be reasonable and perfectly justifiable by virtue of addressing certain standards of quality (i.e. certification of medical practitioners). But they can constitute a formidable impediment to trade in services. Consequently, the policy space in this case may be particularly constrained and more innovative and alternative approaches may be required to overcome the constraints to liberalisation.

There are clear examples in particular services sectors of countries managing to overcome constraints to liberalisation. In the tourism sector, for instance, a number of developing countries have implemented domestic regulatory frameworks that are non-trade-distorting. For example, to support tourism services, Mauritius, South Africa and Uganda have begun to liberalise air access (although not completely) together with some broader regional initiatives, Cape Verde has implemented a liberal regime for tourism support services such as transport handlers, Tanzania has encouraged privatisation and The Gambia has been open to foreign ownership and FDI. In ICT, Mauritius and Senegal have made extensive efforts to liberalise their telecommunications sectors, allowing entry of new players and ending monopolies and exclusive rights, thereby improving efficiency and making their ICT services exports more competitive internationally.

There is also a range of mechanisms available to negotiate better access for developing countries' services exports. At the plurilateral level, large developing countries such as India and China are actively negotiating accession to the World Trade Organization General Procurement Agreement, which may boost their market access to public works and services contracts in GPA member countries. Regional negotiations are also important, particularly for facilitating mutual recognition of services sector qualifications to facilitate services trade, such as that achieved through Mutual Recognition Agreements among the Association of South East Asian Nations. Finally, bilateral services negotiations have very occasionally, with many qualifications, facilitated access for mode 4 services from developing countries (e.g. in Chile's free trade agreement (FTA) with the US or Colombia and Peru's FTA with Canada). This is particularly important for labour-intensive services sectors such as ICT, health and education where developing countries have a comparative advantage.

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## ABBREVIATIONS

AfDB	African Development Bank
BIS	Bank for International Settlements
BoP	Balance of Payments
BOS	Bureau of Statistics (Lesotho)
BPO	Business Process Outsourcing
CAR	Central African Republic
CARIFORUM	Caribbean Forum
CBN	Central Bank of Nigeria
CBS	Central Bureau of Statistics
CII	Confederation of Indian Industry
COMESA	Common Market for East and Southern Africa
DFID	Department for International Development
DRC	Democratic Republic of Congo
EA	Ethiopian Airlines
EAC	East African Community
EPA	Economic Partnership Agreement
Eskom	Electricity Supply Commission in South Africa
EU	European Union
FATS	Foreign Affiliates Trade in Services
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GPA	General Procurement Agreement
IATA	International Air Transport Association
IBN	Investment Board of Nepal
ICT	Information and Communication Technology
IFC	International Finance Corporation
ILO	International Labour Organization
IMF	International Monetary Fund
IPP	Independent Power Producers' Association of Nepal
IT	Information Technology
ITC	International Trade Centre
KNBS	Kenya National Bureau of Statistics
KQ	Kenya Airways
LDC	Least Developed Country
LHWP	Lesotho Highlands Water Project
LIC	Low-Income Country
MFN	Most Favoured Nation
MRA	Mutual Recognition Agreement
MRIO	Multi-Region Input-Output
MRO	Maintenance, Repair and Overhaul
MSITS	Manual on Statistics of International Trade in Services

NASSCOM	National Association of Software and Services Companies
NBS	National Bureau of Statistics (Nigeria, Tanzania)
NEA	Nepal Electrical Authority
NPL	Non-Performing Loan
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
PTA	Power Trade Agreement
R&D	Research and Development
SADC	Southern African Development Community
SAPP	Southern African Power Pool
SET	Supporting Economic Transformation
SEZ	Special Economic Zone
STRI	Services Trade Restrictiveness Indicator
TFP	Total Factor Productivity
TISP	Trade in Services by Partner Database
TiVA	Trade in Value Added
UK	United Kingdom
UN	United Nations
UNCTAD	UN Conference on Trade and Development
UNEP	UN Environment Programme
UNIDO	UN Industrial Development Organization
UNSD	UN Services Database
UNWTO	World Tourism Organization
US	United States
USITC	US International Trade Commission
VAT	Value Added Tax
WBES	World Bank Enterprise Survey
WBTSDB	World Bank Trade in Services Database
WDI	World Development Indicators
WEF	World Economic Forum
WTO	World Trade Organization
WTOSD	WTO/UNCTAD/ITC Services Database
WTTC	World Travel and Tourism Council



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# 1. INTRODUCTION

While much of the debate on economic transformation centres around transforming agriculture and moving into manufacturing (Ansu et al., 2016), services are often an unexplored component of such strategies. A proper understanding of the trade dimension of services lies at the frontier of new analytical work on economic transformation. It is also important for policy-makers in low-income countries (LICs), many of whom may not regard services, or trade in services, as a prime focus of action on economic transformation. This paper discusses how policy affecting trade in services directly, and other policy having indirect effects, can have a major impact in terms of raising the contribution of services to economic transformation.

Khanna et al. (2016) provide a comprehensive way of assessing the role of services in economic transformation. The most important effects are often indirect, for example in facilitating goods trade. This paper examines the role of *trade* in services, by discussing how the trade aspects of services help promote economic transformation. It is often assumed that services follow transformation, but in reality services also enable other sectors, so the paper argues it is important for economies to follow a balanced growth path where services and other sectors grow in tandem. This paper provides further evidence on this. We focus on those LICs that may think services, and especially the direct or indirect tradability of services, are not a priority. We suggest policy-makers need to update their evidence base on such linkages so they realise how services and other sectors grow together. Even when promoting manufacturing exports is the top priority, the answer can sometimes be found in trade in services policy.

What is the role of trade in services in economic transformation and what can be done to improve the contribution? This paper tackles these two questions using mixed methods. The literature review in Section 2 (more in Appendix A) reviews what we know about the relationships between trade in services and economic development and identifies areas in need of further research.

The statistical analyses at micro and macro levels in Sections 3 and 4 (Appendices B and C) provide fresh insights into these relationships. They quantify how these links work, directly through trade in services or indirectly, by services production being embodied in goods trade. On the direct links, we examine whether exporters of services have higher productivity than non-exporters (Section 3). In terms of indirect links, new conclusions are made that point to the importance of trade in services in total trade and trade in intermediaries and as services embodied in goods trade (Section 4).

Section 5 selects five services sectors and undertakes brief case studies in these (more in Appendix D). It focuses on how the trade aspect matters for transformation and on how selected countries have promoted more exports of services, distinguishing between trade policy and other factors.

Together, these sections aim to inform services policy-makers in LICs. They also have the potential to augment the amount of knowledge on the role of trade in services available to development experts.

## 2. TRADE IN SERVICES AND ECONOMIC TRANSFORMATION: BACKGROUND REVIEW

This section summarises a review of the literature on the role of trade in services in economic transformation, with the purpose of identifying the main questions that deserve further discussion. Appendix A first recalls the increasing role of services in the economy and then discusses the relationship between services and economic growth. This section is not a full review of the role of services in economic transformation; for this, see a previous SET study (Khanna et al., 2016). Instead, it serves as an introduction to the rest of the section on the impact of services trade openness on growth, productivity and employment, which are key components of economic transformation. It also discusses the link between services and trade agreements. It concludes by formulating research questions that the rest of this paper addresses using mixed methods.

### 2.1 THE INCREASING ROLE OF SERVICES IN THE ECONOMY

The share of services in total output and employment for the world as a whole has been increasing over time as countries have become richer. This is nothing new (Kravis et al., 1983; Riddle, 1986),<sup>2</sup> but for any level of economic development the role of services in the economy is today more important than it was in the past as a result of technological changes in information and communication and other industries. Efficient services are critical for economic development. Many services are inputs into the production of other services and goods. As a result, their cost and quality affect the growth performance of the economy.

One important economic characteristic of many services is their ‘intermediation’ role: intermediate or producer services support the process of ever-finer specialisation associated with economic development (Francois, 1990). Producer services are not only differentiated intermediate inputs into production. They also perform an important function in coordinating production processes, both within and, increasingly, across countries. Services therefore also play a critical role in the operation (feasibility) of global value chains.

The feasibility of participation in value chains depends in part on the level of trade costs and the predictability of the time required to move goods across borders and along transport corridors. High transport costs are major factors keeping many countries in Sub-Saharan Africa out of manufacturing value chains (Arvis et al., 2010; Christ and Ferrantino, 2011; Borchert et al., 2015). Even moderate liberalisation of air transportation services could lead to major improvements in the number of flights. Recent initiatives such as the Organisation for Economic Co-operation and Development (OECD)–World Trade Organization (WTO) Trade in Value Added (TiVA) database<sup>3</sup> have shown that services account for a much larger share of global trade than balance of payments data suggest. Case study evidence has made clear that the high services content of production of most firms is as true in developing countries as it is for developed ones (Low, 2013). Datasets such as the Export Value Added indicators of the World Bank<sup>4</sup> and the TiVA database allow the calculation of forward linkages – the value added generated by a sector, say, business services, as an intermediate input into the exports of all industries. Such value added measures are also indicators of cost. A policy implication is that, in the short run, cost or efficiency

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<sup>2</sup> Francois and Reinert (1996) note that 1) the share of value added originating in services is positively linked to the level of per capita income; 2) income levels are positively associated with employment shares for intermediate services and with the share of services activities *within* total manufacturing employment; 3) income levels are strongly linked to demand by firms for intermediate or producer services, particularly in manufacturing; and 4) changes in the allocation of service activities between manufacturing and service firms (outsourcing) explain only a small share of services sector growth – fundamental changes in the structure/organisation of production dominate. See also Park and Chan (1989) and Schettkat and Yocarini (2006) for a discussion of ‘stylised facts’ regarding the changing role and structure of services as countries become richer, and Broadberry and Ghosal (2005) for a historical analysis of the role of services expansion in US economic growth in the 19th and early 20th century.

<sup>3</sup> See <http://www.oecd.org/sti/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm>

<sup>4</sup> See <http://data.worldbank.org/data-catalog/export-value-added>

improvements may be more effectively obtained by focusing on services sectors that are used most intensively as inputs into export production.

## 2.2 SERVICES, ECONOMIC GROWTH AND SUPPORTIVE POLICY

Even if not explicitly incorporated into theoretical growth models, many services activities will have a powerful influence on growth (see Riddle, 1986; Schettkat and Yocarini, 2006; Eichengreen and Gupta, 2013). Financial services can affect growth by facilitating capital accumulation and fostering innovation (Levine, 1997). Low-cost and high-quality telecommunications will generate economy-wide benefits, as the communications network is a transport mechanism for information services and other products that can be digitised. Telecommunications are crucial to the dissemination and diffusion of knowledge – including through the Internet. Similarly, transport services affect the cost of shipping goods and the movement of workers within and between countries. Business services such as accounting, engineering, consulting and legal services reduce transaction costs associated with the operation of financial markets and the enforcement of contracts, and are a channel through which business process innovations are transmitted across firms in an industry or across industries. Retail and wholesale distribution services are a vital link between producers and consumers, with the margins that apply in the provision of such services influencing the competitiveness of firms on both the local and the international market. Health and education services are key inputs into – and determinants of – the stock and growth of human capital.

Contestable and competitive markets are vital for productive services sectors. As discussed in Section 2.3, reducing trade and investment barriers to services is one important way of introducing such competition, particularly when the size of the market is likely to limit the number of efficient domestic competitors. International competition is likely to be particularly important for smaller economies that have relatively concentrated services industries. In practice, the so-called proximity burden often makes many services difficult to trade at arm's length, even within economies. One result is that production capacity tends to be distributed more uniformly across the territory of an economy than is the case for manufacturing plants (Gervais and Jensen, 2015). A consequence is that services may offer greater prospects for local employment and economic activity because they are more difficult to supply long distance. But it may also imply that there may be no supply at all in a given location. In contrast with goods that can be ordered and shipped to remote locations or regions with low population density, in the case of many services, such as medical advice, hospital care or higher education, the 'consumer' may have to move to the location of the provider or accept lower quality or no service.

Technological innovations in services such as transport and logistics, mobile communications and associated value added services (e-commerce, e-payment), access to cloud computing and data storage, etc. are changing this feature of economics of services. This has potentially major welfare benefits for households and greatly enhances the ability of small firms to contest markets and supply new products by improving access to information and the potential to deliver goods and services to consumers/buyers. New technologies allow small firms to be micro-multinationals and sell into global markets as well as to supply services to larger firms that participate in global value chains and to domestic consumers.

An important policy question is how and what type of government policy can support the development and growth of services activities and increase services sector productivity. More specifically, a question arises as to whether there is an infant industry argument for the development of services that is analogous to the one that many governments have pursued to promote domestic industrial development. The literature that Section 2.3 briefly summarises on links between trade in services – defined to span cross-border movement of services providers as well as cross-border movement of services products – suggests openness is important to ensure access to efficient services and this should drive economy-wide productivity performance. Both theory and practice suggest traditional protectionism is inappropriate for services sectors in part because it is redundant: many services remain less tradable than goods, so production has to be local. The implication is that policy should seek to facilitate entry into the market by



foreign providers who will bring new technologies and introduce new varieties of services into the market while at the same time employing local labour.

Instead of the tariffs and quotas that have often been used as part of industrial policies to protect local manufacturers and farmers, the focus of services development and trade strategies should be on enhancing the quality of domestic regulation, improving the skills of the local workforce and putting in place the connectivity-related infrastructure and business environment that will encourage investment in value added services (Saez et al., 2015). This should include what has come to be called services and investment facilitation – measures to ensure full transparency and to streamline applicable regulatory requirements in both the home market and export markets.

A number of countries that have seen services production and productivity expand substantially have done so by developing comprehensive service industry development strategies. Consultation and cooperation with the private sector to identify opportunities and deal with specific growth constraints are an important element of such strategies (Prieto et al., 2012). For example, an effective public–private partnership was an element underpinning the Philippines’ successful services export performance in medical services and business process outsourcing (BPO). Rapid growth of the latter sector was supported by the abolition of foreign ownership limitations and the development of information technology parks that provide access to information and communication technology (ICT) infrastructure (Yi, 2012). What the specific opportunities and binding constraints are in a given location need to be identified and addressed on a case-by-case basis. Effective mechanisms to engage and work with the private sector are particularly important in the services context given the greater prevalence of and need for regulation of many services activities, which makes policy design more complex than is the case for goods.

## 2.3 SERVICES TRADE OPENNESS AND PRODUCTIVITY

Research on the linkages among services trade, services-related policies and economic performance has shown that trade openness (trade in exports as a percentage of gross domestic product (GDP)) is an important channel for improving services performance. Foreign suppliers are sources of new technologies as well as the competition that is needed in markets characterised by dominant incumbents, often state-owned or state-controlled or former public monopolies. Foreign direct investment (FDI) is a key channel for international provision of services and associated transfer of knowledge and know-how, as well as a mechanism through which higher-quality, lower-cost services improve total factor productivity (TFP) of firms that use services relatively more intensively.<sup>5</sup>

Imports of services often entail FDI and this affects the potential for growth and employment. This is either because the services must be locally produced for technological reasons or because there are incentives to be close to the customer. Even without scale effects, and even if services sectors do not possess endogenous growth attributes, inward FDI following services sector liberalisation can have positive effects on growth by bringing in new technology. There is substantial empirical evidence that FDI has positive effects on the productivity of economies by inducing greater competition and providing access to higher-quality, greater-variety and cheaper services (Francois and Hoekman, 2010).

Empirical research in this area tends to rely on relatively aggregate data and is often cross-section in nature. For example, Mattoo et al. (2006) use a cross-section regression framework to show that countries with liberalised financial and telecommunication sectors display a GDP growth rate about 1.5 percentage point higher than that in other countries. Eschenbach and Hoekman (2006) find that liberalisation and adoption of good practices in the regulation of financial, telecommunications, energy and transport services were statistically significant explanatory variables for the economic performance of a sample of

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<sup>5</sup> See, for example, Amiti and Konings (2007); Blalock and Gertler (2008); Arnold et al. (2008, 2011a, 2011b, 2015); Fernandes and Paunov (2011); Duggan et al. (2013). Although the cross-border tradability of services remains substantially less than for goods, many services can be traded: an important reason trade is limited compared with goods owes to policies. See, for example, Gervais and Jensen (2015).

20 transition economies during the 1990–2004 period. Focusing on trade outcomes, Gabriele (2006) demonstrates the existence of a positive and robust correlation between cross-border services exports and long-run GDP growth for a sample of developing countries.

A positive association between policy reforms in services and inward FDI in services and one between TFP growth performance of downstream firms and FDI are perhaps the most robust findings to emerge from the limited empirical research on the impacts of services reforms. Arnold et al. (2011a) analyse the effects of allowing foreign providers greater access to services industries on the productivity of manufacturing industries relying on services inputs in the Czech Republic. Firm-level data from the Czech Republic for the period 1998–2003 show a positive relationship between FDI in services and the performance of domestic firms in manufacturing.

In related firm-level research focusing on Africa that uses data from over 1,000 firms in 10 Sub-Saharan African economies, Arnold et al. (2008) also find a statistically significant positive relationship between firm-level TFP and the performance of three services input industries (access to communications, electricity and financial services). Other empirical studies find similar results for a number of developing countries (e.g. Fernandes and Paunov, 2011 for Chile; Duggan et al. 2013 for Indonesia; Arnold et al., 2015 for India).<sup>6</sup>

Hoekman and Shepherd (2015) use World Bank Enterprise Survey (WBES) data for 58,000 firms in over 100 developing countries and find that services sector productivity matters for the productivity of downstream firms producing goods,<sup>7</sup> and more for those firms that use services relatively intensively in their overall input mix. The strength of the productivity linkages varies substantially across African countries in their sample, reflecting differing intensities of use of services inputs in the production process. They also find that the relationship depends on services trade: lower barriers to services trade and investment increase the productivity performance of domestic manufacturing industries.<sup>8</sup> They find that, at the average rate of services input intensity, a 10% improvement in services productivity is associated with an increase in manufacturing productivity of 0.3%, as well as higher exports of manufactures. While the effects are statistically significant, they are relatively small in magnitude compared with the findings in the abovementioned country case studies, suggesting country-specific and institutional variables may play an important intermediating role.

Hoekman and Shepherd (2015) also find that services trade restrictiveness (Borchert et al., 2012) is a statistically significant determinant of manufactured exports performance. A 10% increase in the restrictiveness of services trade policies is associated with a 5% decrease in bilateral trade in manufactured goods.

Empirical results suggest that if the East African Community (EAC) countries as a group were to implement reforms that lower the average level of services trade restrictions to that in Ghana (the African country with the lowest services trade barriers, with an index of 18), merchandise exports of these countries could increase substantially: by 13% for Rwanda and some 20% for Kenya, Tanzania and Uganda.

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<sup>6</sup> Similarly, Barone and Cingano (2011) and Bourlès et al (2013) use industry-level data for OECD countries and show that pro-competitive policies in the services (upstream) sectors have a positive effect on the productivity of downstream manufacturing. Using a sample of Irish firms, Görg et al. (2008) find that outsourcing of services inputs is associated with higher productivity, especially for exporters.

<sup>7</sup> Making use of plant-level data for 10 countries in Sub-Saharan Africa, Arnold et al. (2008) also find the productivity of services firms has a positive and economically significant effect on the productivity of manufacturing firms.

<sup>8</sup> There are good theoretical arguments supporting the positive effect of services trade liberalisation on the productivity of domestic services industries (Francois and Hoekman, 2010). The latter are usually characterised by severe market imperfections that can be corrected through higher access of foreign providers. Importantly, this impact channel of services trade policy remains empirically understudied. Notable exceptions using data at the industry level include Miroudot et al. (2012) and van der Marel (2012). The first paper adopts a gravity setting to estimate cross-border (mode 1 and mode 2) trade costs in 12 services sectors for 61 countries and finds that lowering trade costs by 10% is associated with a 0.5% gain in services TFP. The second paper instead shows that services trade and investment policies (notably FDI regulations) form a determinant for TFP growth in services.

Services trade policies matter for many dimensions of economic performance, not just productivity. Miroudot and Shepherd (2015), for example, find that a 10% increase in the level of services trade restrictiveness indicators (STRI) is associated with an increase in trade costs of 2.7%, using trade costs data compiled by Arvis et al. (2015). For intermediate trade, a similar change in the STRI is associated with a 3.1% increase. Results are strongest for postal services and telecommunications. Interestingly, the coefficient for intermediate trade is larger than that for final trade, which provides some evidence that services trade restrictions matter more for intermediate trade than for final trade.

Services trade policy has also been shown to matter for product differentiation in downstream industries (including services). Building a gravity framework for more than 100 countries, Nordås (2011) finds that price-reducing liberalisation in business services is associated with higher product differentiation, particularly in the motor vehicle industry. She argues that services market opening should be an element of strategies for industrial upgrading in developing countries.

Of course, more than an open trade regime and improving economic governance will be needed to support competitive local services sectors and to generate the positive productivity effects or to lower trade costs. It is important to ensure the provision of high-quality educational services at primary, secondary and tertiary level (Saez et al., 2015). There is also an important private sector development agenda in relation to services: in some sectors, the state has historically been an important supplier, but economic reforms have meant it has receded from that role to a notable extent. It is therefore important to develop a basis of skills and factor availability that can support the emergence of service suppliers in key areas such as telecommunications, finance and transport.

One area of policy that should be the focus of analysis is in identifying and addressing monopoly power of providers of services inputs and/or monopsony power on the part of buyers located in services sectors (trading companies, retailers). This can affect domestic farm/factory gate prices and/or may result in retail prices that are higher than they would be if the relevant markets were characterised by greater competition (Arvis et al., 2010; Francois and Hoekman, 2010).

Khanna et al. (2016) introduce a framework that discusses the direct and indirect effects of different sectors on economic transformation. Table 1 examines three broad types of effects (following the categorisation in Jouanjean et al., 2015 and the International Finance Corporation (IFC) (2013)): 1) direct impact (employment, exports, GDP: a direct service); 2) indirect impacts through input–output analysis (jobs and output in supplier industries); and 3) second-round effects, for example productivity effects and forward linkages. A similar framework can be used to examine the effects of trade in services. The table shows some sectors are expected to be important in generating jobs for less to medium-skilled workers (e.g. retail trade, accommodation and, to some extent, health and education), and others for skilled workers (e.g. finance and insurance, professional services). Some services tend to be important parts of GDP (e.g. education, finance and insurance, real estate, transport and storage, wholesale and retail trade). Others are less important contributors to GDP directly. Some sectors can be important export earners (ICT, finance, transport, accommodation), whereas others are not (public administration and health and education in most countries, apart from, for example, in Caribbean countries). Some sectors can also have major effects on suppliers (e.g. accommodation, retail trade and transport); some can have important productivity effects throughout the economy in the medium run (ICT, finance, transport) and others not (real estate, accommodation) or only in the very long run (e.g. health and education). The table is general and it is very challenging to obtain robust quantitative evidence. Khanna et al. (2016) apply the framework using a case study approach in the case of Kenya. They show, for example, that employment intensity (measured as wage employment divided by value added) varies significantly across different types of services sectors. Their estimates suggest that education services are around four times more employment intensive than the transport or financial services sectors, health services are around three times as employment intensive compared with these sectors, and the accommodation sector is around twice as employment intensive. More of this type of analysis seems required.



**Table 1. The effects of services on economic transformation: illustrative pathways**

Sector	Direct effects			Indirect effects (static and dynamic)	Induced/ productivity effects
	Jobs (skilled, medium-skilled or low-skilled workers)	Exports	GDP		
<b>Accommodation and restaurants</b>	Medium important for skilled jobs	Important export revenues	High in certain developing countries	Very important including for less skilled workers	Less important
<b>Education</b>	Important for medium- skilled employment (e.g. teachers)	Less important, apart from a few countries	Relatively high share	Mostly temporary	Important for human capital in the long run
<b>Finance and insurance</b>	Important especially for skilled workers	Potentially a major source of exports and capital inflows	High (around 10% of GDP)	Less important for offshore centres, but potential for forward linkages	Less important for offshore centres, but important for finance directed at the real economy
<b>Health</b>	Important for medium- skilled employment (e.g. nurses)	Less important, apart from a few countries	Relatively low share	Mostly temporary	Important for human capital in the long run
<b>Information and communication</b>	Important for a few countries especially for skilled workers	Potentially a major source of exports and capital inflows	Medium (mostly less than 10% of GDP)	Mostly forward linkages	Important productivity effects
<b>Professional and support services</b>	Important especially for skilled workers	Potentially a major source of exports and capital inflows	Low in developing countries	Forward linkages	Important for firm-level productivity
<b>Public administration</b>	Important for low- to medium-skilled workers	Insignificant	Medium to high in developing countries	Medium important	Not very important, except e.g. public infrastructure works
<b>Real estate</b>	Very few jobs	Not important	Important share of GDP	Important effect on construction	Less important
<b>Transport and storage</b>	Potentially important (e.g. truck drivers)	Important for some countries (e.g. Kenya)	Important share of GDP	Important	Important for economy-wide productivity
<b>Wholesale and retail</b>	Important for low- to medium-skilled workers	Less important for most developing countries	Important share of GDP	Important effect on agriculture and manufacturing value chains	Less important

Source: Khanna et al. (2016).

Trade agreements (with exceptions such as the Common Market for East and Southern Africa (COMESA) in air transport) have not been very effective at opening services markets (Dee and Findlay, 2007; Roy et al. 2007; Fink and Jansen, 2009; Adlung and Morrison, 2010; Miroudot et al. 2010). Unilateral reform instead appears as the prime channel through which steps towards liberalisation have been made. Djiofack-Zebaze and Keck (2009), for example, show that the effect of General Agreement on Trade in Services (GATS) commitments on the economic performance of the African telecommunication sector is rather weak, compared with a strong positive effect of unilateral reforms. Moreover, discussing investment agreements in the financial, telecommunication and energy sectors in Chile, Manger (2008) shows the regulatory reforms embedded in trade agreements are not necessarily consistent with the regulation needed to correct for the market failures inherent to these sectors. As Hoekman et al. (2007) and Hoekman and Mattoo (2013) discuss in more detail, it is important to sequence reforms and develop the needed regulatory regimes before and in parallel with opening up markets. Thus, the quality of economic governance plays a key role in determining the magnitude of the net gains from services liberalisation.

## 2.4 CONCLUSIONS AND OUTSTANDING RESEARCH QUESTIONS

The literature suggests services play a critical role in economic transformation (and we provide more empirical background later). Trade in services is a key channel through which countries can exploit their comparative advantage. Sectors such as tourism or BPO are important activities that can generate substantial employment and foreign exchange earnings. More generally, however, it is important to recognise that services activities affect economic transformation through a variety of indirect as well as direct channels. Opening trade and investment in services to foreign competition is a source of new knowledge and new products that can have a major impact on the productivity, and thus the competitiveness, of many firms in the economy. Services account for a substantial share of the total costs of production of many firms in many sectors. Reducing the costs and increasing the quality of available services is therefore a mechanism through which to increase economy-wide performance.

Of course, services liberalisation is not a panacea. The quality of prevailing economic governance, implementing institutions and regulatory regimes will influence how much a country stands to benefit from opening services markets to foreign competition. This, in turn, strengthens the case for a coherent focus on political economy and improving economic governance as a necessary condition for sustained growth.

The review has helped identify three areas of further research.

The review in this section suggests more research is required on the relationship between trade in services and services labour productivity on the basis of firm-level evidence. The evidence on exporting and firm productivity is overwhelming for goods trade (although there is still discussion about the direction of causality). However, a major question remains on whether the relationship between exporting and productivity that exists for manufacturing firms extends to services firms. The question is relevant for the overall question around the role of trade in services in economic transformation: if exporting is associated with higher productivity in services firms, this offers new insights into the trade aspects of services. We examine this in Section 3.

Moreover, the review sets out clearly the various links among the services and manufacturing sectors. This economy-wide perspective should be the focus of further empirical research. For example, there are questions around how services (trade) fit in with overall trade performance, aggregate productivity change, value chain participation and value added trade by LICs. Section 4 examines this in further detail on the basis of sector-level data.

Finally, there is a limit to conclusions relying solely on data-based methods. We therefore also undertake a range of case studies that examine the role of trade and other factors in promoting a positive contribution of services to economic transformation (Section 5).

### 3. TRADE IN SERVICES AND PRODUCTIVITY CHANGES

This section examines whether exporting services is associated with economic transformation. The question is relevant for the overall question around the role of trade in services in economic transformation: if exporting is associated with higher productivity in services firms, this provides new insights into the trade aspects of services and economic transformation. We describe firm-level data using innovative statistical techniques and perform econometric estimations for a cross-section of countries as well as individual countries (the details are presented in Appendix B). The evidence suggests exporting is indeed associated with higher productivity in services firms (just as it is in manufacturing firms). However, services firms that supply to other exporters are not more productive than firms that are producing for the domestic market. This suggests two things. First, a more open services sector is more productive, with more opportunities for economic transformation. Second, it is important to improve the performance of services firms that supply exporters because higher-productivity services inputs are more likely to lead to higher-productivity exporters.

We have used firm-level data from the WBES and identify productivity in services and non-services firms, and in services exporters and services non-exporters in developing countries, especially LICs (consisting of a group of countries that includes typical LICs as defined by the World Bank and other lower-middle-income countries such as Bangladesh, Kenya, Myanmar, Pakistan and Zambia.<sup>9</sup> The rest of the countries are other developing countries.

The WBES collects data on firms worldwide using a compatible questionnaire and following common standards. The surveys apply mostly to manufacturing firms and relatively little to services. The survey generates one pooled database (different firms in different years) and a series of country panels (firms in a given country are surveyed more than once). With the exception of the results for a few individual countries in Appendix B, we use the pooled database. This allows us to compare firms located in different countries using common metrics. Although globally the number of firms surveyed may be sufficient to extract solid conclusions, confidence in the conclusions will decrease when we work at more disaggregated levels – particularly when we look at specific sectors in specific countries.

As a result of this data limitation, we have pooled observations from different time periods. Although the regressions in Appendix B properly control for the effect of time, we have prepared this summary by pooling observations from different periods. However, we are confident that time had little effect on the results. The surveying methods were consistent across years. This suggests that the observed differences between firms in different sectors and countries are less likely to be attributed to samples being drawn at different points in time.

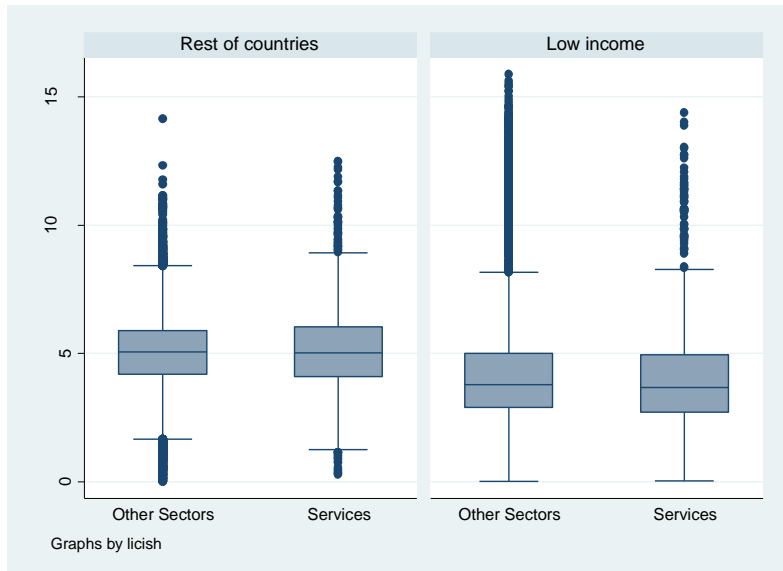
A general point with respect to the quality of the data might affect the results. The WBES tends to survey firms in the formal sector. These firms have been selected from pools of registered firms in business associations and other bodies. If firms operating under formality have higher productivity (see Dabla-Norris et al., 2005; Perry et al., 2007), the results here may overestimate labour productivity. As long as this bias is homogenous across sectors, the results presented here will not change the conclusions. However, if some particular sectors have higher levels of informality, the results will not be representative and may bias the conclusions, as only the productive firms are surveyed. Unfortunately, it is impossible to determine the extent of this issue in the database. More comprehensive surveys of formal and informal services firms would be able to develop this argument further.

Figure 1 presents a boxplot highlighting median labour productivity (the horizontal line in the grey box), upper and lower quartiles (the grey boxes) and maximum and minimum values. The dots above and below

<sup>9</sup> These definitions follow the World Bank classification. LICs are those with an income per capita of less than \$045 per year. Lower-middle-income countries are those with an income per capita between \$1,046 and \$4,125. The World Bank has recently reclassified Bangladesh, Kenya, Myanmar and Tajikistan as lower-middle-income countries.

the maximum and minimum represent outliers. We use value added per worker as our labour productivity measure. Figure 1 shows that labour productivity in other developing countries is on average 40% higher than that in LICs. Second, labour productivity in services and in the other sectors is similar in both LICs and the rest of the countries. This suggests there are no productivity differences between manufacturing sector and services firms in both LICs and the rest of the developing countries.

**Figure 1. Labour productivity differentials in the services sector by income level**

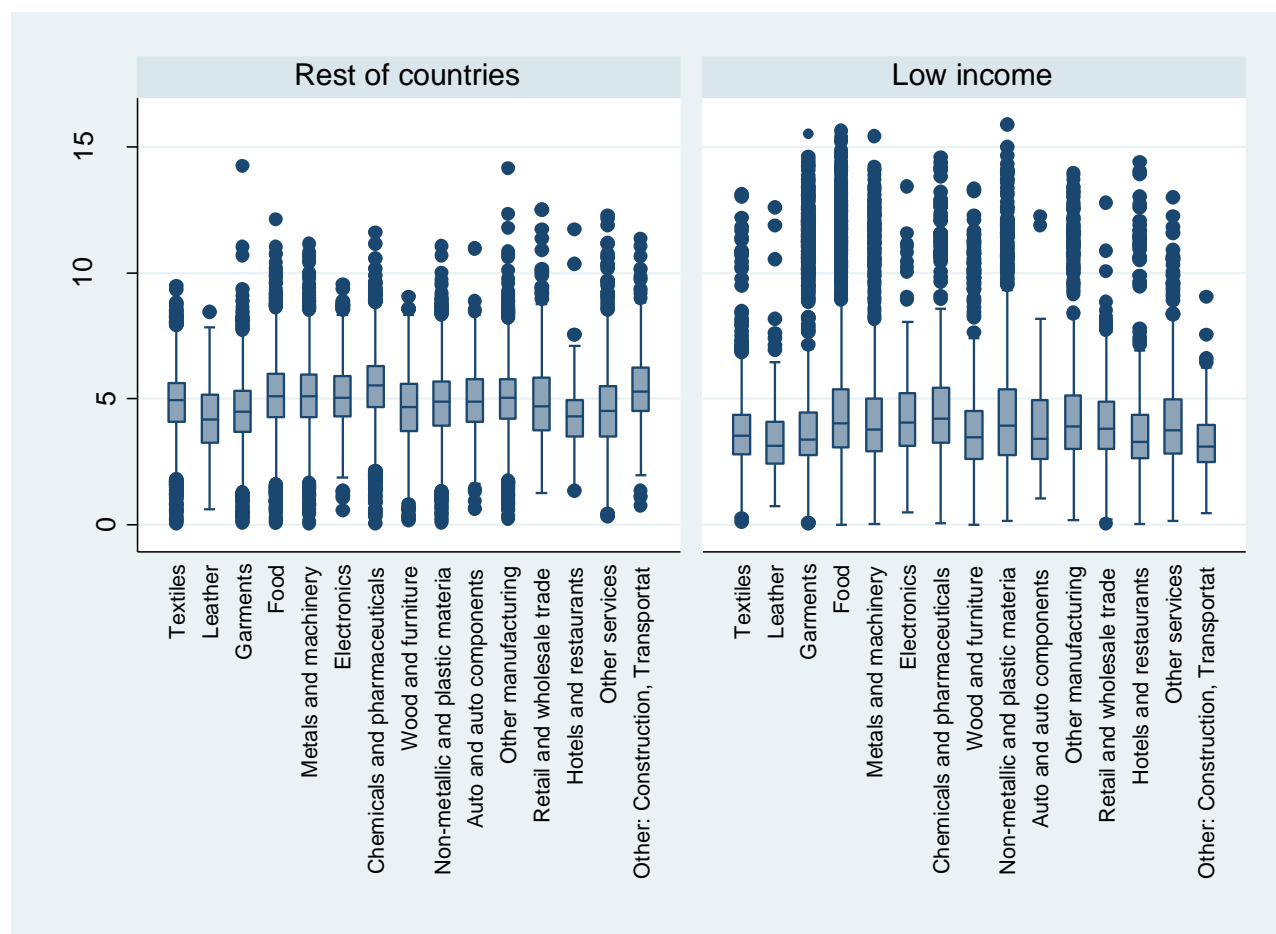


*Note: Labour productivity in natural logs.  
Source: Own elaboration based on WBES.*

Thus, moving resources between broad categories such as services or manufacturing may not have a major impact in terms of aggregate productivity change and economic transformation. The two broad sectors are very heterogeneous. However, productivity differences still exist within both services and manufacturing (Figure 2). This suggests there exist important opportunities for transformation within the manufacturing and the services sectors. Although in some sectors, especially in the case of LICs, the number of firms may be small<sup>10</sup> for econometric analysis, it is large enough for the purposes of this analysis. Although more observations will refine the distributional metrics, median labour productivity is unlikely to change substantially. Moreover, these figures have already eliminated outliers.<sup>11</sup> The considerations presented above with respect to the bias introduced by formal firms still apply.

<sup>10</sup> Only 68 out of 850 belong to the auto and auto components sector in LICs and only 147 firms from LICs out of 780 from the other: construction, transportation, etc.

<sup>11</sup> Observations located more than 3 standards deviations from the mean were excluded.

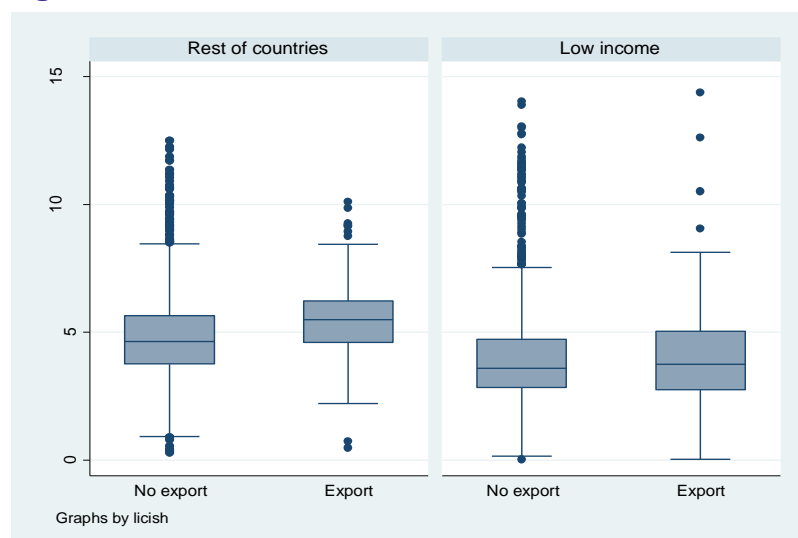
**Figure 2. Labour productivity by sector in LICs and in the rest of the countries**

Note: Labour productivity in natural logs.  
Source: Own elaboration based on WBES.

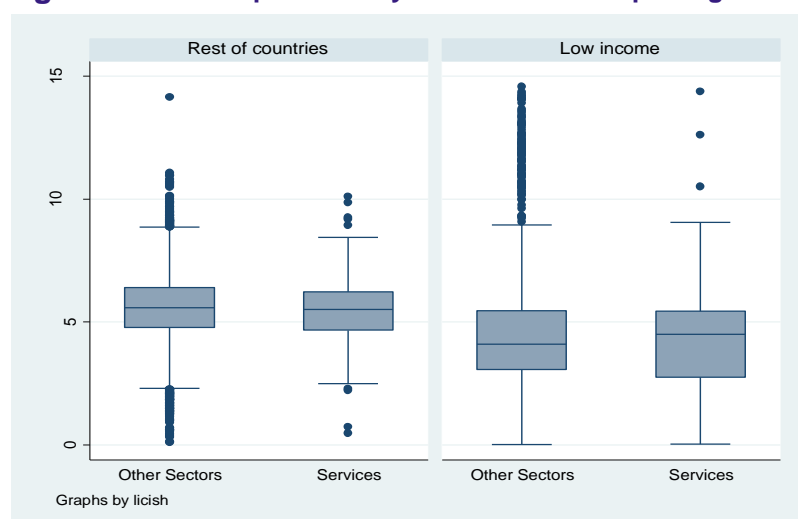
Many studies (see Krugman, 1980; Melitz, 2003, among others) have examined the link between trade and productivity in some detail. We consider the sectoral breakdown as well here. Figure 3 presents labour productivity in exporting and non-exporting services firms in both LICs and the rest of developing countries. Exporting firms have higher labour productivity in both LICs and other countries. This suggests an association with the level of productivity in both sectors.

We also examine the potential contribution of the services sector to economic transformation by comparing exporting services firms with other exporters (Figure 4). We can highlight two things. First, exporting firms in LICs have lower labour productivity than those in other countries. Second, while the productivity differential between exporting services and exporting non-services firms is small, in the case of LICs exporting services firms do show higher labour productivity than exporting firms in other sectors. This suggests an association between the exports of services and economic transformation in LICs.

We have also undertaken econometric analysis to test these issues more formally, again using firm-level data. The analysis suggests that exporting services firms in developing countries have, on average, almost 28% higher productivity than non-services-exporting firms once firm and country factors are controlled for. Interesting, in the case of LICs, this productivity differential is 43%. This indicates that exports of services are particularly important in promoting economic transformation. Interestingly, the productivity differential (in both LICs and the rest of the developing countries) is explained primarily by the higher labour productivity observed in the retail sector.

**Figure 3. Labour productivity differentials in the services sector in exporting firms by income group**


Note: Labour productivity in natural logs.  
Source: Own elaboration based on WBES.

**Figure 4. Labour productivity differentials in exporting firms in the services sector by income group**


Note: Labour productivity in natural logs.  
Source: Own elaboration based on WBES.

In addition, we explore the value chain dimension of services. We examine whether firms that supply exporters have different labour productivity compared with firms that supply to domestic non-exporting firms only. The results, however, do not sustain this hypothesis. Suppliers of exporter firms have similar levels of labour productivity compared with the rest of the firms (excluding direct exporters). However, firms could contribute to the higher productivity the exporting firms in both the manufacturing and the services sector achieve. In fact, if these firms were able to increase their productivity, they would contribute to increasing the productivity of other firms, many of them in the manufacturing sector (see Hoekman and Shepherd, 2015).

In conclusion, we have not found evidence for large differences in labour productivity between services and manufacturing firms in developing countries. However, there are, of course, differences in labour productivity when we consider the heterogeneity of firm performance within sectors. In the case of services, we have found that exporting services firms have higher labour productivity than non-exporting services firms. Moreover, labour productivity of exporting services firms was higher than for the exporting non-services firms, particularly in LICs. All in all, it is not inconsistent with a key role for trade in stimulating within-sector productivity change, especially for services in LICs.



## 4. ECONOMY-WIDE IMPACTS OF TRADE IN SERVICES

This section considers the macro view on the role of services in economic transformation, to add to the micro-level view in the previous section. We discuss the role of services (trade) in overall trade, aggregate productivity change, value chain participation and value added trade (see Appendix C for detail).

We first examine the relative role of services in total trade performance in LICs, making the point that trade in services has increased in share in LICs in recent decades. We follow this with a description of the role of services in aggregate productivity change (measured by changes in value addition per employee), suggesting that, for LICs, in many cases services have contributed the majority of aggregate productivity change since 1991. Bringing this together, we find a positive association between growth in exports of services and aggregate productivity change.

We then look at the role of services in value chains. We focus on how LICs use services trade to take part in value chains. Firms all over the world use increasingly intermediate services in their inputs sourced from firms located in other countries. We find that, in nearly all LICs, the share of exports of intermediates in total exports of services increased between 1992 and 2012.<sup>12</sup> Thus, rather than being provided directly to customers in other countries, services are increasingly provided through intermediaries in other countries.

Finally, we discuss the role of services in value added trade. We compare exports of services in value added terms with exports of services in gross trade in 2012. We find that, in LICs such as Ethiopia and Myanmar, the value of services embodied in goods trade is greater than the value of services exported directly. On the other hand, countries such as Kenya and Rwanda export more services directly than is embodied in their goods trade.

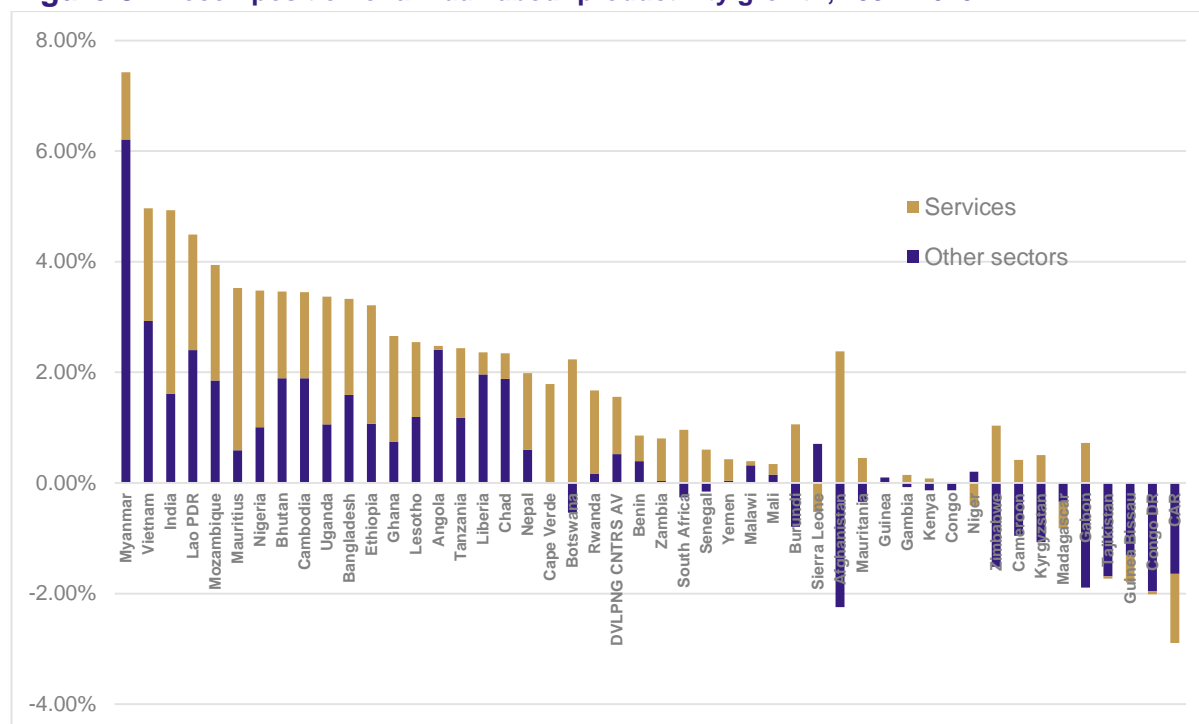
Taken together, trade in services is playing an increasingly important role in economic transformation in LICs (as defined previously in this paper) by supporting exports, productivity change and value chain development. According to our analysis, exporting services firms show a 28% higher productivity than do non-services exporting firms. The integration of services into value chains introduces a further complexity relevant for trade policy. The effect of protecting a sector may be transmitted to the services sector and harm its trade, employment and productivity. Also, the lower productivity of the services sector will be transmitted into goods manufacturing. Thus, a more open economy is likely to achieve faster productivity change.

Looking into very broad international trade data, trade in services has grown faster than trade in goods in the past 15 years, including in many LICs. The share of services in total exports in LICs went from 15% to 16% between 1991 and 2013. This can be explained by technology making it cheaper to carry out some services transactions (i.e. mobile financial services from Kenya); affordable international transport increasing the exports of typical domestic services such as restaurants, personal and even medical services (e.g. in Cuba or Thailand); and reductions in investment and regulatory barriers facilitating the provision of services under commercial presence and movement of natural persons.

In addition to these changes in the pattern of total trade, services are also contributing markedly to aggregate productivity change. Over a 23-year period (Figure 5), services have been a major component of the labour productivity growth in many LICs. Even in countries with large growth in the production and trade of manufactures, such as Vietnam, or in economies based on the exploitation of natural resources, such as Nigeria, the services sector had a non-negligible role in the growth of aggregate labour productivity. Both the higher share in economies and within-sector productivity growth put the services sector at the core of economic transformation. This suggests balanced growth, with high productivity in both sectors, is crucial.

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<sup>12</sup> 2012 is the last year available in the EORA-MRIO database that we use for the trade in value added calculations.

**Figure 5. Decomposition of annual labour productivity growth, 1991–2013**


Source: Own calculations based on WDI.

We also examine how the services sector is interacting with other sectors in the development of value chains. We have used the EORA-MRIO (Multi Region Input Output) table (see Lenzen et al., 2013) to calculate trade in value added. An increasing share of value added generated in the services sector is embedded in other products. The share of services value added in goods exports also grew from 16% in 1992 to 22% in 2012. This ‘servicification’ of the manufacturing sector has important implications for the structure of services trade. Exports in intermediate services from developing countries are becoming increasingly large. This suggests a direct involvement in foreign value chains, or *forward participation*. This also applies to LICs. In most countries, imported intermediates are increasing their share in the total use of inputs. The backward and the forward participation highlighted above indicates direct participation in international value chains in the services sector in LICs.

Participation in value chains can take a more indirect route. Exporting manufacturing firms use value added generated in the domestic services sector. Moreover, value added from the services sector generated in a given LIC, for example, may be embedded in an imported input used domestically to produce exports. For example, value added from the transport services embedded in copper exports from Zambia may be re-imported in the form of inputs that might be used by other Zambian exporters. This has strong implications in terms of trade policy and industrial policy. For example, restrictions on imports or in raw materials exports with the objective of promoting the development of local capabilities may harm domestic sectors that embed their value in those imports or exports.

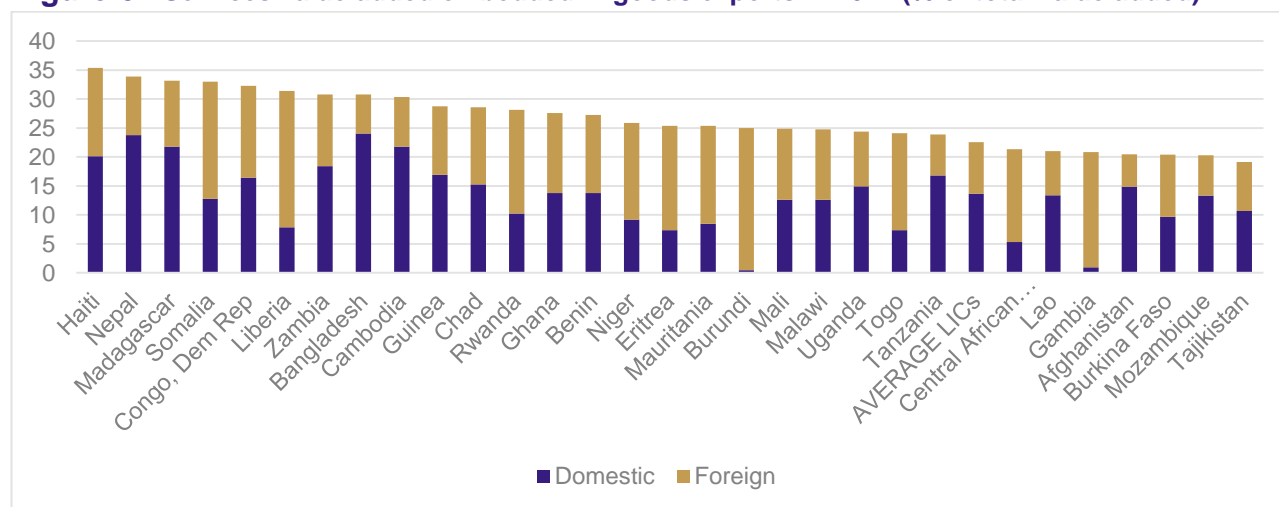
This implies tracing the origin of value added used in production and trade. Figure 6 highlights the share of value added generated in the services sector (foreign and domestic) embedded in the goods exports in 2012 in a series of LICs. Our analysis suggests that, on average, around a quarter of the value added in goods exports in LICs is generated in the services sector. This includes transport, financial and business services as well as other more traditional services that are used in the production of these goods or embedded in the inputs used.

Another approach to assessing the value chain dimension of services is to look at the extent to which services value added is integrated into downstream exporting sectors. With high levels of participation in value chains, we would expect that the level of services value added in exports would be high relative to gross services exports. Figure 7 shows the ratio of exported services value added to gross services



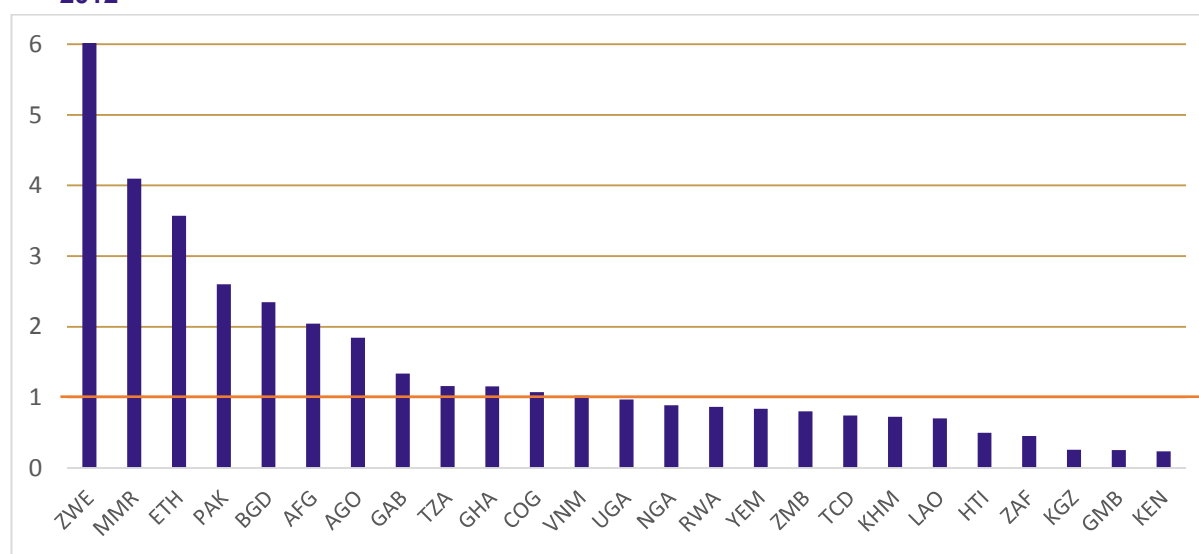
exports for a selection of countries. In several countries, such as Myanmar, Ethiopia or Pakistan, the services value added in exports is higher than gross exports of services, suggesting a services sector that provides inputs to other exporting sectors.

**Figure 6. Services value added embedded in goods exports in 2012 (% of total value added)**



Source: Own elaboration based on EORA-MRIO.

**Figure 7. Services value added in exports as a ratio to gross exports of services in developing countries, 2012**



Source: Own elaboration based on EORA-MRIO.

## 5. CASE STUDIES

In this section, we explore the link between trade in services and economic transformation in specific services sectors and individual countries. We discuss the selection of the case studies, key insights into them and a number of cross-cutting factors behind success (or not) in trade in services and economic transformation. There are a range of structural and capability issues that any country will need to get right in order to boost trade in services. Moreover, trade policy is very clearly essential in securing access to markets and, without a policy of openness, some services activities may not appear. This points to the need for an active trade in services policy in order to promote economic transformation.

## 5.1 CASE STUDY SELECTION

We select five different sectors for analysis – financial services, hydropower generation and accompanying transmission services, ICT services, tourism services and air transport services – based on their tradability, their potential as sources of foreign currency revenue through exports, their links to other tradable sectors and their potential to create jobs in the domestic economy. The tradability and job-creating potential of services sectors, in particular, are desirable characteristics that affect economic transformation.

All five services sectors have the potential to create jobs, although some are more useful as employment creators and there is considerable heterogeneity in the labour intensity and skill requirements of each sector. The financial and ICT services sectors tend to be more skills-intensive and, hence, are important employers of mostly skilled workers. Trade in financial services, for example, can potentially generate high-skill and high-wage employment, although mostly indirectly by supporting jobs in other sectors. In much the same way, the hydropower transmission services sector mostly employs skilled workers, although it is less employment-intensive and, thus, less useful as a job creator. In contrast, the tourism services sector is less skills-intensive and can potentially generate substantially greater numbers of jobs. Activities in the sector tend to be labour-intensive, which is especially important for creating jobs for low-to medium-skilled workers across the tourism supply chain, especially in backward-linked industries. The air transport services sector also supports a variety of jobs both directly (e.g. through employment by airlines or handling agents) and indirectly in industries that supply the sector, although the sector is considerably less employment-intensive than tourism.

In addition to their job-creating potential, the development of the five selected services sectors can have a variety of positive effects on economic transformation in developing countries. Trade in financial services can play an important role in stimulating backward and forward linkages and accelerating growth in aggregate demand and investment (Khanna et al., 2016). In countries with the appropriate natural resource endowments, hydropower generation and transmission can play a key role in alleviating energy shortages that constrain transformative processes, while also ensuring transformation occurs on a more environmentally sustainable basis compared with transformation powered by non-renewable energy forms. Revenues from hydropower exports (facilitated through transmission services provided by interconnected grids) can also be used to expand productive activity in other sectors, while hydropower generation can have important productivity spillovers in sectors such as agriculture (e.g. through the use of water resources in irrigation schemes). In the case of ICT services, there is considerable scope for developing countries to move progressively up the value chain towards more productive and higher value added services for both the domestic and the export markets (India is a clear example). For their part, exports of tourism services can be a key source of revenue and foreign exchange for developing countries. Depending on the type of tourism, the sector may also have strong and diverse linkages with the rest of the economy. Finally, efficient air transport services play a key role in supporting trade in other sectors.

With these characteristics in mind, for each of the five selected services sectors we identify two or more countries as cases for in-depth analysis. We include both successful cases where countries have managed to establish sizable export-oriented components in these sectors (or boast promising opportunities for further growth) and countries where exports of these services are only beginning to emerge or where trade in these services faces a number of constraints to future growth. Our focus is on sectoral experiences in African countries (financial services in Kenya and Nigeria; hydropower transmission services in Lesotho; ICT services in Mauritius and Senegal; tourism in Mauritius and Tanzania; and air transport services in Ethiopia and Kenya) but in two sectors we also look at the experiences of Asian countries (hydropower in Nepal and ICT services in India) as comparators.

For each of the five services sectors, we examine the key factors underpinning the development of trade in these sectors in the selected countries, focusing on:

- endowments and structural factors
- domestic productive capabilities

- the regulatory and institutional framework
- trade policy
- international demand and
- political economy issues

We also explore the link between trade in services and economic transformation by unpacking the direct and indirect impacts each sector has had on transformation through various channels, including export revenues, links to other tradable sectors, productivity spillovers and employment impacts.

## 5.2 MAIN INSIGHTS FROM THE CASE STUDIES

We summarise the main findings on the core impacts of the five selected services sectors on economic transformation in Table 2 and the core findings from each of the case studies on the key factors influencing the development of the selected services sectors in Table 3. We then provide a high-level summary of the main insights from the case studies. This is followed by a summary of the core explanatory factors behind success (or lack of success) in each of the sectors (Section 5.3). The case studies are provided in full in Appendix D.

**Table 2. Summary of case study findings on transformation impacts in selected services export sectors**

Financial services <i>Kenya and Nigeria</i>	Hydropower transmission services <i>Lesotho and Nepal</i>	ICT services <i>India, Mauritius and Senegal</i>	Tourism services <i>Mauritius and Tanzania</i>	Air transport services <i>Ethiopia and Kenya</i>
<p>Generator of high-skill, high-wage employment in Kenya (also lower-skill, lower-wage jobs in financial processing hubs) but in Nigeria the growth of the sector has not been job-intensive (the sector accounts for just 0.4% of total employment) or transformative.</p> <p>Rapid growth in Kenya’s financial service exports, which now account for 4.6% of total services exports (although revenues are still small in value terms relative to Asian hubs), but governance in the sector in Kenya is weak. There have been recent crises in the commercial banking sector (collapse of privately owned commercial banks).</p> <p>Domestic bank consolidation and injection of funds from oil exports has supported exports of Nigeria’s banking services (particularly to Sub-Saharan Africa).</p>	<p>Through hydropower, Lesotho is close to reaching self-sufficiency in energy production, but Nepal still faces large domestic energy shortfalls.</p> <p>Lesotho generates large revenues through water exports to South Africa, but only limited revenue from electricity exports.</p> <p>Both countries currently harness only a small share of the commercially feasible hydropower, thus there is great potential to upscale hydropower exports to emerging market neighbours and their respective regions if they can boost generation capacity and expand/improve interconnection infrastructure to increase transmission services.</p> <p>There are concerns in Nepal that future investment inflows in hydropower generation and transmission may undermine competitiveness in other export sectors (Dutch disease).</p> <p>There is potential in both countries for productivity spillovers in agriculture from hydropower generation (time savings in processing activities, rural electrification, irrigation).</p>	<p>There are massive export revenues for India, but Mauritius has recorded faster revenue growth. There is also good growth in export revenues from Senegal’s nascent sector.</p> <p>India’s offshoring IT services have had a transformative effect on employment creation (especially for women and in tier 2 or 3 cities, thereby bridging economic and social inequalities). Less substantial effects have been seen in Mauritius and Tanzania, although the ICT sector is still an important employer.</p> <p>In India, multinational ICT corporations have generated positive knowledge spillovers and subcontracting R&amp;D arrangements for domestic IT firms. There is also some evidence in Senegal of positive spillover effects from IT and BPO services on productivity in other sectors (e.g. through automated customs clearance and mobile phone-based services).</p>	<p>Tourism contributes significantly to GDP and employment in both countries. The direct contribution of tourism to national GDP is 7.2% in Mauritius and 3.4% in Tanzania.</p> <p>But absolute growth in tourism export revenues has been higher in Tanzania, albeit off a much smaller base.</p> <p>Direct employment in tourism contributes around 11% to total employment in Mauritius and 3.4% in Tanzania.</p> <p>Mauritius has made more progress in diversifying into other types of tourism services (medical tourism, conference and business tourism), thereby boosting linkages with other sectors. While both countries would benefit from more extensive linkages, the need is particularly urgent in Tanzania.</p>	<p>Both national airlines have successfully generated linkages with their respective local economies. Ethiopia Airlines’ (EA) has a diversified services model (domestic, regional, international passenger markets, cargo, maintenance, repair and overhaul (MRO) services); Kenya Airlines (KQ) has aimed to improve linkages between the aviation and business tourism industries.</p> <p>High cargo capacity enables exports to be shipped quickly and cheaply, benefiting, for example, the cut flowers industries in both countries, but EA has greater cargo capacity. EA is well positioned to further expand provision of logistical services to the cut flowers industry (e.g. new cargo terminal, European cargo hub at Liege).</p> <p>Both carriers are significant revenue generators (this was larger for EA in 2015). Moreover, whereas EA registered a large profit in 2015 FY, KQ recorded a substantial loss. KQ also has higher operating costs, meaning it has struggled to engage in competitive pricing.</p> <p>Both airlines are significant job creators, but EA employs more than twice number the number of workers.</p>

**Table 3. Summary of case study findings on key factors influencing the development of selected services export sectors**

	<i>Financial services Kenya and Nigeria</i>	<i>Hydropower services Lesotho and Nepal</i>	<i>ICT services India, Mauritius and Senegal</i>	<i>Tourism services Mauritius and Tanzania</i>	<i>Air transport services Ethiopia and Kenya</i>
<b>Endowments and structural factors</b>	<p><b>Liberalisation</b> of the financial system and the establishment of <b>diversified hubs</b> have been key drivers of the growth of Kenya's financial system.</p> <p>Nigeria's financial sector has shrunk since 2006. Also, while there has been growth in banking activities over the past two decades, the reach of financial services is low.</p>	<p>Both countries have <b>natural resource endowments</b> (topography and abundant water resources) that are conducive for hydropower generation. But both are currently harnessing only a small proportion of hydroelectric potential (Lesotho 17% and Nepal 1.5%).</p>	<p>Massive <b>domestic market</b> in India, compared with much smaller markets in Senegal and Mauritius.</p> <p>India has notably more favourable <b>potential and structural conditions</b> to deliver IT, BPO and voice services – world's highest ranked out of 55 countries (AT Kearney index); Mauritius ranked 30th (3rd in Africa) and Senegal 45th.</p>	<p>Natural endowments need to be harnessed in order to create tourist destinations. There is more <b>diversity in natural attractions</b> that can be harnessed in Tanzania to create tourist destinations, but Mauritius has successfully positioned itself as a top-end luxury tourist destination.</p>	<p>Both airlines have <b>significant shares of monopoly markets in Africa</b> (routes served by only one carrier) – EA 45% and KQ 22% (first and second largest shares in Africa).</p> <p>EA has been particularly successful in <b>expanding fleet size and number of destinations</b>. It currently boasts the largest fleet in Africa.</p>
<b>Domestic productive capabilities</b>	<p><b>Mobile technology</b> (e.g. M-PESA) a key driver of the financial sector's development in Kenya. Mobile banking allowed 'leap-frogging' and encouraged economies of scale and pooling of assets, facilitating <b>financial sector deepening</b>.</p> <p>Mobile banking is gaining prominence in Nigeria, but many banks do not have adequate technology platforms.</p>	<p>LHWP has played a key role in providing the necessary <b>infrastructure</b> to produce hydropower (mostly funded by South Africa). Existing interconnections between nine SADC countries through the SAPP create future possibilities for cross-border electricity transmission from Lesotho to the region.</p> <p><b>Generation, storage and transmission of hydropower in Nepal is hampered by infrastructure deficiencies</b> (no storage dams, insufficient transmission lines, major electricity transmission losses). There is also a lack of financial resources to develop capital-intensive hydropower projects.</p> <p>The <b>lack of transmission lines</b> in Nepal (and the need to upgrade existing interconnection and transmission infrastructure) connecting energy producers to the distribution network (both domestically and regionally) needs to be addressed to facilitate exports of transmission services.</p>	<p>Abundant <b>supply of relatively skilled labour</b> in India (e.g. 600,000 engineering graduates annually) versus limited labour supply in Mauritius and lack of human capital and few skilled ICT workers in Senegal.</p> <p>Mauritius is among the leading countries in Africa in terms of <b>availability and quality of ICT-related infrastructure</b>. Also steady improvements in India. Both have benefited from the establishment of <b>software technology parks</b> (especially India, but also Cyber City in Mauritius). But Senegal faces clear limitations in ICT-related infrastructure.</p> <p>In India, expansion to tier 2 and 3 cities (lower wages and facilities costs) has been important to maintain <b>cost-competitiveness</b>.</p>	<p>Good quality <b>infrastructure</b> to support the tourism sector in Mauritius, contrasts with relatively poor infrastructure and generally low accommodation standards in Tanzania.</p> <p>Mauritius has been more successful in developing capacity and capabilities to diversifying tourism offerings (e.g. health facilities for medical tourism, conference facilities for business tourism).</p> <p>The Mauritian labour force is also better equipped with the necessary <b>skills to support the tourism services sector</b>. A Lack of training and skills has affected service standards in Tanzania; and linkages between vocational training programmes and the tourism sector are not well developed.</p>	<p>EA has a notably larger <b>hub system</b>. While KQ only has one major hub (Nairobi), EA operates two hubs in Africa (Addis Ababa and Lomé), a European hub (Dublin) and a cargo hub in Liege.</p> <p>Both airlines have invested in <b>training programmes</b> (EA's aviation academy, KQ's training on in-flight services).</p>

	<i>Financial services Kenya and Nigeria</i>	<i>Hydropower services Lesotho and Nepal</i>	<i>ICT services India, Mauritius and Senegal</i>	<i>Tourism services Mauritius and Tanzania</i>	<i>Air transport services Ethiopia and Kenya</i>
<b>Regulatory and institutional framework</b>	<p><b>Strong private and public sector institutions</b> support Kenya's trade in financial services. Also favourable tax incentives and a 'light-touch' tax regime for foreign financial institutions.</p> <p>Positive developments in Nigeria – improving regulatory framework in Nigeria and consolidation of banking system.</p>	<p>Simple regulatory and institutional framework in Lesotho (single implementing agency). Also open to <b>private sector participation</b>.</p> <p>But regulatory deficiencies have hampered attempts to open hydropower generation to the private sector in Nepal, although the government has taken steps to improve support for private sector participation and is now more accepting of foreign ownership and FDI.</p>	<p>Amendments to labour legislation in India and Senegal have enabled <b>24-hour services provision</b>.</p> <p>Focus on <b>attracting inward FDI</b> in all three countries (reduced licensing requirements in India, technology parks in India and Mauritius, investor-friendly environment in Mauritius, incentives in Senegal).</p>	<p>In Mauritius, <b>doing business reforms</b> created a conducive environment for tourism services enterprises, but there are still <b>restrictions on foreign ownership</b> in the sector.</p> <p>The sector has been <b>liberalised</b> in Tanzania (privatisation of government-owned hotels, opening-up to private investment) and it is generally <b>open for foreign investment</b>. But regulatory issues, especially related to <b>taxation</b>, continue to constrain growth (e.g. multiple nuisance taxes for local tour operators).</p>	<p>EA benefits from Ethiopia's less regulated <b>labour market</b> compared with Kenya (no minimum wage, prohibition of striking for workers in air transport).</p> <p>Profitability of both airlines is affected by relatively high <b>taxes and levies</b>.</p>
<b>Trade policy</b>	<p>Policy-led <b>integration with EAC</b> has boosted Kenya's trade in financial services.</p> <p>Nigeria has <b>no clear strategy</b> to promote trade in financial services, and a lack of integration has hampered the development of the sector. Export development programmes are mostly directed at goods rather than services (financial services excluded).</p>	<p>Both countries have <b>bilateral trading arrangements with large emerging market neighbours</b> (South Africa, India).</p> <p>Nepal's trade in electricity with India is facilitated through <b>transmission interconnections at the border, but these remain limited</b>. Hydropower exports also affected by India's <b>restrictions on electricity imports</b> (including import tariff, surcharge tax).</p>	<p><b>Liberalisation</b> of the telecommunications sector to allow entry of new players (and reduction of tariffs on computer imports in Senegal) was important for recent ICT services development in Senegal and Mauritius.</p> <p>India still faces work permit issues related to mode 4 trade in IT services.</p>	<p>Although positive progress has been made in liberalising the air transport sector in Mauritius, it still maintains fairly <b>stringent protectionist policies over its skies</b> compared with Tanzania, resulting in relatively limited connectivity by air.</p> <p>Tanzania has made important progress in <b>liberalising air travel</b>, marking it as an easily accessible tourist destination with good air transport connectivity between domestic locations.</p>	<p>Numerous <b>bilateral agreements</b> with other countries have helped EA price competitively. It has also been successful in expanding its regional network through strategic partnerships within Africa, thereby enhancing access to Western, Central and Southern African markets. Furthermore, partnerships with Asian airlines have helped EA expand into the Asian market.</p> <p>Both airlines have <b>code-sharing agreements</b> and partnerships with other airlines (e.g. StarAlliance for EA).</p>
<b>International demand</b>	<p>Demand for Kenya's financial system driven by growth as a <b>regional financial hub</b>.</p> <p>But little international demand for Nigerian financial services. Nigeria has an increasing deficit in trade in financial services.</p>	<p>Much of the demand for hydropower transmission services is regional – demand from neighbours (South Africa and India) – to address their own domestic energy shortages.</p> <p>Also scope to <b>expand regional exports</b> (Lesotho through SAPP, Nepal to South Asia). Both regions face major energy shortages.</p>	<p>Development of India's ICT sector on the back of foreign demand. Combination of <b>low wage costs</b> and abundant <b>skills</b> has enabled India to capture a sizeable portion of the market for offshoring IT services.</p> <p><b>Language proficiency</b> an important driver of demand for ICT services (English for India, French for Mauritius and Senegal).</p> <p>Mauritius is increasingly looking to export IT services to the regional market.</p>	<p><b>Europe</b> is an important source of visitors for both countries, but there is increasing demand from <b>Asia</b> (as well as the Pacific and Middle East in the case of Tanzania). Mauritius competes directly with Asian and Caribbean countries in the high-end luxury tourism market.</p> <p>There are an increasing number of tourist arrivals in Tanzania from <b>other African countries</b> (especially regional neighbours – Uganda, Burundi and Rwanda).</p>	<p>Both airlines' major hubs are located in East Africa: <b>advantageous location for Asia-Africa flows</b> and as transit hub for travel between Asia and Latin America.</p> <p><b>Market expansion</b> – EA's aggressive targeting of <b>Asian market</b>, more successful than KQ.</p>

	<i>Financial services Kenya and Nigeria</i>	<i>Hydropower services Lesotho and Nepal</i>	<i>ICT services India, Mauritius and Senegal</i>	<i>Tourism services Mauritius and Tanzania</i>	<i>Air transport services Ethiopia and Kenya</i>
<b>Political economy</b>	<p>The financial sector in Kenya benefits from a relatively <b>liberal business environment</b>. Private institutional capacity-building and development of private market conventions and practices has also facilitated <b>deepening of secondary financial markets</b>. But financial inflows are linked to domestic currency appreciation (negative effects on inflation and export competitiveness).</p> <p>Development of Nigerian financial sector hindered by <b>financial instability</b> and <b>absence of corporate governance</b>.</p> <p>But regulation in the sector in both countries has been inadequate and too light-touch.</p>	<p>There are <b>governance issues around the management of natural resources</b> in Nepal (low accountability, bureaucratic culture, patronage and crony capitalism, land-use arbitration issues). <b>Political instability and local resistance</b> to large-scale hydropower projects have also constrained efforts to construct dams.</p> <p>But an <b>iterative, flexible approach</b> that involved establishing <b>coordination mechanisms</b> has been effective in attracting investment into the sector in Nepal.</p>	<p>Explicit prioritisation in the Mauritian government’s policies and strategic plans to <b>establish ICT services as a key pillar of the economy</b>.</p> <p><b>IT-led development</b> in India has spurred the hope of the country becoming a major economic power in the world, but has also sparked debate in the past about the <b>equity implications</b> of the sector’s development. The Digital India programme, launched in July 2015, is designed to ensure ICT is more closely linked to rural development efforts in India.</p>	<p>Both governments have <b>prioritised the sector in economic development policy</b> agenda.</p> <p>Both countries benefit from reputation of relatively being <b>peaceful</b> (and Mauritius also for <b>good governance</b>), but <b>recent political instability</b> (e.g. Zanzibar elections in 2015) may pose a threat to demand for Tanzania’s tourism services.</p>	<p>Different <b>ownership structures</b>: EA entirely <b>state-owned</b>, but successful governance structure and clear divide between ownership and management. No subsidisation from government. KQ <b>privatised</b> in 1996 (government retains a 29.8% stake), but still heavily reliant on government funds. The contrast suggests privatisation is not necessarily a recipe for success in air transport services.</p>



**Financial services:** Regional integration has helped Kenya develop onshore and offshore financial hubs, whereas the Nigerian banking sector has depended greatly on the injection of funds from oil exports into the economy. Kenya's domestic capabilities in the financial sector are greatly helped by mobile technology, such as M-PESA, but Nigeria's trade in financial services has been hindered by economic instability and an absence of corporate governance. The financial sector in both countries has failed to link sufficiently with the domestic real economy, and regulation of the sector has been too light-touch.

**Hydropower:** Both Lesotho and Nepal are small countries with abundant water resources and the necessary topography to support the generation of hydropower. But the considerable hydropower potential in these countries can be developed fully only in a regional context. The ability of Lesotho and Nepal to export electricity to their regional neighbours relies critically on the further development of a regionally interconnected grid infrastructure to facilitate transmission services. This is particularly urgent for Nepal, whereas Lesotho could exploit the existing interconnections between Southern African Development Community (SADC) member states through the Southern African Power Pool (SAPP). In addition, because we are dealing with large-scale investments in small countries, it is even more important to consider the governance and coordination arrangements around attracting investment and investing the revenues in transformative development. This requires a flexible and adaptive approach where governments and other local actors experiment with policy interventions and adapt when necessary (and there is evidence such an approach has begun to pay dividends in Nepal, where it has proven successful in setting up a mechanism to coordinate investment in the hydropower sector).

**ICT:** Our analysis suggests a number of basic factors need to be in place to take part in exports of ICT services, including a skilled workforce and telecommunications infrastructure. ICT is already an open sector, but active policy also plays a fundamental role. The government of Mauritius, for example, has proactively developed a cyber city, attracted investment and helped upgrade the sector. The Indian government has developed software technology parks (which provide access to high-quality internet and facilities to support the competitive delivery of IT and IT-enabled services and have helped attract FDI). In Senegal, the sector is markedly less developed, and much still needs to happen to develop the necessary ICT-related infrastructure and human capital required to drive its development. In the longer term, the potential of ICT to contribute to the economic transformation of the country depends on the extent to which ICT services enhance productivity and the sector's linkages with other sectors.

**Tourism:** Tourism contributes significantly to GDP and employment in Mauritius and Tanzania. Tanzania has enjoyed higher absolute growth in tourism export revenues, albeit off a much smaller base. Mauritius has made more progress in diversifying beyond sun, sea and sand tourism (beach holidays) and into other types of tourism services, principally through growing medical tourism and business tourism subsectors. Relatively good quality tourist-related infrastructure and a skilled labour force support the tourism services sector in Mauritius. In contrast, in Tanzania deficiencies in the availability and quality of tourist-related infrastructure and a shortage of relevant skills in the domestic economy adversely affect tourism services exports. In both countries, developing the sector further depends on appropriate skills development, finding new markets in order to further expand tourist arrivals, using open skies policy with liberalised bilateral agreements (Mauritius, for example, could do more to liberalise air transport services) and building better linkages between foreign companies and local firms.

**Air transport:** Both Kenya Airways (KQ) and Ethiopian Airlines (EA) have been successful in attracting tourists and developing other sectors, such as flower exports, which are crucial for economic transformation. In particular, EA's diversified growth model (involving the provision of domestic, regional and international passengers transport services, cargo services and maintenance, repair and overhaul (MRO) services) facilitates strong linkages between the company and the rest of the economy, bringing greater opportunities for economic transformation. The main factors behind the success of EA's large expansion plan include its aggressive targeting of the Asian market, its numerous bilateral agreements, its successful governance structure and the unregulated labour market in Ethiopia, which have helped keep costs low relative to competitors (including strong competition from the large Middle East airlines in the African market). Recent estimates suggest EA's fares on its intra-African routes are between 10% and 21% lower thanks to restrictive bilateral agreements that exclude other competing airlines. KQ has not been as successful in capitalising on growth in air travel in the Asian market, nor has it managed to expand

its regional network as successfully. Furthermore, higher operating costs mean KQ has struggled to engage in competitive pricing. This meant it was unable to bounce back from the negative shocks of the losses incurred from fuel price hedging, the reduction in international visitors following the 2014 terrorist attacks in Nairobi and the fall in regional demand following the fiscal crises in oil-exporting countries. KQ also remains heavily reliant on government funds.

### 5.3 EXPLAINING SUCCESS IN TRADE IN SERVICES

We examined the main explanatory factors behind success (or lack of success) in each of the sectors. We summarise this as follows.

**Structural factors:** Clearly, endowments and structural factors help explain why Lesotho and Nepal have been able to develop hydropower potential, why Mauritius and Tanzania attract tourists (although this needs to be harnessed to create tourist destinations) and why some countries are well located geographically to develop air transport services that can serve a variety of locations. In other cases, a large market may be a good base to support trade in services (e.g. ICT services in India).

**Domestic productive capabilities:** Differing levels of availability and quality of infrastructure and skills (both of which are developed through government policy or private response to opportunities) can generate significant differences in the performance of exports of services. For example, Lesotho, benefiting from South African government investment, has had much better infrastructure to export hydropower services than Nepal. On the back of government investment, skills, infrastructure and technology parks have driven ICT exports in India and Mauritius, whereas shortages of human capital and skilled ICT workers as well as limitations in internet connectivity and accessibility in Senegal constrain the expansion of ICT services exports.

**Regulatory and institutional framework:** The regulatory and institutional framework is particularly important for utility services, such as in financial, energy or transport services with oligopolistic producers. While private sector participation may be important, for example in hydropower services or air transport services, this requires a good regulatory framework to ensure competition and that (foreign) firms can enter the market. In other sectors, such as ICT, liberalisation can be important for improving the competitiveness of services exports. In Mauritius, liberalisation of the telecommunications sector has allowed the entry of new players, ending monopolies and eradicating exclusive rights for domestic and international services. In Mauritius and Senegal, liberalisation of the domestic sector has helped boost competition and improve efficiency, making ICT services exports more competitive internationally.

**Trade policy:** Trade policy has been a crucial driver of success in all of the services sectors. Regional integration has helped Kenya develop its exports of financial services, but lack of international integration has hampered Nigeria. Hydropower exports from Lesotho and Nepal were not possible without bilateral agreements with neighbours (this includes both trade and infrastructure development agreements, with the latter particularly important in Lesotho, with South Africa funding the development of much of the infrastructure supporting the Lesotho Highlands Water Project (LHWP)). ICT exports depend on being open to FDI and having access to export markets through mode 1 (online) and mode 4 (movement of people). For island economies, tourism and air transport services depend on (bilateral) air service agreements.

**International demand:** Much of the demand for services is regional – hydropower energy services are exported to neighbours through interconnected grids and Kenya's financial services are traded regionally, so regional integration is important for these types of services. In other cases, services are traded more globally, such as is the case for ICT tourism and air transport services. Some services find new niches, such as Asian markets for Ethiopia's airline services.

**Political economy:** While much is known about the factors behind trade in services, some contexts have been more successful in generating success. Nepal was able to overcome collective action problems generated by fragmented elites in order to mobilise investment in hydropower generation through the creation of the Investment Board of Nepal (IBN) and the use of Nepali professionals to address the



objections, interests and incentives of potential blockers of any deal. The way state and airlines collaborate is complex, but in the case of Kenya versus Ethiopia we see that privatisation is not a recipe for success. More generally, governance is a key consideration around regulating large services sectors. In the case of financial services, we find that both Kenya and Nigeria have had inadequate regulation that has been too light-touch.

## 6. DATA LIMITATIONS

The limited availability of statistics on international trade in services has been widely recognised for some time (see, for instance, Lipsey, 2006, and Borchsenius et al., 2010). Indeed, the quality of data on trade in services remains far inferior to that of the corresponding statistics available for international goods trade. Collecting data on services trade remains complicated by the nature of services, which tend to be less tangible than goods, as well as the reality that services can often be exported or imported without crossing an international boundary (e.g. when only the consumer of the service crosses a border). As a result of the limited data on services and services trade, comparatively little empirical research has been undertaken to date on international trade in services and its effects. For example, a lack of data has often precluded opportunities to undertake rigorous empirical analyses of the contribution of trade in services and the impact of services trade policies on economic growth. Existing analyses have tended to rely on aggregated, and often cross-sectional, data.

In this paper, we draw on data on services trade to undertake empirical analyses at micro and macro levels of the role of trade in services in economic transformation, but recognise the limitations associated with the available data. Box 1 discusses how the lack of availability and quality in services data hampers trade in services negotiations. But the data problems are also acute in the case of firm-level data, with comparatively little available (especially time series data) on services firms. The WBES, our source of firm-level data, mostly covers manufacturing firms, with relatively little focus on their services counterparts. Consequently, our empirical analyses rely on a relatively small number of observations for services firms. This becomes particularly problematic at more disaggregated levels when examining particular services sectors in specific countries (especially in LICs). Moreover, the services firms included in the surveys tend to be selected from those registered with business associations or other bodies and, hence, operate mostly in the formal sector. This may bias the empirical results in our cross-sectoral analysis if the firms in our dataset under-represent certain sectors with higher levels of informality.

There are also potentially problematic issues associated with the comparability of the WBES data across countries. In some cases when undertaking certain empirical estimations we pool the WBES data to maximise observations, but the year coverage of the WBES is not uniform across countries, meaning we pool observations from different time periods. This creates the possibility that any observed effects between firms in different sectors and countries may be driven by the fact that the samples in our estimations are drawn from different points in time. Reassuringly, however, this is mitigated to some extent because the survey methods are, at least, consistent across years.

The abovementioned issues highlight the need for better data on services and services trade if we are to better understand the role of international trade in services in economic transformation. This requires greater investment in the collection of services data going forward. One area with potential to produce considerable gains is further investment in surveys of both formal and informal services firms, the information from which can be used to establish a more comprehensive base of firm-level evidence. There is considerable scope, in particular, to undertake national surveys covering more services firms. These surveys should be repeated over several years in order to allow for the construction of national panels and the analysis of time series data. Furthermore, efforts should be made to ensure national surveys are undertaken in accordance with a common framework in order to allow for accurate comparative analyses across countries.

**Box 1: Services trade data: a fundamental roadblock to negotiations and policy-making**

Collecting service trade statistics is a highly subjective undertaking, prone to inaccuracies and a general dearth of availability. These challenges are directly related to the nature of services trade and the absence of a physical item crossing a border where national authorities can track, count and record it. Despite improvements over the past 15 years, in many LICs the macro- and micro-level services data needed for meaningful economic analysis simply do not exist. This acts as a fundamental roadblock to having informed services trade negotiations, to say nothing of better leveraging services trade for inclusive growth and structural transformation.

While significant improvements in services trade data collection have been achieved since 1994,<sup>13</sup> enabling better analysis, including in LICs, they have yet to fundamentally address a number of core deficiencies.

The first relates to the source of services trade data and the mismatch with how services trade negotiations are organised. Whereas in GATS-based negotiations, services are delineated by the different ways in which they are traded (modes 1-4), services trade data are sourced largely from the balance of payments (BoP), which records transfers of money across borders. Investment-related services trade is effectively left out of BoP-based statistics.<sup>14</sup> In that the WTO has estimated such flows to comprise over 50% of global services trade (though surely less so in LICs), services negotiators and policy-makers start with (at best) only half the picture.

Second, when it comes to movement of persons, international services trade statistics utilise proxies in the form of labour-related flows (i.e. compensation of employees, workers remittances and/or migrant transfers). While these provide rough estimates, these data include the activities of permanent migrants and workers outside the services sector, whose work may also not be temporary in nature. This is likely to result in overestimations (offset, however, by the prevalence of the informal sector).

Third, for cross-border services, while available statistics include elements of transportation services, communications, insurance and banking, as well as royalties and licence fees, they generally omit e-commerce transactions (notably where the product is both procured and delivered online).<sup>15</sup> With e-commerce serving as an important potential delivery channel for LIC service providers, this leaves another key dimension of LIC services trade profiles out of the view of negotiators.

Lastly, with tourism being a major source of LIC services exports, the shortcomings in measuring services consumed abroad can have significant distortionary effects on policy-making and negotiations. For example, trade statistics on tourism generally rely on the travel account under the BoP, which includes not only services but also the purchase of goods by tourists. It also excludes international airfares, which are counted under transport services.<sup>16</sup>

In addition to these shortcomings, another problematic issue is the general lack of data to capture indirect services trade (i.e. services embodied in goods). Here, trade in value-added statistics, based on national input/output tables, are increasingly being deployed. Again, however, these do not exist for most LICs.

<sup>13</sup> This includes the UN Statistical Commission's publication of the Manual on Statistics of International Trade in Services (MSITS) (in 2002, revised in 2010), which provides guidelines and recommendations for best practice on how to use and develop sources to measure international trade in services. Four international sources now provide services trade data: the UN Services Database (UNSD); the WTO/UN Conference on Trade and Development (UNCTAD)/International Trade Centre (ITC) Services Database (WTOSD); the OECD Trade in Services by Partner Database (TISP); and the World Bank Trade in Services Database (WBTSD).

<sup>14</sup> While Foreign Affiliates Trade in Services (FATS) statistics track such investment flows, this is a still-novel and complex methodology, and as such remains largely the purview of advanced economies. BoP data do capture some mode 3 data related to constructions services.

<sup>15</sup> The use of thresholds under which items need not be declared can exacerbate under-reporting.

<sup>16</sup> Tourism under the Tourism Satellite Account represents an alternative framework.

Other core deficiencies that preclude the use of existing services trade data to support services negotiations and policy-making relate to the absence of information on bilateral flows (i.e. what partner is the trade happening with?) and sectoral disaggregation (i.e. exactly which services are being traded?).

Services policy-makers and trade negotiators, especially in LICs, have thus been left to operate in relative darkness. Improving the state of services trade data in LICs is a time- and resource-intensive endeavour, but one very much in the realm of the possible. Holmes et al. (2016) argue the sequenced processes for collecting services trade data adopted by some developing countries – which include, *inter alia*, undertaking a needs/capabilities assessment, implementing enabling legislative and institutional provisions (including strict confidentiality for reporting firms), use of multiple data sources (in particular targeted firm-level surveys) and securing external technical assistance and capacity-building – have proved effective. Ensuring any such efforts are properly embedded in national planning and budget processes will help promote sustained improvements over the longer term.

## 7. CONCLUSIONS AND POLICY IMPLICATIONS

This paper has explored whether and how policy directly affecting trade in services and other policy affecting trade in services indirectly can have a major impact in terms of raising the contribution of services for economic transformation. We summarise our main findings into three categories: 1) improved knowledge relevant for trade researchers; 2) implications for trade policy; and 3) implications for other policy.

### 7.1 IMPROVED KNOWLEDGE ON TRADE IN SERVICES

- Trade in services in LICs is expanding. We find that trade in services has grown faster than trade in goods since 1991, including in many LICs.
- The services sector is involved in exports directly (trade in services) and also indirectly (by being embodied in goods exports). LICs' services are increasingly traded as intermediates into other countries' production and increasingly as part of value chains of goods and services, albeit with a low baseline. The share of services value added in goods exports has also grown – from 16% in 1992 to 22% in 2012.
- Services play a key role in aggregate productivity change and successful countries have seen productivity change in services and other sectors at the same time. This balanced growth story is not surprising given the many links (qualitative and quantitative) between services and other sectors. It confirms previous conceptual discussion with new empirical evidence on how services are embodied in goods trade: developing manufacturing without quality services is difficult if not impossible.
- We use case studies to complement quantitative work. The case studies identify how services sectors contribute to economic transformation. For instance, there is heterogeneity in the impacts of different services sectors on employment. Certain services are important revenue and foreign exchange earners (hydropower, tourism, ICT); and, in some, visible linkages with the rest of the economy are more prominent (e.g. suppliers in the tourism sector). Finally, some sectors are key for supporting productivity/trade in other sectors (e.g. ICT, logistics, finance) and these linkages are perhaps less visible.

## 7.2 TRADE POLICY (DIRECTLY AFFECTING TRADE IN SERVICES) IN LICs

- Firm-level evidence suggests exporting is good for productivity in services firms. This means that, as it is in the case for goods, **openness** (defined as the extent to which firms export) is related to transformative effects in the services sector. Thus, **export promotion** is also likely to be important for services producers and economic transformation more generally.
- As imported services are an important part of the value added embedded in a country's goods exports, it is also necessary to remain open towards imports in services.
- Trade policy plays a role and is frequently crucial in **opening markets**, regionally as well as internationally (e.g. in airline services).
- An open services sector will **increase competition** and help domestic services firms become more competitive.
- In the selected case studies, trade in services is mostly **regional**. In these contexts, it is important to liberalise trade in services within individual regions. Trade in hydropower services is a good example of this for landlocked (small) states.

## 7.3 OTHER POLICY IN LICs

- The presence of certain basic factors is key for success in some services sectors (e.g. natural resources/endowments and structural factors for hydropower (Lesotho, Nepal) and tourism (Mauritius, Tanzania) or a skilled workforce and telecommunications infrastructure for ICT).
- Active services policy can play an important role in promoting exports of services (e.g. the development of software technology parks (India) and cyber cities (Mauritius) to support ICT services).
- Iterative, adaptive and flexible approaches (where governments and other local actors experiment with policy interventions and adapt them when needed) have proven successful in setting up mechanisms to coordinate investment in certain services sectors (e.g. hydropower in Nepal).
- An appropriate domestic regulatory framework for services is important to promote competition and improve efficiency (as, for example, the liberalisation of domestic regulations in the telecommunications sector, allowing entry of new players, has shown in Mauritius and Senegal), thereby ensuring services exports are competitive in international markets.
- Regulation and political economy considerations are particularly important in large services sectors.
- We find the productivity of services firms in LICs that supply exporters is low on average, so there is economic transformation potential in raising the productivity of these services firms, which will have knock-on effects on trade in goods and services, etc.

However, these suggestions need to recognise the complicated nature of the regulations that affect trade in services. Many of these regulations are not border measures but instead are embedded in the respective domestic regulatory frameworks. These regulations are often designed to protect, and they can constitute a formidable impediment to trade in services. Consequently, the prospects for integrating specific services markets may be particularly constrained and innovative and alternative approaches may be required to support trade. Such approaches can be identified through consultations with sectoral regulators and stakeholders that provide and consume or buy the services concerned. The World Bank (2016) and Hoekman and Mattoo (2013) discuss potential approaches and practical experience in implementing deliberative mechanisms to identify areas in which sectoral regulators, other government agencies and the business community can cooperate to facilitate trade in services. Recent initiatives in East Africa to eliminate telecom roaming charges are an example of cooperation between telecom operators and governments that has had a direct impact on consumers and facilitated cross-border exchanges.

There are clear examples in particular services sectors of countries managing to overcome constraints to liberalisation. In the tourism sector, for instance, a number of developing countries have implemented domestic regulatory frameworks that are non-trade distorting (Cali et al., 2008). Mauritius, South Africa and Uganda have made progress in liberalising air access to increase tourist arrivals; Cape Verde has implemented a liberal regime for tourism support services such as transport handlers. Tanzania has encouraged privatisation in the sector, and The Gambia has been particularly open to foreign ownership and FDI in tourism (Mitchell and te Velde, 2008). In ICT, Mauritius and Senegal have made extensive efforts to liberalise their telecommunications sectors.

There is also a range of mechanisms available to negotiate better access for developing countries' services exports. At the plurilateral level, large developing countries such as India and China are actively seeking to boost market access to public works and services contracts in other countries (e.g. by negotiating accession to the WTO General Procurement Agreement). Regional negotiations are also important, particularly for facilitating mutual recognition of services sector qualifications. For instance, the countries comprising the Association of South East Asian Nations (Brunei Darussalam, Myanmar, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand and Vietnam) have made progress in developing Mutual Recognition Agreements (MRAs) to facilitate services trade, including on engineering services, nursing services, architectural services, surveying services, accountancy services and for dental and medical practitioners (Hellyer, 2012). Similarly, some Caribbean countries have negotiated MRAs for architecture with the EU through the EU–Caribbean Forum (CARIFORUM) Economic Partnership Agreement (EPA). Finally, bilateral services negotiations have successfully facilitated access for mode 4 services from developing countries. For example, Chile, through a free trade agreement (FTA) with the US, has mode 4 access through an annual quota; there is no quota or maximum length of stay for temporary professionals entering Canada from Colombia or Peru through their FTA; and the EU–CARIFORUM EPA has allowed entry for 29 categories of professionals from the 15 CARIFORUM states and the Dominican Republic into the EU without quotas. This is particularly important for labour-intensive services sectors such as ICT, health and education where some developing countries have a comparative advantage.



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## APPENDIX A: TRADE IN SERVICES AND ECONOMIC TRANSFORMATION – BACKGROUND REVIEW

This appendix provides a review of the literature on the role of trade in services in economic transformation. It first recalls the increasing role of services in the economy and then discusses the relationship between services and economic growth. This is not a full review of the role of services in economic transformation; for this, see a previous SET study (Khanna et al., 2016). Instead, it serves as an introduction to the rest of the section on the impact of services trade openness on growth, productivity and employment, which are key components of economic transformation. It then discusses the link between services and trade agreements.

### A1 THE INCREASING ROLE OF SERVICES IN THE ECONOMY

The share of services in total output and employment for the world as a whole has been increasing over time as countries become richer. This is nothing new (Kravis et al., 1983; Riddle, 1986),<sup>17</sup> but for any level of economic development the role of services in the economy is today more important than in the past as a result of technological changes in information and communication and other industries. Efficient services are critical for economic development. Many services are inputs into the production of other services and goods. As a result, their cost and quality affect the growth performance of the economy. An important economic characteristic of many services is their ‘intermediation’ role: intermediate or producer services support the process of ever-finer specialisation associated with economic development. Producer services are not only differentiated intermediate inputs into production. They also perform an important function in coordinating production processes, both within and, increasingly, across countries. Services therefore also play a critical role in the operation (feasibility) of global value chains.

The feasibility of participation in value chains depends in part on the level of trade costs and the predictability of the time required to move goods across borders and along transport corridors. Slow and unpredictable land transport is a major factor keeping many Sub-Saharan African countries out of manufacturing value chains (Arvis et al., 2010; Christ and Ferrantino, 2011). Trade costs are in part the result of barriers to trade and investment in services that result in lower-quality and higher-cost intermediate services that are inputs into production and exchange – such as transport, logistics and other intermediation and distribution services. Achieving lower trade-related operating costs is in large part a services agenda: transport and logistics services, communications costs, etc. Borchert et al. (2015), for example, note that many landlocked countries restrict trade in services that are particularly important for overall trade performance. They show that on average air transport policies are significantly more restrictive in landlocked Sub-Saharan African countries, reducing connectivity with the rest of the world. The result is more concentrated market structures and less access to transport services. Even moderate liberalisation of air transportation services could lead to a 20% increase in the number of flights.

Recent initiatives such as the OECD–WTO TiVA database have revealed that services account for a much larger share of global trade than BoP data suggest. Some 50% of total trade on a value added basis comprises services. The high services share reflects the fact that a large variety of services are inputs into traded products. When a service is used as an input into the production of a good that is then exported abroad, that service is exported indirectly, embodied in the good. Indeed, many firms in high-income countries that engage in manufacturing have been pursuing so-called servicification: a shift into or

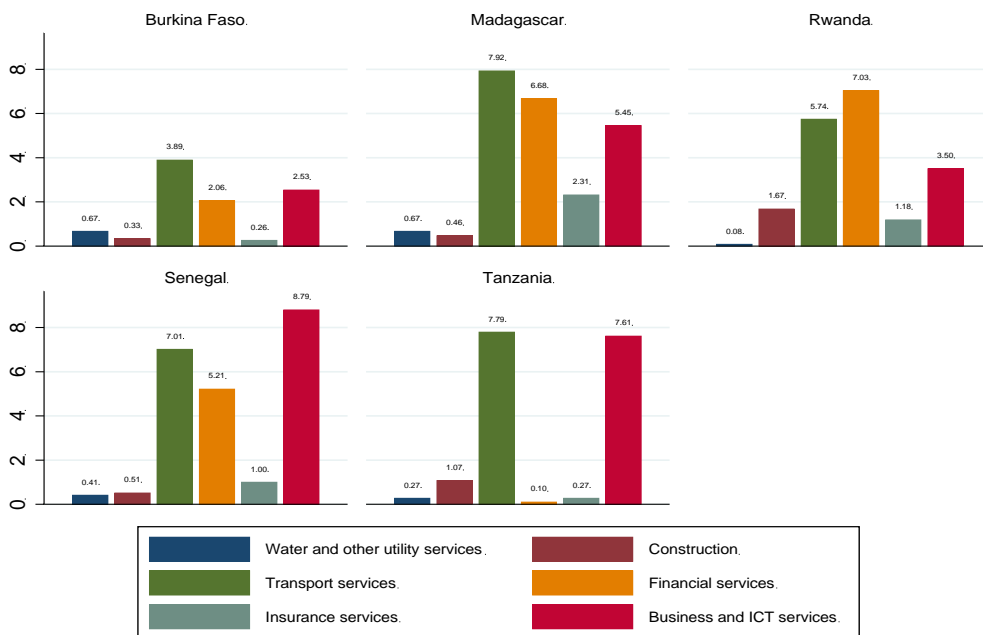
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<sup>17</sup> Francois and Reinert (1996) note that 1) the share of value added originating in services is positively linked to the level of per capita income; 2) income levels are positively associated with employment shares for intermediate services and with the share of services activities *within* total manufacturing employment; 3) income levels are strongly linked to demand by firms for intermediate or producer services, particularly in manufacturing; and 4) changes in the allocation of service activities between manufacturing and service firms (outsourcing) explains only a small share of service sector growth – fundamental changes in the structure/organisation of production dominate. See also Park and Chan (1989) and Schettkat and Yocarini (2006) for a discussion of ‘stylised facts’ regarding the changing role and structure of services as countries become richer, and Broadberry and Ghosal (2005) for a historical analysis of the role of services expansion in US economic growth in the 19th and early 20th century.

increasing the production and sale of services. This is often an element of a strategy to increase productivity and move ‘up the value chain’ in response to competition from imports and decisions to offshore tasks that can be done more cheaply elsewhere.<sup>18</sup> Upgrading along a value chain often requires servicification because activities that generate higher value added tend to be services, ranging from research and development (R&D) and design to brand management. Case study evidence has made clear that the high services content of production of most firms is true in developing countries as it is in developed ones (Low, 2013).

Datasets such as the Export Value Added indicators of the World Bank<sup>19</sup> and the TiVA database allow the calculation of forward linkages – that is, the value added generated by a sector – say, business services – as an intermediate input into the exports of all industries. This is a measure of services ‘input intensity’ or dependence on services and an indicator of the extent to which services are indirectly exported. Figure A1 plots the value of this indicator for selected countries in Africa.<sup>20</sup> Among the services sectors in the sample, financial services account for the highest share (around 7%) of total exports of value added in Rwanda and for similar shares in Madagascar and Senegal. In Tanzania, business and ICT services appear to play a more important role, as they do in Senegal (almost 9%). Transport services have the highest input intensity in Burkina Faso, Madagascar and Tanzania. As these value added measures are also indicators of cost, a policy implication is that, in the short run, cost or efficiency improvements may be most easily obtained by focusing on services sectors that are used most intensively as inputs into export production.

**Figure A1. Services input intensity, selected African LDCs, data for 2011**



Source: World Bank Export Value Added database.

Although a number of studies and reports have had a specific focus on the role of services trade and related policies for development (e.g. Mattoo and Payton, 2007; Cali et al., 2008, World Bank, 2010; Saez et al., 2015), much of what is known about the way trade occurs, the policies that affect services exchange, the location of production (investment) and the characteristics of firms producing and consuming services is based on studies of developed economies – for example Breinlich and Criscuolo (2011) and Wagner

<sup>18</sup> This has been the focus of much recent analysis, although with a focus on high-income countries. See, for example, Baines et al. (2009), Breinlich and Criscuolo (2011), Swedish National Board of Trade (2013), Breinlich et al., (2014), Crozet et al. (2014), Lodefalk (2013, 2014).

<sup>19</sup> See <http://data.worldbank.org/data-catalog/export-value-added>

<sup>20</sup> The selection of countries is purely illustrative.

(2012). This literature has generated findings that will probably apply to developing country contexts as well, however – for example that firm heterogeneity plays an important role in shaping patterns of services trade, much as is the case for trade in goods, and that FDI is an important channel for firm entry and for technology transfer and diffusion (e.g. Jensen et al., 2010).

## A2 SERVICES AND ECONOMIC GROWTH

Services do not figure prominently in research on economic growth and development. Basic growth theory defines (increases in) aggregate income (output) as a function of (increases in) the quantity and productivity of capital and labour inputs, with technological progress driving long-run (steady state) growth. No special role is accorded to services activities, with the exception of finance.<sup>21</sup> Financial services can affect growth by facilitating capital accumulation and fostering innovation. In a survey of the relevant literature, Levine (1997) identifies five major functions that financial systems perform in reducing transactions costs and improving the allocation of real resources: facilitating the trading of risk, allocating capital to productive uses, monitoring managers, mobilising savings through the use of innovative financial instruments and easing the exchange of goods and services.<sup>22</sup>

Even if not explicitly incorporated into theoretical growth models, many services activities will have a powerful influence on growth. Low-cost and high-quality telecommunications will generate economy-wide benefits, as the communications network is a transport mechanism for information services and other products that can be digitised. Telecommunications are crucial to the dissemination and diffusion of knowledge – including through the internet. ICT services are a ‘transport’ mechanism for information services and other products that can be digitised. Similarly, transport services affect the cost of shipping goods and the movement of workers within and between countries. Business services such as accounting, engineering, consulting and legal services reduce transaction costs associated with the operation of financial markets and the enforcement of contracts, and are a channel through which business process innovations are transmitted across firms in an industry or across industries. Retail and wholesale distribution services are a vital link between producers and consumers, with the margins that apply in the provision of such services influencing the competitiveness of firms on both the local and the international markets. Health and education services are key inputs into – and determinants of – the stock and growth of human capital. Extensive discussion of these different linkages can be found in Riddle (1986), Schettkat and Yocarini (2006) and Eichengreen and Gupta (2013).

Francois (1990) notes that the growth of intermediation services is an important determinant of overall economic growth and development because they allow specialisation to occur. As firm size increases and labour specialises, more activity needs to be devoted to coordinating and organising the core businesses of companies. This additional activity is partly outsourced to external service providers. The ‘producer services’ that are demanded and supplied as part of this process (such as information and communications services, accounting and logistics) are not just differentiated inputs into production. They also play an important and distinct role in coordinating the production processes needed to generate ever more differentiated goods and to realise scale economies. The associated organisational innovations and expansion of ‘logistics’ (network) services yield productivity gains that in turn should affect economy-wide growth performance.

A key difference between trade in goods and services in terms of their growth impact and implications for employment is that imports of services often entail FDI. This is either because the services must be locally produced for technological reasons or because there are incentives to be close to the customer. As long as greater foreign factor participation is associated with increased competition, there will be a larger scale of activity, and hence greater scope for generating growth-enhancing effects. If foreign participation merely substitutes for domestic factors and the sector does not expand – that is, the degree of competition remains

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<sup>21</sup> Goldsmith (1969) was among the first to highlight the role of financial services in channelling investment funds to their most productive uses, thereby promoting growth of output and incomes.

<sup>22</sup> Calderon and Liu (2003) confirm the direction of causation between financial development and economic growth, using data on 109 countries for 1960–94.

unchanged – then there cannot be a positive growth impact, on account of the scale effect. However, because services tend to be produced locally, greater competition will generally have less of an effect in forcing a reallocation of employment across sectors than in the case of liberalisation of trade in goods (Konan and Maskus, 2006). Conversely, a larger scale achieved merely by eliminating domestic barriers to entry and attracting domestic resources from other sectors would suffice to generate larger endogenous growth as resources are allocated to more productive resources. Even without scale effects and even if services sectors do not possess endogenous growth attributes, inward FDI following services sector liberalisation can have positive effects on growth by bringing in new technology. There is substantial empirical evidence that FDI has positive effects on the productivity of economies by inducing greater competition and providing access to higher quality, greater variety and cheaper services (Francois and Hoekman, 2010).

Data limitations greatly hamper empirical research in this area. A lack of data often precludes rigorous empirical analysis of the impacts of services, services trade and services trade policies on growth. Information on both outcomes (economic performance) and policies is patchy at best; time series data on key policy variables are generally lacking. As a result, research tends to have to rely on relatively aggregate data and is often cross-section in nature. For example, Mattoo et al. (2006) use a cross-section regression framework to show that countries with open financial and telecommunication sectors display a GDP growth rate about 1.5 percentage point higher than other countries. Eschenbach and Hoekman (2006) find that liberalisation and the adoption of good practices in the regulation of financial, telecommunications, energy and transport services were statistically significant explanatory variables for the economic performance of a sample of 20 transition economies during the 1990–2004 period. Focusing on trade outcomes, Gabriele (2006) demonstrates the existence of a positive and robust correlation between cross-border services exports and long-run GDP growth for a sample of developing countries.

### A3 SERVICES TRADE OPENNESS AND PRODUCTIVITY

Research on the linkages among services trade, services-related policies and economic performance has shown that trade openness is an important channel for improving services performance. Foreign suppliers are sources of new technologies as well as the competition that is needed in markets characterised by dominant incumbents, often state-owned or controlled or former public monopolies. FDI is a particularly important channel for international provision of services and associated transfer of knowledge and know-how, as well as a mechanism through which higher-quality, lower-cost services improve the TFP of firms that use services relatively more intensively.<sup>23</sup>

A positive association between policy reforms in services and inward FDI in services, and between TFP growth performance of downstream firms and FDI, is perhaps the most robust finding to emerge from the limited empirical research on the impacts of services reforms. Arnold et al. (2011a) analyse the effects of allowing foreign providers greater access to services industries on the productivity of manufacturing industries relying on services inputs. The results, based on firm-level data from the Czech Republic for the period 1998–2003, show a positive relationship between FDI in services and the performance of domestic firms in manufacturing. In related firm-level research focusing on Africa that uses data from over 1,000 firms in 10 Sub-Saharan African economies, Arnold et al. (2008) also find a statistically significant positive relationship between firm-level TFP and the performance of three service input industries (access to communications, electricity and financial services). Other empirical studies find similar results for a number of developing countries: for example, Arnold et al. (2015) for India, Duggan et al. (2013) for Indonesia and Fernandes and Paunov (2011) for Chile.<sup>24</sup>

<sup>23</sup> See, for instance, Amiti and Konings (2007); Blalock and Gertler (2008); Arnold et al. (2008, 2011a, 2011b, 2015); Fernandes and Paunov (2011); Duggan et al. (2013). Although the cross-border tradability of services remains substantially less than for goods, many services can be traded – an important reason trade is limited compared with goods relates to policies. See, for example, Gervais and Jensen (2013).

<sup>24</sup> Similarly, Barone and Cingano (2011) and Bourlès et al (2013) use industry-level data for OECD countries and show that pro-competitive policies in the services (upstream) sectors have a positive effect on the productivity of downstream manufacturing. Using a sample of Irish firms, Görg et al. (2008) find that outsourcing of services inputs is associated with higher productivity, especially for exporters.

Hoekman and Shepherd (2015) revisit this type of analysis with more recent data for a much larger sample of firms and developing countries. Using WBES data for 58,000 firms in over 100 developing countries, they find that services sector productivity matters for the productivity of downstream firms producing goods,<sup>25</sup> and more for those firms that use services relatively intensively in their overall input mix. The strength of the productivity linkages varies substantially across African countries in their sample, reflecting differing intensities of use of services inputs in the production process. They also find that the relationship depends on services trade: lower barriers to services trade and investment increase the productivity performance of domestic manufacturing industries.<sup>26</sup> They find that, at the average rate of services input intensity, a 10% improvement in services productivity is associated with an increase in manufacturing productivity of 0.3%, as well as higher exports of manufactures. While the effects are statistically significant, they are relatively small in magnitude compared with the findings in the abovementioned country case studies, suggesting country-specific and institutional variables may play an important intermediating role. As in the country-specific analyses briefly mentioned above, less open FDI regimes appear as the core causal channel for this link.

Hoekman and Shepherd (2015) also use a gravity regression framework to analyse the relationship between levels of services trade restrictiveness and merchandise export performance using STRIs compiled by the World Bank (Borchert et al., 2012). These are found to be a statistically significant determinant of manufactured exports performance, a finding that is robust to the inclusion of the overall level of trade restrictiveness that is applied against manufactured exports directly. A 10% increase in the restrictiveness of services trade policies is associated with a 5% decrease in bilateral trade in manufactured goods. While this is a partial equilibrium result, as there is no account taken for general equilibrium effects, this is substantially greater than the estimates based on firm-level data. The main channel through which services trade restrictions negatively affect manufactured exports is FDI. At the sectoral level, restrictions on transport and retail distribution services have the largest negative impact on exports of manufactures. The strongest impact is found in the retail sector. To understand this result, it is important to note that the retail STRI is *de facto* correlated with restrictions on trade in distribution services. Distribution and logistics are key to the production and movement of goods, both within and across countries. Given that international production networks and supply chain trade depend on efficient distribution and logistics services (World Bank, 2014a), it is unsurprising that the impact of trade restrictions affecting retail services should be larger than that of any other sector considered in the analysis. Trade restrictions that reduce transport sector productivity have the next most negative impact on exports of manufactured goods.<sup>27</sup>

Results for specific countries help provide a sense of how variation in STRIs affects trade performance. The EAC member states are somewhat less restrictive towards trade in services than the average nation in Sub-Saharan Africa, but four out of five EAC member countries have an average services trade restriction score that is 25 or higher. The most restrictive EAC country is Uganda (an index of 35), followed by Tanzania and Kenya (with indices averaging around 30). The Hoekman–Shepherd analysis suggests that, if the EAC countries as a group were to implement reforms that lower the average level of services trade restrictions to that in Ghana (the African country with the lowest services trade barriers, with an index

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<sup>25</sup> Making use of plant-level data for 10 countries in Sub-Saharan Africa, Arnold et al. (2008) also find the productivity of services firms has a positive and economically significant effect on the productivity of manufacturing firms.

<sup>26</sup> There are good theoretical arguments supporting the positive effect of services trade liberalisation on the productivity of domestic services industries (Francois and Hoekman, 2010). The latter are usually characterised by severe market imperfections that can be corrected through higher access of foreign providers. Importantly, this impact channel of services trade policy remains empirically understudied. Notable exceptions using data at the industry level include Miroudot et al. (2012) and van der Marel (2012). The first paper adopts a gravity setting to estimate cross-border (mode 1 and mode 2) trade costs in 12 services sectors for 61 countries and finds that lowering trade costs by 10% is associated with 0.5% gain in services TFP. The second paper instead shows that services trade and investment policies (notably FDI regulations) form a determinant for TFP growth in services.

<sup>27</sup> Services trade policy has also been shown to matter for product differentiation in downstream industries (including services). Building a gravity framework for more than 100 countries Nordås (2011) finds that price-reducing liberalisation in business services is associated with higher product differentiation, particularly in the motor vehicle industry. She argues that services market opening should be an element of strategies for industrial upgrading in developing countries.



of 18), merchandise exports of EAC countries could increase substantially: by 13% for Rwanda and some 20% for Kenya, Tanzania and Uganda.

There is a big difference in the Hoekman–Shepherd estimates of potential impacts of better services performance on merchandise exports based on firm survey data, and of the estimated impact of services trade reforms on merchandise trade based on gravity regressions, using overall country-level trade data. The estimates of services trade policy reforms using trade data indicate there is great potential for export growth if EAC-based firms are able to improve their access to services inputs, especially ‘backbone services’ such as transportation, retail distribution and telecommunications. Beverelli et al. (2015) help us understand what may be driving the differences in estimated impacts of STRI. They use industry-level data for a heterogeneous sample of 58 countries at all stages of economic development to assess the effect of services trade openness on productivity in downstream manufacturing. As in the rest of the literature, they find a positive and statistically significant impact. However, on interacting their measure of input use-weighted STRIs with different governance variables, they find the effects of services trade restrictions are mediated by the quality of domestic economic governance. Thus, a similar services trade policy reform in two countries is predicted to have very different impacts on productivity of downstream sectors if the quality of institutions, as proxied by indicators such as control of corruption and rule of law, differs a great deal. The positive effect of trade openness conditional on quality of economic governance is not capturing differences in the level of economic development. The results are insensitive to controlling for the level of per capita income.

An explanation for the sensitivity to institutional quality is that many services are not storable, so foreign suppliers need to establish a local presence in the market in order to provide services. Policies that restrict establishment will then impede trade. But removing such policies may not be enough. The need to establish means foreign firms will also consider the business environment in which they must operate. The implication is that the quality of economic governance and related institutions will have an impact on the effect of services trade reforms. Good economic governance, measured by variables such as control of corruption, quality of regulation and strong rule of law, significantly increases the potential gains for an economy of services trade liberalisation. This result has important implications for the design of services trade policy reform. In developing countries with very weak institutions, the gains from services trade liberalisation may be small, suggesting a need to focus attention on improving economic governance.<sup>28</sup>

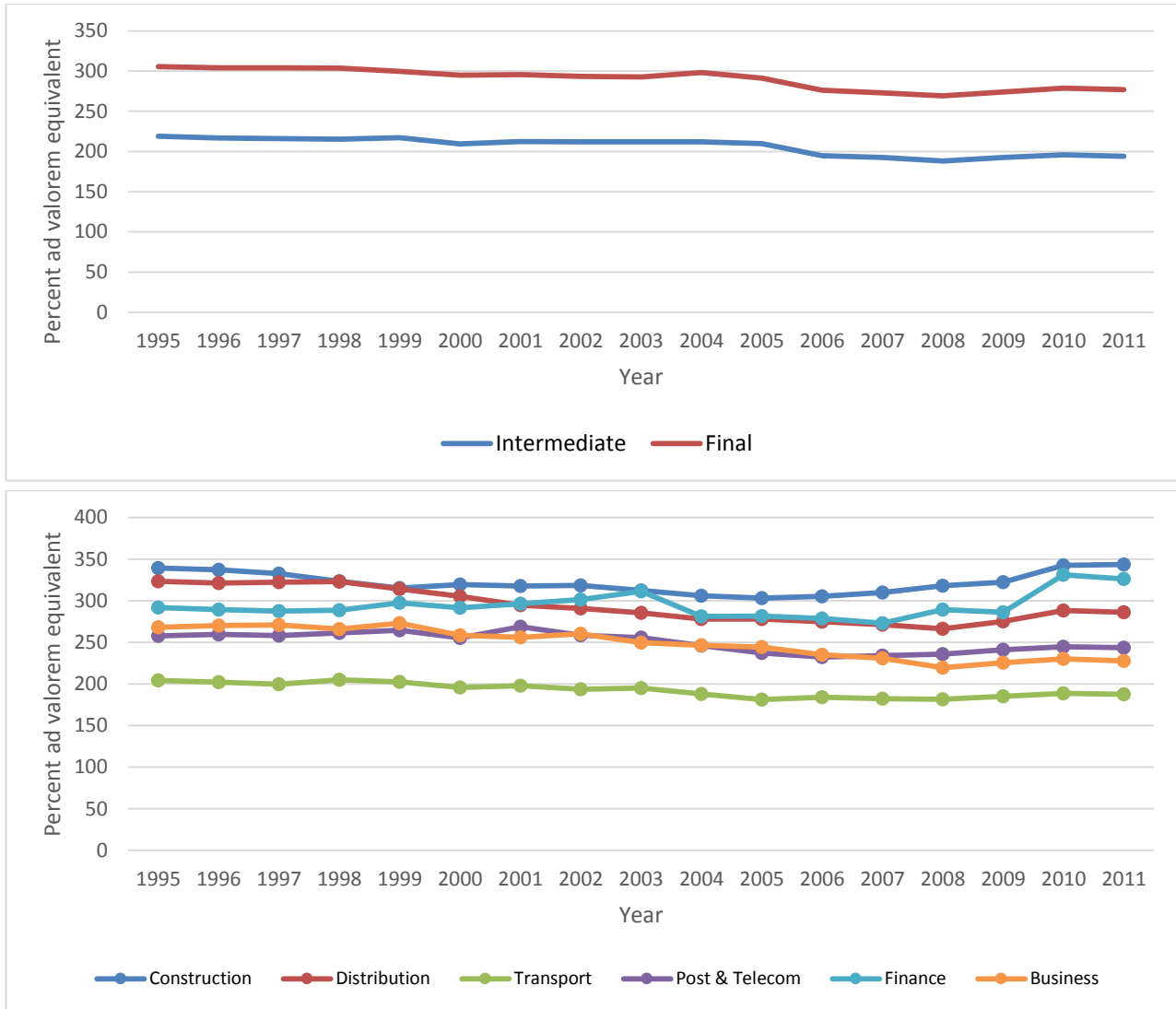
Services trade policies matter for many dimensions of economic performance, not just productivity. Miroudot and Shepherd (2015), for example, find that a 10% increase in the level of STRI is associated with an increase in trade costs of 2.7%, using trade costs data compiled by Arvis et al. (2015). For intermediate trade, a similar change in the STRI is associated with a 3.1% increase. Results are strongest for postal services and telecommunications. Interestingly, the coefficient for intermediate trade is larger than that for final trade, which provides some evidence that services trade restrictions matter more for intermediate trade than for final trade (Figure A2).

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<sup>28</sup> The need to complement liberalisation with reforms targeting broader economic governance is consistent with the conclusion of Kasekende (2007) in his analysis of financial sector reforms in Uganda.



**Figure A2. Estimated trade costs for services**



Source: Miroudot and Shepherd (2015).

Of course, more than an open trade regime and improving economic governance will be needed to support competitive local services sectors and to generate the positive productivity effects or lower trade costs. Services are relatively intensive in human capital, so it is important to ensure the provision of high-quality educational services at primary, secondary, and as it becomes appropriate, tertiary level (Saez et al., 2015). There is also an important private sector development agenda in relation to services: in some sectors, the state has historically been an important supplier, but economic reforms have meant it has receded from that role to a notable extent. It is therefore important to develop a basis of skills and factor availability that can support the emergence of private sector service suppliers in key areas such as telecommunications, finance and transport. In practice, the design of policy reforms and identification of priority areas for action must be informed by detailed analysis and consultations with stakeholders, including the business community (Hoekman and Mattoo, 2013). Particularly important is to recognise the need to go beyond the general findings relating to the importance of governance and to ‘unpack’ how different dimensions of the business environment and economic governance institutions, including sectoral policies and regulation, affect different services industries (see the contributions in Mattoo and Payton, 2007, for an example of such analysis for Zambia).

One area of policy that should be the focus of analysis is to identify and address monopoly power of providers of services inputs and/or monopsony power on the part of buyers located in services sectors (trading companies; retailers). This can lower domestic farm/factory gate prices and/or may result in retail prices that are higher than they would be if the relevant markets were characterised by greater competition

(Francois and Hoekman, 2010; Arvis et al., 2010). Questions that arise here are whether and how much market power firms have, and, given any market power, what is done with it. Market power at any stage of a value chain can be expected to affect the distribution of the rents that accrue to the agents involved in the chain. These considerations point to the importance of competition policy and contestable markets, and more generally a pro-competitive business environment. The focus of policy needs to span the various dimensions of policy that have an impact on transport and logistics and the structure of services markets more generally. An effective competition policy is required to ensure services markets are contestable. But trade policy, as it pertains to both goods and services trade, should not be neglected, even in countries with weak governance, given that an open trade and investment regime ensures foreign firms are not excluded *a priori* from trying to contest markets where there are rents that can be competed away.

Thus, the literature has focused on the link between services trade, openness and effects on the rest of the economy, especially at the firm level (a key indirect channel on how trade in services may affect economic transformation), but there has perhaps been less examination of the direct link between openness and productivity in services sectors.

#### A4 EMPLOYMENT

Another important dimension of the links between services policy and economic performance is employment. The effects of services trade and related policies on employment growth and job turnover have been largely understudied. In an early paper, Amiti and Wei (2005) document how services outsourcing did not appear to penalise job growth in the UK between 1995 and 2001. Using plant-level data for the UK, Hijzen et al. (2011) show offshoring producer services (importing services intermediates) does not lead to job losses or greater turnover of workers. These authors find evidence that firms that start importing producer services experience faster employment growth than similar firms that do not. Winkler (2010) focuses on labour productivity and labour demand in German manufacturing sectors during the period 1995–2006 and finds, in contrast with the UK papers, that labour-reducing productivity increases and substitution effects dominate labour-augmenting scale effects from services offshoring, leading to an estimated negative relationship between services offshoring and labour demand. The negative result supports the finding by Amiti and Wei (2006) on employment levels in the US. Using sector-level data (450 manufacturing sectors), they conclude that services offshoring reduced manufacturing employment by 0.4 to 0.7% per year between 1992 and 2001. Interestingly, the negative effect disappears when replicating the study at a lower level of disaggregation (100 sectors).

These contrasting results are for developed economies only. There is very little literature on developing countries. It is important to extend the analysis of the impact of cross-border trade in services and quantitatively assess the effects of services trade through commercial presence (mode 3) and via the temporary movement of the services providers (mode 4).<sup>29</sup> Furthermore, much more has to be done in comparing and contrasting the employment effects of services trade liberalisation across industries (manufacturing and services), especially for developing and transition economies.

Khanna et al. (2016) introduce a framework that discusses the direct and indirect employment effects of different sectors in economic transformation. Table A1 examines three broad types of effects (IFC, 2013; Jouanjean et al., 2015): 1) direct impact (employment, exports, GDP: a direct service); 2) indirect impacts through input–output analysis (jobs and output in supplier industries); and 3) second-round effects, for example productivity effects and forward linkages. A similar framework can be used to examine the effects of trade in services. The table shows some sectors are expected to be important in generating jobs for less to medium-skilled workers (e.g. retail trade, accommodation and, to some extent, health and education), and others for skilled workers (e.g. finance and insurance, professional services). Some services tend to be important parts of GDP (e.g. education, finance and insurance, real estate, transport and storage, wholesale and retail trade). Others are less important contributors to GDP directly. Some sectors can be important export earners (ICT, finance, transport, accommodation), whereas others are not (public administration and health and education in most countries). Some sectors can also have major

<sup>29</sup> Mode 4 is of particular importance to developing countries – see, for example, Walmsley et al. (2011).

knock-on effects on suppliers (e.g. accommodation, retail trade and transport) and some can have important productivity effects throughout the economy in the medium run (ICT, finance, transport) and others not (real estate, accommodation) or only in the very long run (e.g. health and education). The table is general and it is very challenging to obtain robust quantitative evidence. Khanna et al. (2016) apply the framework using a case study approach in the case of Kenya. More of this seems required.

**Table A1. The effects of services on economic transformation: conceptual pathways**

Sector	Direct effects			Indirect effects (static and dynamic)	Induced/ productivity effects
	Jobs (skilled, medium or low-skilled workers)	Exports	GDP		
<b>Accommodation and restaurants</b>	Medium important for skilled jobs	Important export revenues	High in certain developing countries	Very important including for less skilled workers	Less important
<b>Education</b>	Important for medium-skilled employment (e.g. teachers)	Less important, apart from a few countries	Relatively high share	Mostly temporary	Important for human capital in the long run
<b>Finance and insurance</b>	Important especially for skilled workers	Potentially a major source of exports and capital inflows	High (around 10% of GDP)	Less important for offshore centres, but potential for forward linkages	Less important for offshore centres, but important for finance directed at the real economy
<b>Health</b>	Important for medium-skilled employment (e.g. nurses)	Less important, apart from a few countries	Relatively low share	Mostly temporary	Important for human capital in the long run
<b>Information and communication</b>	Important especially for skilled workers	Potentially a major source of exports and capital inflows	Medium (mostly less than 10% of GDP)	Mostly forward linkages	Important productivity effects
<b>Professional and support services</b>	Important esp. for skilled workers	Potentially a major source of exports and capital inflows	Low in developing countries	Not very important	Important for firm-level productivity
<b>Public administration</b>	Important for low- and medium-skilled workers	Insignificant	Medium-high in developing countries	Medium important	Not very important, except e.g. public infrastructure works
<b>Real estate</b>	Very few jobs	Not important	Important share of GDP	Important effect on construction	Less important
<b>Transport and storage</b>	Potentially important (e.g. truck drivers)	Important for some countries (e.g. Kenya)	Important share of GDP	Less important (apart from energy)	Important for economy-wide productivity
<b>Wholesale and retail</b>	Important for less to medium skills	Less important for most developing countries	Important share of GDP	Important effect on agriculture and manufacturing value chains	Less important

Source: Khanna et al. (2016).

## A5 SERVICES AND TRADE AGREEMENTS

A further issue to raise briefly concerns the role international trade agreements can play to open services markets and thus support the expected positive effects of more open services markets on different dimensions of economic performance. One important stylised fact to consider here is that the extant research suggests trade agreements have not been very effective at opening services markets (Dee and Findlay, 2007; Roy et al., 2007; Fink and Jansen, 2009; Adlung and Morrison, 2010; Miroudot et al., 2010).

Unilateral reform instead appears as the prime channel through which steps toward liberalisation have been made. Djiofack-Zebaze and Keck (2009), for example, show that the effect of GATS commitments on the economic performance of the African telecommunications sector is rather weak, comparing this with a strong positive effect of unilateral reforms. Moreover, discussing the case of investment agreements involving the financial, telecommunications and energy sectors in Chile, Manger (2008) shows the regulatory reforms embedded in trade agreements are not necessarily consistent with the regulation that is needed to correct for the market failures that are inherent to these sectors. As discussed in greater depth in Hoekman et al. (2007) and Hoekman and Mattoo (2013), it is important to sequence reforms and to develop the needed regulatory regimes before and in parallel with opening up markets. This brings us back to the results of Beverelli et al. (2015) on the key role economic governance quality plays in determining the magnitude of the net gains from services liberalisation.

## A6 CONCLUSIONS AND OUSTANDING RESEARCH QUESTIONS

Services play a critical role in economic growth and development. Trade in services is a key channel through which countries can exploit their comparative advantage. Sectors such as tourism or BPO are important activities that can generate substantial employment and foreign exchange earnings. More generally, however, it is important to recognise that services activities affect economic transformation through a variety of indirect as well as direct channels. Opening trade and investment in services to foreign competition is a source of new knowledge and new products that can have a major impact on the productivity, and thus competitiveness, of many firms in the economy. Services account for a substantial share of the total costs of production of many firms in many sectors. Reducing the costs and increasing the quality of available services is therefore a mechanism through which to increase economy-wide performance. The quality of prevailing economic governance, implementing institutions and regulatory regimes will determine how much a country stands to benefit from opening services markets to foreign competition. This, in turn, strengthens the case for a concerted and consistent focus on political economy and improving economic governance as a necessary condition for sustained growth. The more that trade agreements are designed to promote this goal the more valuable they will be from a development perspective.

## APPENDIX B: TRADE IN SERVICES AND LABOUR PRODUCTIVITY – EVIDENCE FROM FIRM-LEVEL SURVEYS

This appendix examines the relationship between trade in services and labour productivity in services firms on the basis of firm-level evidence. The main question is whether the relationship between exporting and productivity that exists for manufacturing firms extends to services firms. We examine this question using data description (B1) and econometric estimations using firm data for a cross-section of countries (B2) and for individual countries (B3). This question is relevant for the overall question in the main paper around the role of trade in services in economic transformation: if exporting is associated with higher productivity in services firms, this provides new insights into the trade aspects of services and economic transformation. The evidence in this appendix suggests exporting is indeed associated with higher productivity in services firms (just as it is in manufacturing firms). However, services firms that supply to other exporters are not more productive than firms that are producing either for non-exporters or for domestic final demand. This suggests two things. A more open services sector is more productive, with more opportunities for economic transformation.

### B1 DATA DESCRIPTION

To examine the question on firm-level productivity and exporting in services firms, we use firm-level data from the WBES. This database collects information about the structure and the operations of firms in different countries, mainly developing countries. The surveys are predominantly urban, covering firms in services and in the manufacturing sector without inclusion of the agriculture and mining sectors. We use the cross-section database or standardised data in the WBES. Although in some countries firms have been surveyed more than once (in some cases three times), the firms surveyed in each wave are different. Therefore, it is not possible to trace the evolution of firms over years in the cross-section database.<sup>30</sup> The surveys included in our analysis were performed during the period 2006–2015 but the year coverage is not uniform across countries.

We have used this database as the main source of data for the econometric analysis to enable an understanding of the relationship among productivity, services and trade. In particular, we are interested in highlighting the productivity effects of services-exporting firms *vis-à-vis* non-exporting services firms. Moreover, we would like to explore the productivity differentials between services- and non-services-exporting firms. We would also like to explore in which services sector the effect of trade is the highest.

The link between trade and productivity has been studied extensively in the literature. Either because trading firms are more productive (Girma et al., 2004; Wagner, 2007) or because more productive firms are in a better position to overcome many of the requirements in order to export (Krugman, 1980; Melitz, 2003), there is a strong link between productivity and trade. Yet this link has not been fully explored in the case of services, particularly in LICs.<sup>31</sup> We would like to explore whether these links are present in the services sector. Moreover, we would like to know the strength of tradable services in promoting productivity growth and, consequently, economic transformation.

The main variable of interest is labour productivity. We have measured it as the ratio of value added to number of employees, expressed in logs deflated by the GDP deflator from the World Bank WDI.

Our first objective is to provide some description of the data on productivity by highlighting the differences that exist, without controlling for other factors, between services and non-services firms and exporters and non-exporters, and services sectoral differences. This is done by distinguishing between firms located in

<sup>30</sup> There are country panels in the WBES. However, they are not compatible with each other and they contain too little information on services firms. The pooled database that we use is not a panel. We do panels later in this appendix, on econometrics.

<sup>31</sup> We have used a broader definition of LICs. This includes the known LICs (according to the latest World Bank definition) plus other countries of interests such as Bangladesh, Ghana, Kenya, Kyrgyzstan, Myanmar, Nigeria, Pakistan, Tajikistan and Zambia.

LICs and the rest of the countries. In order to account for the differences in currencies and the effect of inflation, we adjust labour productivity using the GDP deflator in the local currency and adjust for the exchange rate. Therefore, in this description, labour productivity is expressed as the log of the value added per worker in 2014 US dollars.

Figure A3, for example, compares labour productivity in the broad services sector with the rest of the sectors, distinguishing between LICs and the rest of the countries in the survey. The boxplot presents the median value, the upper and lower quartile and the maximum and minimum values. The dots above and under the maximum and minimum values, respectively, represent outliers. Although the rest of the countries include some developed countries, the data are biased towards large and medium developing countries. Although this may limit the comparability value of this exercise, we believe that, for LICs, the comparison with middle-income countries may be of more relevance.

Productivity differences are assessed between LICs and the rest of the countries. Median productivity in both services and other sectors is lower in LICs. Moreover, the performance of firms in LICs is slightly more heterogeneous, reflecting the coexistence of very high-productivity firms (no less productive than in the rest of the countries) with very low-productivity firms (Appendix B also finds large productivity differentials among sectors at low income levels). This can be seen by the differences between the maximum and minimum values (excluding outliers) in the boxplot.

There are no differences in the productivity between the services sector and the other sectors in the LICs or in the rest of the countries. This suggests, *a priori*, that the other sectors would not have an advantage with respect to the services sector in terms of the between-sector component of economic transformation. Both sectors have the same levels of labour productivity and, consequently, the structural change effects are expected to be minimal between manufacturing and services, at least at this broad level. Of course, at this stage, we are not controlling for other factors that may affect these differentials.

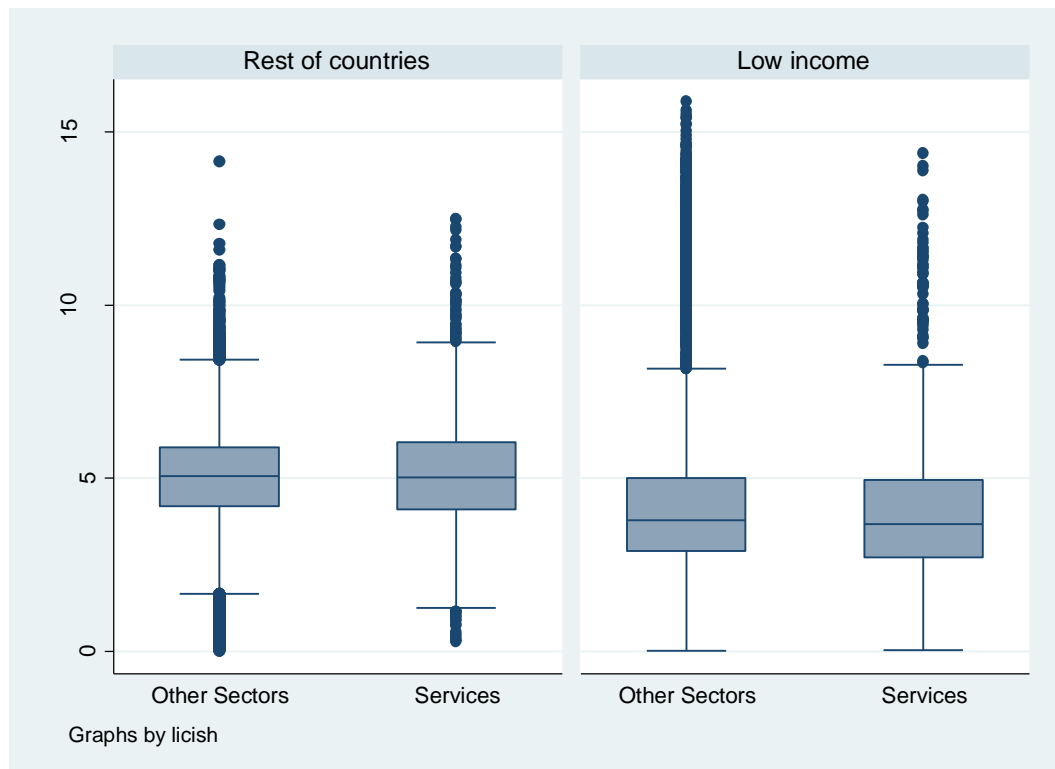
In Figure A4 we focus on firms operating in the services sector and compare the productivity of those exporting with those that supply exclusively to the domestic market.<sup>32</sup> Exporting services firms have higher labour productivity than non-exporting services firms in both groups of countries. In the 'other' countries group, exporting services firms present lower variability in their labour productivity. This means they are more homogeneous than the non-exporting services firms. This does not hold in the case of LICs, where exporting services firms are as homogenous as the non-exporting services firms.

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<sup>32</sup> Exporter firms are defined as those that reported that at least 25% of turnover originated in sales to non-residents.

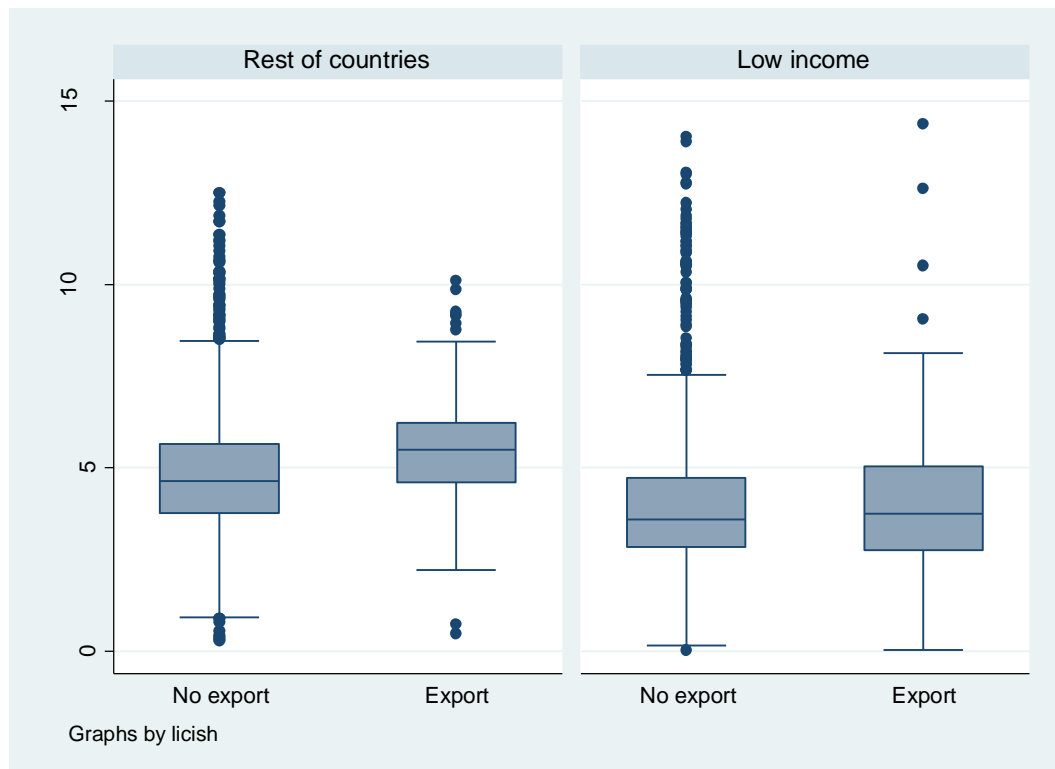


**Figure A3. Labour productivity differentials in the services sector by income level**



Note: Labour productivity in natural logs.  
 Source: Own elaboration based on WBES.

**Figure A4. Labour productivity differentials in the services sector in exporting firms by income level**



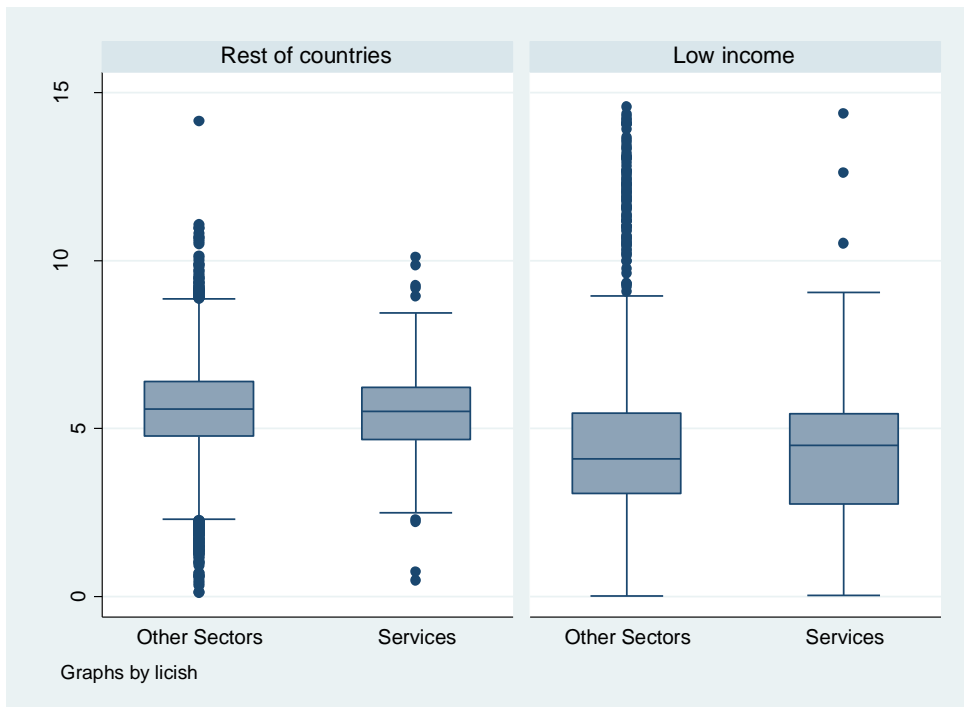
Note: Labour productivity in natural logs.  
 Source: Own elaboration based on WBES.

Figure A5 focuses exclusively on exporting firms. We compare labour productivity between services and non-services firms in both LICs and the rest of the developing countries. Non-services-exporting firms in

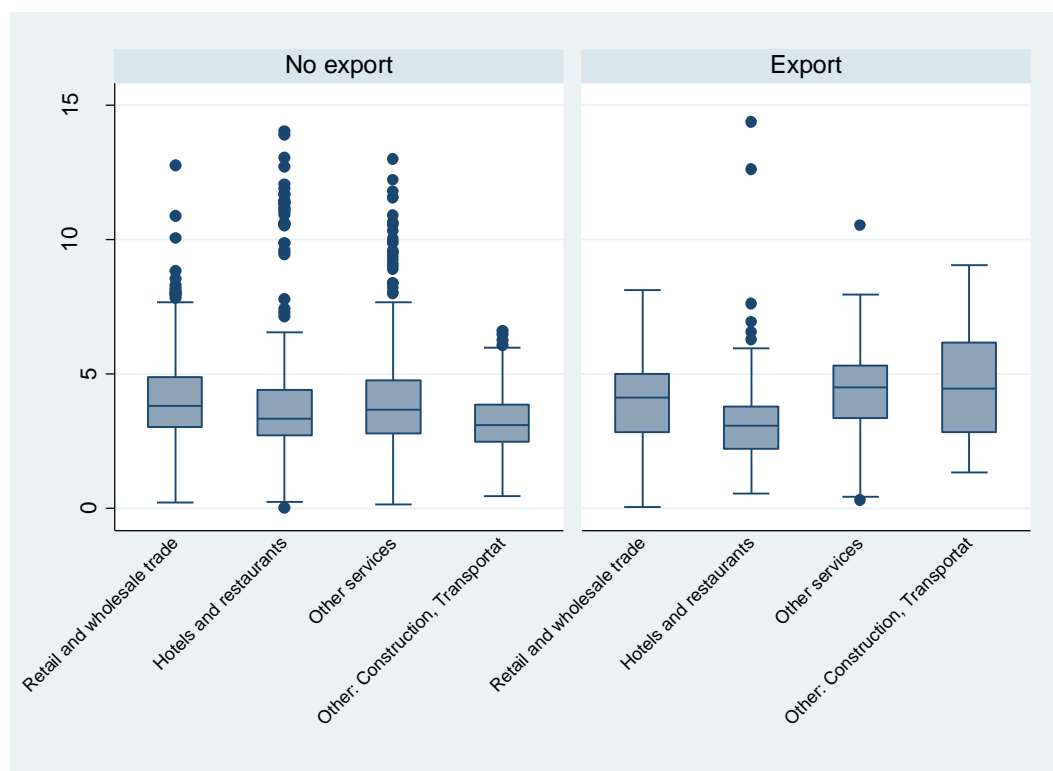
LICs have lower labour productivity than the same type of firms located in the rest of the countries. Moreover, there is no difference in terms of labour productivity between exporting services and non-services firms in the rest of the countries. In LICs, the median labour productivity of the services firms is higher than observed in other sectors.

Finally, Figure A6 presents the productivity differential by sector between exporting and non-exporting services firms in LICs. The results are consistent with those reported in Figure A4, where we found exporting services firms had higher labour productivity. Exporting firms have higher productivity than non-exporting firms in each of the three of the services sectors considered. The exception is hotels and restaurants. The difference in productivity is higher in the case of other services and construction, transportation, etc. These tend to group more modern sectors where these productivity differentials are expected.

**Figure A5. Labour productivity differentials in exporting firms by income group**



Note: Labour productivity in natural logs.  
 Source: Own elaboration based on WBES.

**Figure A6. Labour productivity differentials by sector in exporting firms in LICs**

Note: Labour productivity in natural logs.

Source: Own elaboration based on WBES.

The description of the productivity data suggests a number of important findings on the relationship between productivity, services and trade:

- The labour productivity differential between services and non-services firms is small in both LICs and other countries.
- Labour productivity in the other countries is higher than in LICs in both groups of sectors.
- Exporting services firms have higher productivity than non-exporting services firms in both LICs and other countries.
- Services-exporting firms have higher labour productivity than non-services-exporting firms in LICs.
- The labour productivity differential between exporters and non-exporters is higher in 'other services' and in construction and transportation, etc.

The relationship between exporting and labour productivity in services firms may be the result of several factors. The higher productivity of exporting firms may be explained by differences in the sampling between countries or years. Moreover, exporting firms tend to be larger, and this may be the effect behind the higher productivity and not trade. Consequently, we would like to control for these and other factors that typically contribute to explain productivity so we can isolate the effects of specific factors. In addition, we would like to understand how sensitive labour productivity is to these factors and calculate elasticities or marginal effects.

## B2 ECONOMETRIC ESTIMATIONS

We use a simple econometric approach in which we aim to isolate the effect of being a services exporter, by controlling for a series of other firm-specific factors. In addition, we include a series of dummies to capture the country, year and sector-specific factors.

We use the following controls to try to capture the effect of other factors in labour productivity. We use *lnemp* (natural log of the number of permanent employees) as a proxy for the firm size. In general, larger

firms by exploiting scale economies should have higher labour productivity. We further control for the effects imported inputs may have on productivity with the natural log of the share of imported inputs ( $\ln M$ ). The idea behind this is that firms with a high share of imported inputs may also have higher labour productivity because they take part in value chains. The natural log of the number of years in operation ( $\ln byr$ ) should capture the productivity effects of experience and consolidation in the sector and country in question. Newer firms, in general, tend to have lower productivity, as it takes time to adjust the combination of factors, inputs and production processes to achieve production efficiency. We capture the effects of being foreign-owned on productivity with  $frgn$ .

Finally, we use a series of 0/1 variables to isolate the effects of whether a firm is a services sector firm ( $svcs$ ), an exporter ( $exp$ ) or a supplier of exporters ( $expind$ ). We also use  $svcsexp$  to capture the interaction between being an exporter and being a services firm; and  $svcsXind$  to capture the interaction between being a supplier of services to exporters.

The first model (1) tries to capture the effect of being an exporter firm on labour productivity. It can be described by:

$$z_t = E_t + X_t + D_t + e_t \quad (1)$$

where  $z_t$  is the productivity measure (labour productivity).  $E_t$  represents the variables of interest to isolate. Depending on the specification considered, these may include a single variable (e.g. being an exporter) or more variables to reflect the different interactions.  $D_t$  includes a series of 0/1 variables capturing the country, the year and the sector.  $e_t$  is an error term.  $X_t$  is a vector of controls.

$$X_t = a_1 \ln emp_t + a_2 \ln M_t + a_3 \ln byr_t + a_4 frgn \quad (2)$$

Table A2 presents the estimation results when fixed effects are used. Model 1 examines the relationship between labour productivity and being an exporter. The effect is positive and significant and indicates that exporting firms present, on average, a labour productivity 25% higher than for non-exporter firms. The effect of being an exporter on productivity, particularly on TFP, has been extensively explored and it is not necessary to develop this more. Although the coefficient may seem high, it suggests a strong effect on labour productivity associated with export. Of course, as discussed above, the direction of the causality is unclear. Firms may be more productive because they export or they are capable of exporting because they are productive enough. This endogeneity in the relationship is still open to debate.

Model 2 examines the labour productivity effect of being a supplier to an exporter. If exporters are more productive, this may be the result, among other factors, of using higher-quality inputs (but the reverse could also be true). If high-quality inputs were associated with higher productivity, suppliers of these high-quality inputs used by exporters would have higher labour productivity. In this estimation, we excluded exporter firms. Therefore, the base category is those firms that neither export nor supply an exporter. The results, however, do not sustain this hypothesis. Suppliers of exporter firms present similar levels of labour productivity to the rest of the firms (excluding direct exporters). However, nothing prevents these firms from contributing to the higher productivity achieved by the exporting firms in both the manufacturing and the services sector. In fact, if these firms were able to increase their productivity, they would contribute to increasing the productivity of other firms, many of them in the manufacturing sector (see Hoekman and Shepherd, 2015).

Model 3 captures the effects of being a services firm in the complete sample. On average, services firms present a similar labour productivity to non-services firms, controlling for other factors. At the same time,

when we include the interaction between belonging to the services sector and exporting in model 4, the combined effect suggests firms that present both characteristics have, on average, 29% higher productivity than the rest. In model 5, we include a similar interaction between services and supplying an exporter. The variable is not significant and indicates no effect in terms of labour productivity in firms presenting both characteristics.

Models 6 and 7 limit the analysis to exporters and to firms that supply exporters. The objective is to identify the difference in labour productivity between services firms and non-services firms within both groups. Among the exporting firms, services firms have labour productivity that is on average 28% higher than that of non-services firms. Interestingly, the coefficient of the number of employees changes sign. This variable captures the effect of the size of the firm on labour productivity, and the results suggest that, in the services sector, smaller rather than larger firms are more productive. As services firms tend to be, in general, intensive in the use of labour, the decreasing returns of labour appear earlier in services firms than they do in the other firms. Consequently, increases in the number of workers in firms presenting already high levels of productivity (e.g. exporters) would reduce labour productivity in the services sector. On the other hand, among the firms that supply exporters, services firms present similar productivity than those operating in other sectors.

Finally, in models 8 and 9, we try to capture the effect among services firms of being an exporter or a supplier of exporters. Among services, those firms that export present 27% higher labour productivity than those that supply the domestic market. In addition, the effect of foreign ownership is higher in the case of services firms and the size of the firms is less relevant in determining labour productivity. Finally, consistent with the results presented so far, among the services firms those that supply exporters (but are not exporters themselves) are not more productive. This result suggests there is room for improvement in LICs for these firms, and actions that increase productivity in services firms that supply exporters will benefit them and the firms they supply. This suggests that, from a policy perspective, the development and improvement of the quality of services and productivity in the domestic market may generate very important dividends in terms of economic transformation (perhaps through raising productivity in manufacturing firms). We explain later in more detail the effects of foreign ownership.

Table A3 presents the same models but estimated using a random effects model. The reason to perform this type of estimation is associated with the efficiency of the estimations. Efficient estimators tend to present smaller variance. The fixed effects estimator, although consistent, may present higher variance. There are specific tests (i.e. Hausman specification test) to identify which is the most appropriate model. We present this estimation only with the objective of providing additional validation to the fixed effects results.

These general results indicate that labour productivity is higher in the services sector and labour productivity is even higher within those services firms that export. Some sampling bias may explain these results. If this is the case, predominantly high labour productivity services firms may have been surveyed and this may explain the large differences. However, this bias should be consistent across countries (e.g. high-productivity services firms were selected in all countries) in order to generate these results. At the same time, it should select low-productivity firms in the non-services sector. Therefore, although possible, it is unlikely.

**Table A2. Labour productivity effects all countries – fixed effects estimations**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
exp	0.255*** (0.000)							0.274** (0.032)	
expind		-0.024 (0.625)							0.033 (0.786)
svcs			0.117 (0.233)	0.055 (0.615)	0.083 (0.367)	0.278** (0.016)	0.061 (0.772)		
svcsexp				0.293* (0.059)					
svcsXind					-0.152 (0.478)				
lnemp	0.077*** (0.000)	0.105*** (0.000)	0.105*** (0.000)	0.104*** (0.000)	0.119*** (0.000)	-0.042* (0.053)	-0.000 (0.992)	0.024 (0.401)	0.046 (0.108)
frgn	0.427*** (0.000)	0.468*** (0.000)	0.468*** (0.000)	0.467*** (0.000)	0.484*** (0.000)	0.424*** (0.000)	0.259*** (0.009)	0.373** (0.024)	0.395** (0.016)
lnM	0.048*** (0.000)	0.056*** (0.000)	0.055*** (0.000)	0.055*** (0.000)	0.058*** (0.000)	0.024 (0.143)	0.049*** (0.003)	0.050*** (0.003)	0.057*** (0.000)
lnbyr	0.106*** (0.000)	0.107*** (0.000)	0.107*** (0.000)	0.107*** (0.000)	0.079*** (0.004)	0.160*** (0.000)	0.209*** (0.000)	0.177*** (0.001)	0.182*** (0.001)
Constant	8.037*** (0.000)	7.972*** (0.000)	7.971*** (0.000)	7.975*** (0.000)	8.123*** (0.000)	8.107*** (0.000)	7.855*** (0.000)	7.609*** (0.000)	7.582*** (0.000)
Obs	46090	46090	46090	46090	34481	11609	5246	2808	2808
AdR-squared	0.061	0.057	0.057	0.058	0.051	0.026	0.034	0.027	0.024
Note:	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country sector FE	Year dummies - country sector FE



**Table A3. Labour productivity effects all countries – random effects estimations**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
exp	0.255*** (0.000)							0.268** (0.033)	
expind		-0.024 (0.625)							0.023 (0.848)
svcs			0.118 (0.226)	0.056 (0.606)	0.084 (0.357)	0.279** (0.014)	0.054 (0.796)		
svcsexp				0.292* (0.058)					
svcsXind					-0.154 (0.473)				
lnemp	0.077*** (0.000)	0.105*** (0.000)	0.105*** (0.000)	0.104*** (0.000)	0.119*** (0.000)	-0.042* (0.052)	-0.000 (0.987)	0.023 (0.405)	0.045 (0.112)
frgn	0.427*** (0.000)	0.468*** (0.000)	0.468*** (0.000)	0.467*** (0.000)	0.485*** (0.000)	0.425*** (0.000)	0.266*** (0.007)	0.410** (0.012)	0.432*** (0.008)
lnM	0.048*** (0.000)	0.056*** (0.000)	0.055*** (0.000)	0.055*** (0.000)	0.058*** (0.000)	0.024 (0.140)	0.049*** (0.002)	0.050*** (0.003)	0.057*** (0.000)
lnbyr	0.105*** (0.000)	0.107*** (0.000)	0.107*** (0.000)	0.106*** (0.000)	0.078*** (0.003)	0.160*** (0.000)	0.210*** (0.000)	0.174*** (0.001)	0.179*** (0.001)
Constant	7.882*** (0.000)	7.823*** (0.000)	7.818*** (0.000)	7.822*** (0.000)	7.920*** (0.000)	8.082*** (0.000)	7.765*** (0.000)	6.565*** (0.000)	6.599*** (0.000)
Obs	46090	46090	46090	46090	34481	11609	5246	2808	2808
Note:	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country sector FE	Year dummies - country sector FE

We apply the same models to LICs in Table A4. Using the entire sample of LIC firms, exporter firms in LICs have a similar labour productivity to non-exporters (model 1). According to model 2, firms that supply exporters do not present higher productivity than the rest of the firms (excluding exporters) in LICs.

Model 3 indicates that services firms in LICs have similar productivity to non-services firms. This suggests both sectors may have similar economic transformation capabilities in LICs. However, the effects may differ among countries.

When we include the combined action of services and exports, firms with these characteristics (i.e. that are exporters and belong to the services sector) are, on average, 64% more productive than the rest of the firms (model 4). However, the coefficient is not significant at the usual levels of significance.

When we consider exclusively exporter firms in model 6, those belonging to the services sector have 43% higher labour productivity than the non-services firms. This effect is larger than when the whole sample is used. Finally, in model 8, where we consider firms operating in the services sector, exporters have labour productivity that is 46% higher than that of the non-exporters. This effect is substantially higher than that which is observed when using the entire database. Table A5 presents the same models using a random effects model.

**Table A4. Labour productivity effects in LICs – fixed effects**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
exp	0.115 (0.224)							0.463* (0.072)	
expind		0.024 (0.869)							0.036 (0.865)
svcs			0.077 (0.583)	-0.031 (0.851)	0.004 (0.976)	0.428*** (0.008)	0.131 (0.608)		
svcsexp				0.644 (0.116)					
svcsXind					-0.075 (0.811)				
lnemp	0.111** (0.044)	0.122** (0.015)	0.124** (0.011)	0.121** (0.016)	0.165*** (0.002)	-0.084 (0.122)	-0.001 (0.991)	0.032 (0.573)	0.064 (0.312)
frgn	0.519*** (0.000)	0.531*** (0.000)	0.532*** (0.000)	0.523*** (0.000)	0.608*** (0.000)	0.361*** (0.001)	0.149 (0.471)	0.370 (0.201)	0.417 (0.155)
lnM	0.027 (0.446)	0.029 (0.427)	0.030 (0.415)	0.028 (0.436)	0.040 (0.287)	-0.015 (0.704)	0.063 (0.145)	0.032 (0.293)	0.045 (0.125)
lnbyr	0.191*** (0.000)	0.189*** (0.000)	0.189*** (0.000)	0.187*** (0.000)	0.125*** (0.003)	0.340*** (0.000)	0.345*** (0.000)	0.239** (0.011)	0.238** (0.012)
Constant	8.193*** (0.000)	8.167*** (0.000)	8.160*** (0.000)	8.171*** (0.000)	8.186*** (0.000)	8.703*** (0.000)	7.828*** (0.000)	7.489*** (0.000)	7.420*** (0.000)
Observations	12348	12348	12348	12348	10248	2100	1251	1076	1076
Adjusted R-squared	0.091	0.090	0.091	0.092	0.096	0.049	0.075	0.041	0.032
Note:	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country sector FE	Year dummies - country sector FE

**Table A5. Labour productivity effects in LICs – random effects**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
exp	0.116 (0.212)							0.479* (0.058)	
expind		0.026 (0.859)							0.007 (0.972)
svcs			0.082 (0.550)	-0.026 (0.873)	0.011 (0.932)	0.429*** (0.004)	0.103 (0.682)		
svcsexp				0.643 (0.107)					
svcsXind					-0.081 (0.796)				
lnemp	0.109** (0.038)	0.121** (0.011)	0.123*** (0.007)	0.120** (0.011)	0.164*** (0.001)	-0.089* (0.090)	-0.009 (0.886)	0.029 (0.598)	0.063 (0.309)
frgn	0.522*** (0.000)	0.535*** (0.000)	0.535*** (0.000)	0.526*** (0.000)	0.611*** (0.000)	0.372*** (0.000)	0.171 (0.414)	0.398 (0.157)	0.451 (0.112)
lnM	0.028 (0.431)	0.030 (0.412)	0.030 (0.401)	0.029 (0.422)	0.040 (0.272)	-0.014 (0.728)	0.067 (0.107)	0.033 (0.274)	0.047 (0.104)
lnbyr	0.189*** (0.000)	0.188*** (0.000)	0.188*** (0.000)	0.186*** (0.000)	0.123*** (0.001)	0.336*** (0.000)	0.347*** (0.000)	0.236*** (0.009)	0.236*** (0.010)
Constant	8.853*** (0.000)	8.824*** (0.000)	8.813*** (0.000)	8.829*** (0.000)	8.787*** (0.000)	9.671*** (0.000)	8.669*** (0.000)	7.202*** (0.000)	5.174*** (0.000)
Observations	12348	12348	12348	12348	10248	2100	1251	1076	1076
Note:	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country FE	Year dummies - country sector FE	Year dummies - country sector FE

Finally, Table A6 presents estimation results for services sub-sectors. This elaborates on models 8 and 9 above. The idea is to identify in which sectors the productivity effects are particularly high. Given that the number of observations is very limited, we presented the results using both firms in LICs and firms in the rest of the countries. The first four columns present the results considering the effects of exports of services. The effect tends to be positive but it is significant only in the case of retail services. This suggests exporters in this sector have labour productivity 42% higher than that of the non-exporters. In the rest of the sectors, the productivity differential seems to be insignificant. The final four columns show the productivity differentials of those firms that supply to other exporter firms. In all cases, the effect is insignificant.

**Table A6. Labour productivity in services sector – all countries**

	Retail_X	Hotel_X	Other_X	Trans_X	Retail_ind	Hotel_Ind	Other_ind	Trans_ind
Exp	0.421** (0.018)	0.578 (0.154)	0.379 (0.151)	0.073 (0.642)				
svcsXind					0.106 (0.756)	0.398 (0.108)	-0.021 (0.954)	0.008 (0.982)
lnemp	-0.015 (0.900)	0.040 (0.606)	0.057 (0.215)	-0.004 (0.910)	0.017 (0.907)	0.034 (0.666)	0.047 (0.441)	0.003 (0.960)
frgn	0.722** (0.022)	-0.228 (0.384)	0.546* (0.092)	0.193 (0.450)	0.671** (0.048)	0.031 (0.917)	0.978*** (0.008)	0.264 (0.489)
lnM	-0.019 (0.645)	0.119*** (0.005)	0.052* (0.098)	0.065*** (0.001)	0.004 (0.929)	0.143*** (0.004)	0.071** (0.012)	0.060*** (0.000)
lnbyr	0.023 (0.818)	0.221 (0.128)	0.307*** (0.001)	0.106 (0.179)	-0.005 (0.967)	0.220 (0.149)	0.268** (0.025)	0.104 (0.400)
Constant	9.478*** (0.000)	7.705*** (0.000)	7.205*** (0.000)	7.646*** (0.000)	9.169*** (0.000)	7.574*** (0.000)	7.509*** (0.000)	7.888*** (0.000)
Observations	560	403	997	848	467	374	788	599
Adjusted R-squared	0.015	0.035	0.055	0.007	-0.002	0.034	0.048	0.001

There is a strong link between trade in services and FDI. One of the ways in which services are traded is through the commercial presence of foreign services providers. Although recent advances in communications and IT have removed most of the technical barriers associated with the cross-border provision of many services, the size of the destination market and, in particular, market access barriers constitute major determinants of direct provision.

Moreover, in addition to supplying the domestic market, FDI can be located to exploit export opportunities in the host country. This is clear in the case of manufactures (e.g. to export under a preferential regime to a third country). It can also be the case in services. For example, international hotel chains provide services to tourists. FDI in the financial sector may be used to provide services to non-residents as well.

We capture the effect of FDI in the services sector and on trade in services by identifying the effects of foreign ownership on labour productivity. We have not distinguished between the degrees of ownership. On average, foreign-owned firms have a 45% higher labour productivity than domestically owned firms (Table A2). This result has been found previously for LICs (Bernard and Sjöholm, 2003; te Velde and Morrissey, 2003). In principle, multinational firms have technology, know-how and networks that are superior to those of domestic firms. Although these characteristics may be less prominent in the case of partially foreign-owned firms (see Bajgar and Javorcik, 2013), the literature suggests a clear distinction in productivity between firms with some degree of foreign ownership and entirely domestically owned firms. It is interesting to highlight that, when we focus on services firms (models 8 and 9), although significant, the effect of foreign ownership is smaller (37%). Griffith et al. (2003) found this for the UK. Evidence for other countries is less clear. The evidence suggests there is a difference in labour productivity premium of foreign-owned firms between manufacturing and the services sector. The productivity differential between foreign and domestically owned manufacturing firms is larger than that observed in the services sector.

This difference in labour productivity seems to be explained by the non-existent productivity differential between foreign and domestically owned service providers in LICs (Table A4). According to model 8, the effect of foreign ownership in the services sector in LICs is not significant. However, considering all firms, foreign-owned firms present a 58% differential in labour productivity (model 1). This suggests a large foreign ownership effect for manufacturing.

It is unclear what generates these differentials. Variation in the structural characteristics of the services and manufacturing sectors is plausible. This may be explained by a smaller initial technology gap in the services sector compared with manufacturing. Consequently, the new technology and organisational practices that FDI brings may have larger effects on labour productivity in the manufacturing sector. Although this can explain the difference in general, it cannot explain why the difference is larger in LICs and why the effect is not significant in the case of services.

Differences in the regulatory regime in LICs could also explain the differences. If the provision of services by foreign-owned firms in LICs is particularly restricted, the differential effect will need to be captured by a limited number of foreign-owned firms. Clearly, FDI in LICs is smaller than it is in the other countries. However, our fixed effects model would have controlled for that effect.

However, the foreign ownership effect on labour productivity is not homogenous across the services sector. Table A6 shows that labour productivity in foreign-owned exporting firms in the retail and wholesale and in the other services sectors is 72% and 52%, respectively. The effect is also present when we looked into the providers to exporters (last four columns in Table A6). This suggests that the differential in productivity associated with foreign ownership is more likely to be associated with the characteristics of these sectors rather than the final destination of the service provided.

These results apply to all countries and not just to LICs. Unfortunately, the number of observations in some services sectors in LICs is not enough to perform an econometric analysis. This means we cannot determine whether these differential sector effects hold for LICs. Nevertheless, if the productive differentials of foreign ownership are governed by sectoral characteristics, it suggests the sectors in which the removal of restrictions on foreign ownership can have stronger effects on labour productivity.

### B3 COUNTRY DIMENSIONS

So far, the discussion has focused on how labour productivity differs between services-exporting firms and those supplying the domestic market. We have also looked into the productivity differential between services-exporting and non-services-exporting firms. We have made the distinction between firms located in LICs and those in the rest of the world.

However, we have not analysed in depth how services and exports interact in particular country contexts. Although we have identified, for example, that exporting services firms located in LICs have higher labour productivity than exporting firms in other sectors, we would like to take a more country-based perspective and identify in which countries trade in services has the greatest potential for economic transformation.

Of course, it will be very complicated to estimate these models for each LIC. In some countries, the data are not sufficient to perform these estimations. The number of services firms surveyed is limited, and even more if we focus on a particular subset, such as services-exporting firms. Consequently, we have to be conservative as to the models we estimate. For example, we will not be able to estimate sector models in each country, as the number of observations in each services sector is very limited.

We use the individual country databases in the WBES. These are not subsets of the pooled database that we have used up to now. In them, some firms have been interviewed in more than one year. This may allow us to exploit the time dimension within firms and, consequently, we can apply some panel data techniques. However, the use of panel data techniques will be still limited by the number of observations available. For some countries and some specifications, the number of observations is not sufficient to use some of these techniques. Moreover, we would like to keep as much as possible the comparability base with the previous estimations.

The model we estimate is similar to the model presented in equation 1. We include some control variables specific to each country (i.e. city where the firm is located). Given the limitations in terms of data, we use just two control variables: number of employees to proxy the size of the firm and a variable that identifies those firms that are of foreign ownership.

We estimate the model for the following 12 countries:

- **Bangladesh**
- **Democratic Republic of Congo (DRC)**
- **Ghana**
- **Kenya**
- **Malawi**
- **Nepal**
- **Pakistan**
- **South Africa**
- **Tajikistan**
- **Tanzania**
- **Uganda**
- **Zambia**

These developing countries represent different regions in both Asia and Africa and have several other differences (i.e. population, being or not being landlocked) that enrich the variability of the results.

For each country, we have run a series of regressions using different specifications of the model. The first specification includes all firms and tries to capture the productivity differential of the services firms. The second specification, using all firms, tries to identify whether services exporters are more productive. The third model tries to capture the productivity differential of the services firms within the subset of exporters. Finally, the fourth model identifies the productivity differential of the exporting firms within the subset of services firms. Table A7 presents the results.

Services firms tend to present higher productivity than non-services firms in almost all the countries analysed. Positive and significant coefficients for the services variable are found in DRC, Ghana, South Africa, Tajikistan and Zambia. In these countries, services firms present labour productivity that is on average between 14% (Ghana) and 49% (South Africa) higher. In the rest of the countries, this coefficient is not significant.

When we focus exclusively on exporting firms, the message is non-conclusive. Either services firms are not more productive (almost all cases) or they present lower productivity (e.g. in Tanzania). However, we need to be very careful as these regressions are run with a very limited number of observations. For example, only 53 firms in the Tanzanian survey are exporters (both services and goods) for which labour productivity was calculated. Therefore, these results may not be very accurate.

When the analysis is restricted to the subset of services firms, only those in Bangladesh seem to present higher labour productivity. On average, their productivity is almost twice that of those that do not export. This is a very strong result. However, the number of observations in this estimation is the largest for this kind of regression. At the same time, the South African results suggest services firms within the sample of exporters have a labour productivity differential that is around 32% lower than that of non-services firms. For the rest of the firms, the evidence is not conclusive. The results are also negative in the cases of Tanzania and Uganda but with a very low number of observations. The results reveal an inconclusive story in the countries analysed.

The results at the individual country level are sensitive to the number of firms surveyed. Even when a relatively large number of firms have been surveyed (e.g. in Bangladesh around 2,000), the number of services firms is limited. This explains why services firms seem to have higher productivity when the country samples are fully used but fail to provide compatible results when we use a subset of firms. Ideally, this exercise should be repeated using national surveys capturing more firms and presenting more variability.



**Table A7. Labour productivity effects in selected countries**

	Bangladesh				Kenya				Ghana			
	1	2	3	4	1	2	3	4	1	2	3	4
svcs	-0.004 (0.965)	-0.076 (0.202)	0.183 (0.706)		0.004 (0.960)	-0.012 (0.871)	0.161 (0.455)		0.143* (0.084)	0.140* (0.095)	0.237 (0.421)	
l_emp	0.094* ** (0.000)	0.098* ** (0.000)	- 0.163* ** (0.000)	0.078 (0.177)	0.085* ** (0.001)	0.083* ** (0.001)	0.203* ** (0.000)	0.076 (0.139)	0.104* ** (0.010)	0.103* * (0.012)	0.266* (0.069)	0.188 (0.143)
frgn	0.069 (0.790)	0.201 (0.240)	-0.298 (0.142)	1.225* ** (0.004)	0.209* * (0.033)	0.202* * (0.042)	0.169 (0.243)	0.483* * (0.022)	0.195 (0.174)	0.190 (0.192)	-0.582 (0.118)	0.002 (0.995)
svcsX		0.691 (0.180)				0.135 (0.462)				0.059 (0.737)		
exp				0.960* (0.063)				0.029 (0.905)				-0.051 (0.886)
Constant	2.531* ** (0.000)	1.558* ** (0.000)	3.289* ** (0.000)	1.188* ** (0.000)	1.787* ** (0.000)	1.800* ** (0.000)	1.248* ** (0.000)	2.100* ** (0.000)	1.355* ** (0.000)	1.360* ** (0.000)	0.883 (0.116)	2.160* ** (0.000)
Observations	1595	2821	602	542	1253	1253	233	490	1005	1005	60	189
	Zambia				DRC				Malawi			
	1	2	3	4	1	2	3	4	1	2	3	4
svcs	0.378* ** (0.000)	0.372* ** (0.000)	0.372 (0.472)		0.265* (0.071)	0.281* (0.056)	0.607 (0.615)		-0.152 (0.301)	-0.137 (0.358)	- 1.423* (0.081)	
l_emp	0.052* (0.073)	0.051* (0.086)	-0.078 (0.487)	0.036 (0.650)	0.179* (0.050)	0.187* (0.039)	-0.166 (0.630)	0.206 (0.104)	0.204* ** (0.000)	0.206* ** (0.000)	0.069 (0.761)	0.049 (0.685)
frgn	0.210* ** (0.009)	0.212* ** (0.009)	0.732* * (0.029)	-0.035 (0.830)	0.402* (0.083)	0.399* (0.083)	2.723* * (0.037)	0.974* * (0.031)	0.129 (0.390)	0.132 (0.382)	-0.501 (0.373)	0.323 (0.248)
svcsX		0.152 (0.732)				-0.550 (0.514)				-0.575 (0.295)		
exp				0.172 (0.697)				-0.639 (0.524)				-0.203 (0.663)
Constant	1.821* ** (0.000)	1.825* ** (0.000)	2.102* ** (0.000)	2.529* ** (0.000)	3.502* ** (0.000)	3.482* ** (0.000)	1.566 (0.503)	3.942* ** (0.000)	1.385* ** (0.000)	1.378* ** (0.000)	2.763* (0.085)	2.211* ** (0.000)
Observations	1048	1048	68	353	675	675	11	286	441	441	31	122
	Nepal				Pakistan				South Africa			
	1	2	3	4	1	2	3	4	1	2	3	4
svcs	- 0.173* (0.050)	- 0.210* * (0.020)	-0.657 (0.106)		-0.111 (0.429)	-0.132 (0.358)	0.296 (0.654)		0.483* ** (0.000)	0.497* ** (0.000)	0.229 (0.190)	
l_emp	0.146* ** (0.000)	0.136* ** (0.000)	0.199* * (0.046)	-0.040 (0.628)	0.111* ** (0.000)	0.111* ** (0.000)	0.028 (0.736)	0.004 (0.981)	0.032* * (0.023)	0.034* * (0.016)	0.010 (0.796)	0.091* * (0.035)
frgn	-0.185 (0.335)	-0.168 (0.388)	-0.314 (0.479)	0.592* * (0.028)	-0.049 (0.846)	-0.060 (0.813)	-0.264 (0.446)	-1.552 (0.102)	0.207* ** (0.000)	0.209* ** (0.000)	0.101 (0.272)	0.130 (0.503)
svcsX		0.268				0.335				-0.324		

	Bangladesh				Kenya				Ghana			
	1	2	3	4	1	2	3	4	1	2	3	4
exp		(0.133)		0.065		(0.593)		0.769		(0.159)		-
				(0.846)				(0.129)				0.394*
												(0.067)
Constant	1.830*	1.876*	2.445*	2.410*	1.864*	1.866*	2.395*	2.730*	0.929*	0.915*	0.918*	1.940*
	**	**	**	**	**	**	**	**	**	**	**	**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.052)	(0.000)	(0.000)	(0.056)	(0.000)
Observations	902	902	59	206	1717	1717	310	40	1602	1602	164	300
	Tanzania				Uganda				Tajikistan			
	1	2	3	4	1	2	3	4	1	2	3	4
svcs	-0.171	-0.147	-		-0.074	-0.042	-1.356		0.268*	0.251*	0.665	
			2.006*						*	*		
			**									
	(0.279)	(0.352)	(0.000)		(0.694)	(0.823)	(0.239)		(0.019)	(0.032)	(0.205)	
l_emp	0.138*	0.141*	-0.033	-0.136	0.171*	0.174*	0.050	0.346*	-	-	-0.216	-
	**	**			**	**		*				
	(0.000)	(0.000)	(0.792)	(0.394)	(0.000)	(0.000)	(0.701)	(0.026)	(0.004)	(0.004)	(0.144)	(0.054)
frgn	0.265*	0.258*	0.706*	-0.233	0.516*	0.523*	0.949*	0.857	0.241	0.239	0.253	0.405
			*		**	**	**					
	(0.056)	(0.063)	(0.023)	(0.386)	(0.000)	(0.000)	(0.001)	(0.135)	(0.218)	(0.226)	(0.605)	(0.298)
svcsX		-				-1.437				0.405		
		1.791*										
		**										
		(0.000)				(0.159)				(0.412)		
exp				-				-				0.178
				1.015*				1.660*				
				*								
				(0.038)				(0.096)				(0.729)
Constant	1.591*	1.584*	2.685*	2.905*	1.304*	1.295*	1.502*	1.807	2.389*	2.407*	3.095*	2.679*
	**	**	**	**	**	**	*		**	**	**	**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.044)	(0.150)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	697	697	53	80	933	933	54	151	510	510	26	258

## APPENDIX C: ECONOMY-WIDE IMPACTS OF TRADE IN SERVICES

This appendix considers a macro view on the role of services and trade in services in economic transformation (in contrast with the micro-level view in Appendix B), by discussing the role of services (trade) in overall trade, aggregate productivity change, value chain participation and value added trade.

It first (C1) examines the relative role of services in total trade performance in LICs,<sup>33</sup> making the point that trade in services has increased in importance in LICs in recent decades. This is followed by a description of the role of services in aggregate productivity change, suggesting that for LICs services have often contributed the majority of aggregate productivity change since 1991. Bringing this together, it also finds a positive association between growth in exports of services and aggregate productivity change.

It then examines (C2) the value chain dimension of services. We focus on how LICs use services trade to take part in value chains. Increasingly, firms all over the world use intermediate services in their inputs sourced from firms located in other countries. We find that, in nearly all LICs, the share of exports of intermediates in total exports of services increased between 1992 and 2012. Thus, rather than being provided directly to customers in other countries, services are increasingly provided through intermediaries in other countries. Trade in intermediate services has an important regional dimension and is not limited to modern services but also affects traditional sectors such as tourism.

Finally, C3 discusses the role of services in value added trade. We compare exports of services in value added terms with export of services in gross trade in 2012. We find that in LICs such as Ethiopia and Myanmar the value of services embodied in goods trade is greater than that of services exported directly. On the other hand, countries such as Kenya and Rwanda export more services directly than is embodied in their goods trade.

Taken together, the evidence suggests trade in services is playing an increasingly important role in economic transformation in LICs by supporting exports, productivity change and value chain development.

### C1 TRADE IN SERVICES AND AGGREGATE PRODUCTIVITY CHANGE

High commodity prices and structural change in international trade affecting trade in goods (e.g. the rise of China as a major exporter and importer) are often considered the main causes of the growth of the value in trade in LICs. The reduction in tariffs across the world has also played its part. However, the role of services in the growth of exports has been mostly overlooked, including in LICs. For example, LICs request better market access in developed countries for goods, but LIC efforts to improve market access in services have been minimal. Although LDCs have recently requested preferential access in services in developed countries, their efforts have been in general sporadic and not as emphatic as in the case of goods.<sup>34</sup> The low importance assigned to the role of services in trade in LDCs can also be seen in the role of services in economic transformation (Khanna et al., 2016).

Nevertheless, trade in services has grown markedly in LICs over the past 15 years. Figure A7 compares growth in the export of goods and in exports of services. These data are obtained primarily from BoP. In many countries, especially in LICs, services exports have grown faster than the exports of goods. It is worth noting that prices for commodities have also grown, indicating that, for many LICs, exports of services have increased their share as a source of hard currency even when exports of goods have increased very fast.

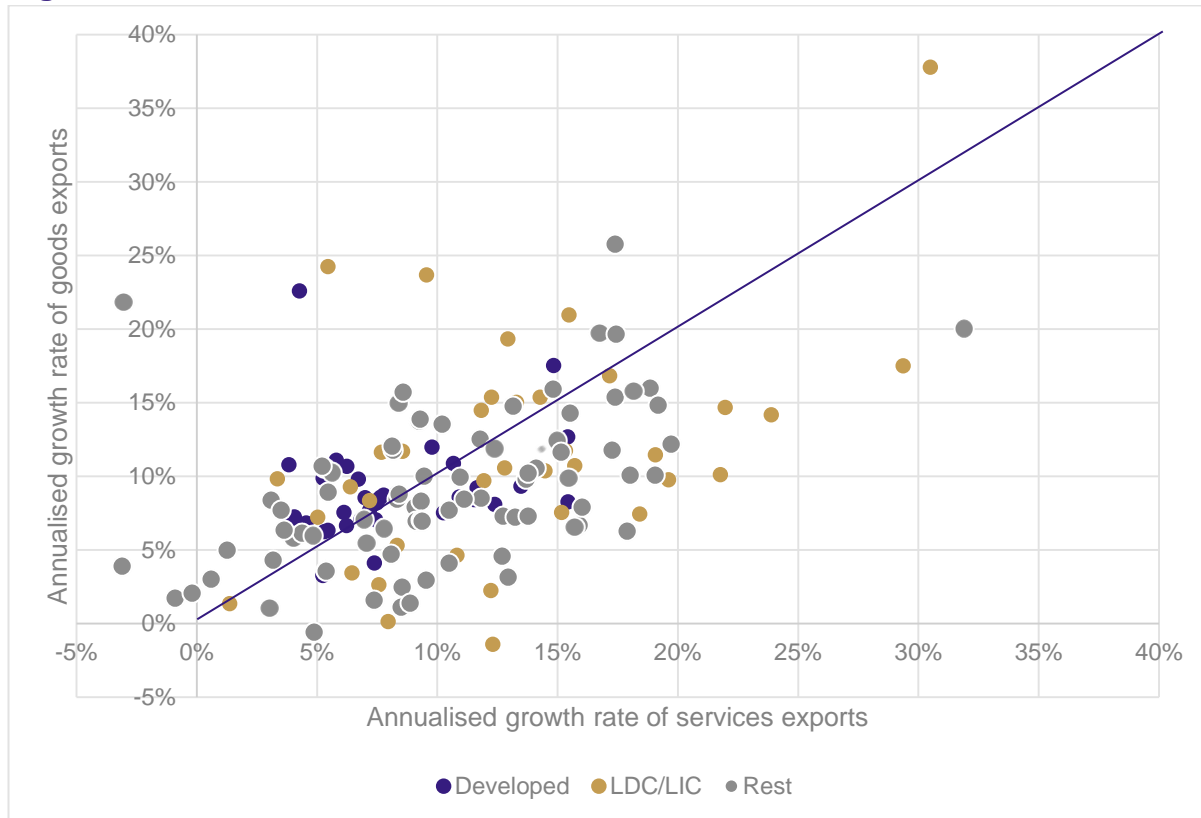
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<sup>33</sup> We have taken a broader definition for LICs. These include official LICs defined by the World Bank plus other lower-middle-income countries of interest such as Bangladesh, Ghana, Kenya, Nigeria, Pakistan and Zambia.

<sup>34</sup> The waiver on the GATS Most Favoured Nation (MFN) principle has allowed some developed countries to grant preferential access to LDCs. However, the concessions granted have been, in general, far from the requested by the beneficiary countries.

It is further interesting to note that in many LICs exports of services have grown faster than those in developed countries. This means many LICs are responsible for an increasing substantial part in the growth of global trade in services. Although developed countries are still the largest players in world trade in services, LICs and developing countries are gaining share rapidly.

**Figure A7. Annualised growth rate of exports, 1998–2012**



Source: Own elaboration based on services data from UNCTAD.

Growth in the exports of services is associated with important changes in economic structures, particularly in LICs. Over the past 15 years, output, employment and value added generated in traditional sectors such as agriculture has fallen. In contrast with earlier experiences (i.e. in South East Asia), services, rather than manufacturing, has expanded rapidly in LICs. In the case of Africa, resources from agriculture and other traditional sectors are primarily being reallocated to the traditional non-tradable services sector. At the same time, the share of the manufacturing sector in African countries and in other LDCs in trade, production and employment has fallen.

This sort of structural change has generated some concern in the development community, with Rodrik (2014) describing a problem of premature deindustrialisation. In general, the services sectors that have expanded in LICs, particularly in Africa, have tended to have low labour productivity. Typical urban low-productivity services have experienced a major expansion and the manufacturing sector has, in general, contracted. As agriculture and other traditional activities have low productivity too, this structural change seems not to be contributing to economic transformation and, consequently, to economic development.

In addition, the services sectors that are expanding appear to be non-tradable. The possibility of exporting services (such as retail, catering and personal services) is regarded as limited. Unskilled workers typically employed in the agriculture sector are not being employed in tradable modern services (i.e. business or financial services), which require skilled labour. Consequently, as trade provides a strong stimulus for productivity growth, specialisation in these sectors will not enable productivity and income to grow.

However, it is clear the tradability of a services sector depends on multiple factors. Whereas certain sectors, such as retail and personal services, present limited potential under cross-border provision (mode

1), they could be provided under mode 3 (FDI) and mode 4 (movement of natural persons). This suggests the non-tradability characteristic of certain services sector cannot be taken for granted and there are nuances in it.

Whereas the manufacturing sector is very important for economic transformation, it is not the only player. There is an implicit assumption that the manufacturing sector as a whole presents the desired characteristics: tradable, absorbs large quantities of unskilled labour and productivity catch-up. However, these three characteristics are not present in all manufacturing sectors. For example, even relatively simple sectors, such as food manufacturing, require certain levels of skills that are not abundant among workers currently employed in the traditional sectors in LICs. This suggests it is unlikely these sectors will be able to absorb workers released from agriculture. Moreover, as transport costs matter, not all manufacturing products are tradable.

The most serious problem is what is called the ‘transformation jam’ (or fallacy of composition). Given the desired characteristics and the existence of technological barriers, the manufacturing sectors that can be used to transform the economies of LICs are limited. Among manufacturing subsectors, LICs are likely to move into only a few of them, such as labour-intensive textiles and light manufacturing. Other subsectors may require factors not available in LICs. This may present a problem if all developing countries attempt to move resources into the same subsectors at the same time. This will generate congestion or a transformation jam that may prevent the formation of economies of scale. The success of countries in using the manufacturing sector has depended on the sequencing in which it has been used (e.g. Europe in the early 19th century, the US in the early 20th century, South East Asia in the late 20th century, etc.). If many countries try to specialise in a limited number of manufacturing sectors, productivity gains will fail to manifest or will be smaller because economies of scale will be smaller.

This suggests that, in addition to the manufacturing sector, alternative sectors/activities for economic transformation need to be identified. There are possibilities of transformation in other sectors, including the traditional sectors. Changes in the activities or tasks in each sector may have important productivity effects throughout the aggregate economy. A typical example entails moving from subsistence- to market-oriented agriculture. However, evidence suggests the changes between sectors tend to dominate productivity changes. This does not imply that these types of economic transformation are substitutes but that, in the context of LDCs, productivity gains associated with the reallocation of resources across sectors tend to be dominant.

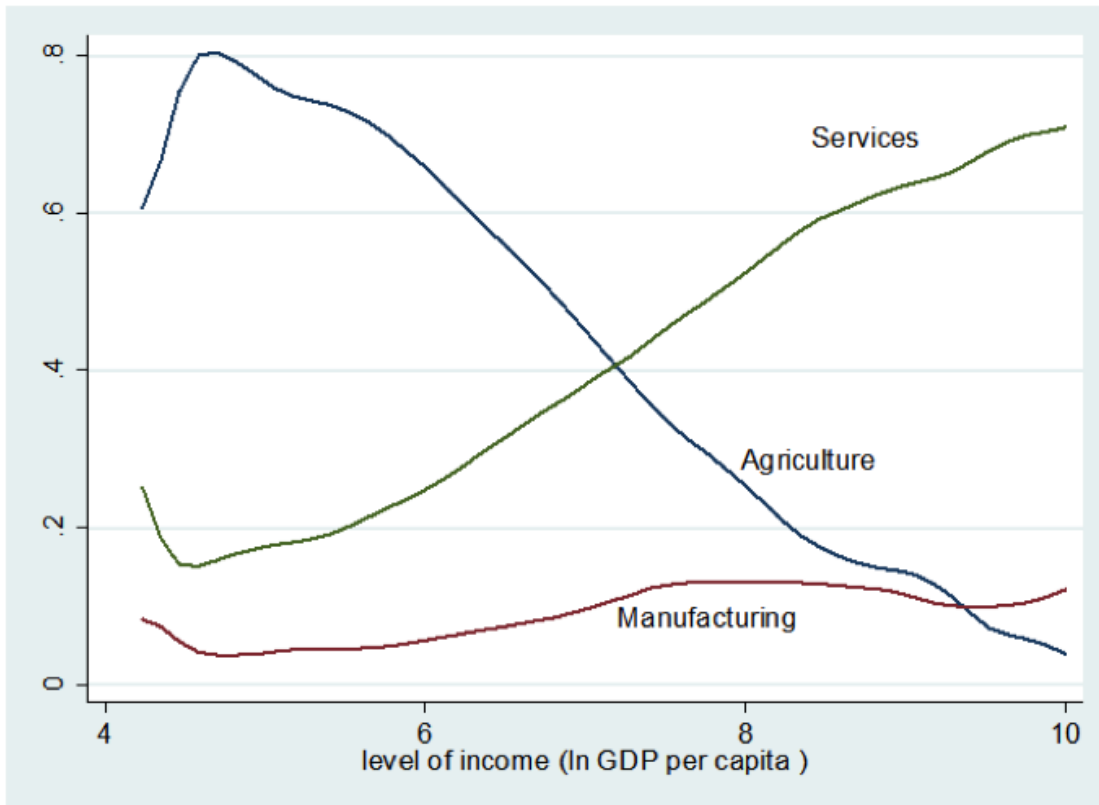
Given the high degree of informality of service provision in many developing countries, data are particularly scarce. There is also a general perception that the services sector plays a small role compared with that of goods in terms of income and wealth creation. Although modern theories do not discriminate against services, this perception still remains among many policy-makers, stakeholders and the public in general. Further, tradable sectors (e.g. financial or business services) tend to employ medium- or high-skilled workers, whereas in LDCs unskilled and low-skilled workers are abundant. Services that employ unskilled or low-skilled workers (personal services, retail, etc.) are generally not tradable. In addition, the capability of the services sector as a productivity growth vehicle is disregarded.

The role of services as a provider of employment grows with the level of income. In the early stages of development, agriculture activities typically account for most of employment (see Figure A8). As countries develop, the share of agriculture in employment declines. Although the manufacturing sector increases its share, the services sector is the most dynamic in terms of employment creation. It grows continuously as incomes increase. In the early stages of development, this growth of services sector employment is explained by the outsourcing of household activities. These constitute traditional services such as repairing, personal services (barbers), etc. At higher levels of development, modern services such as financial and business services take on an increased role (see Eichengreen and Gupta, 2013).

However, the distinction and implications of traditional vs. modern services are blurred. There are many cases of traditional services with strong tradability as well as productivity growth potential. The potential product and quality differentiation within typical traditional services such as catering, hotels and even retail is clear. Boutique hotels and restaurants as well as the development of customer services in the retail

sector constitute examples in this direction. At the same time, not all modern services, such as BPO, will have high productivity growth. Contact services centres, for example, although tradable, may present very limited labour productivity growth. Moreover, many ‘traditional’ services, such as transportation, are inputs of almost every single sector in the economy. Development and improvement of their quality thus affect productivity in almost every sector. Therefore, although the classification of services into traditional and modern simplifies the analysis, it is important to understand the important nuances this presents.

**Figure A8. Employment by level of income in agriculture, manufacturing and services**

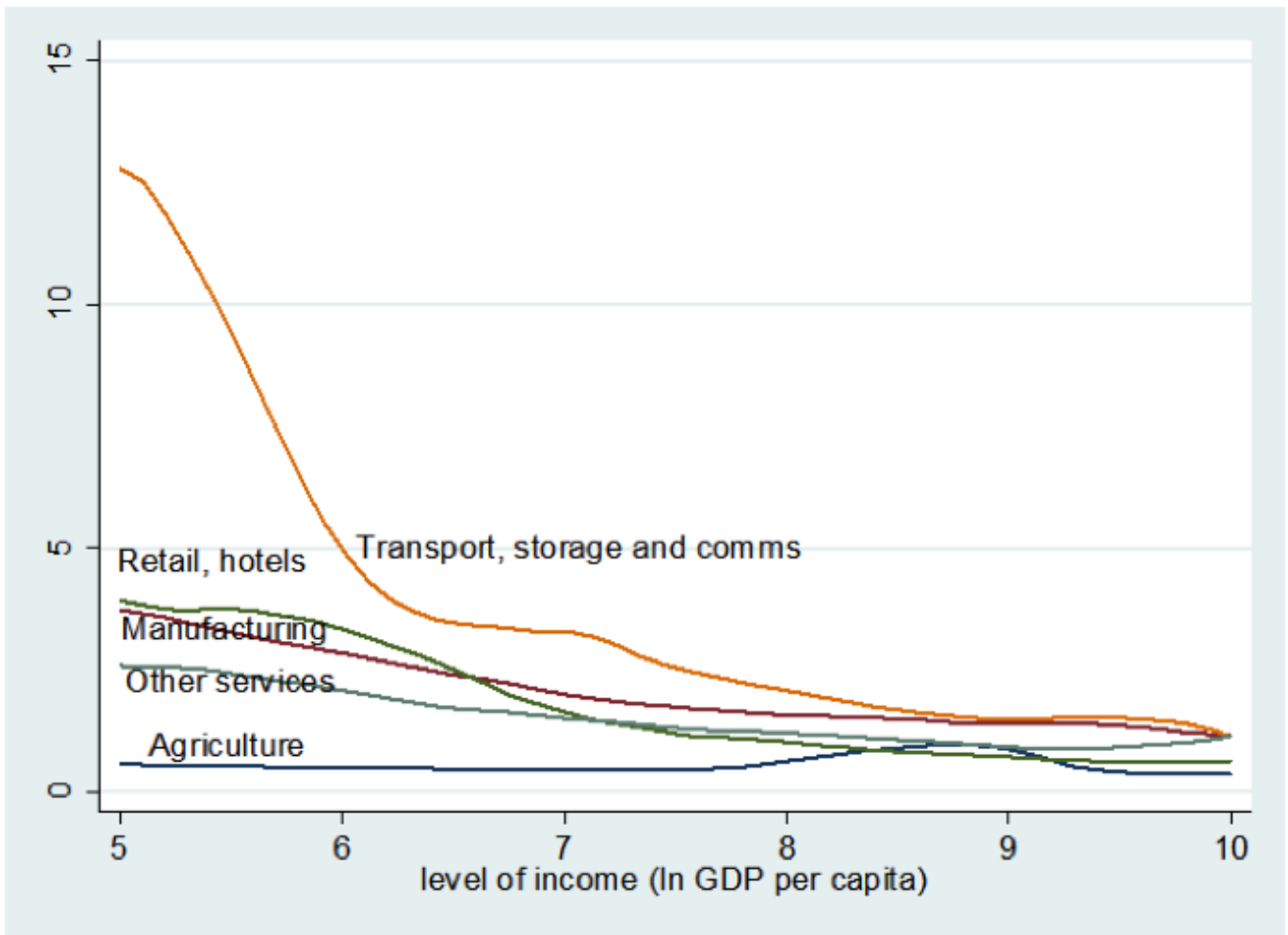


Source: UN and ILO database, data available from <http://set.odi.org/>

Partially as a consequence of movements in labour composition, the productivity differentials between sectors decrease as levels of income increase (see Figure A9). The existence of large gaps at low levels of income suggests significant opportunities for structural change (movements across sectors) to raise productivity. This means that, at lower levels of income, countries can increase productivity by moving across sectors, whereas at higher levels of income the increase in productivity may be associated more with improvements within sectors. This might include functional and process upgrading in value chains.



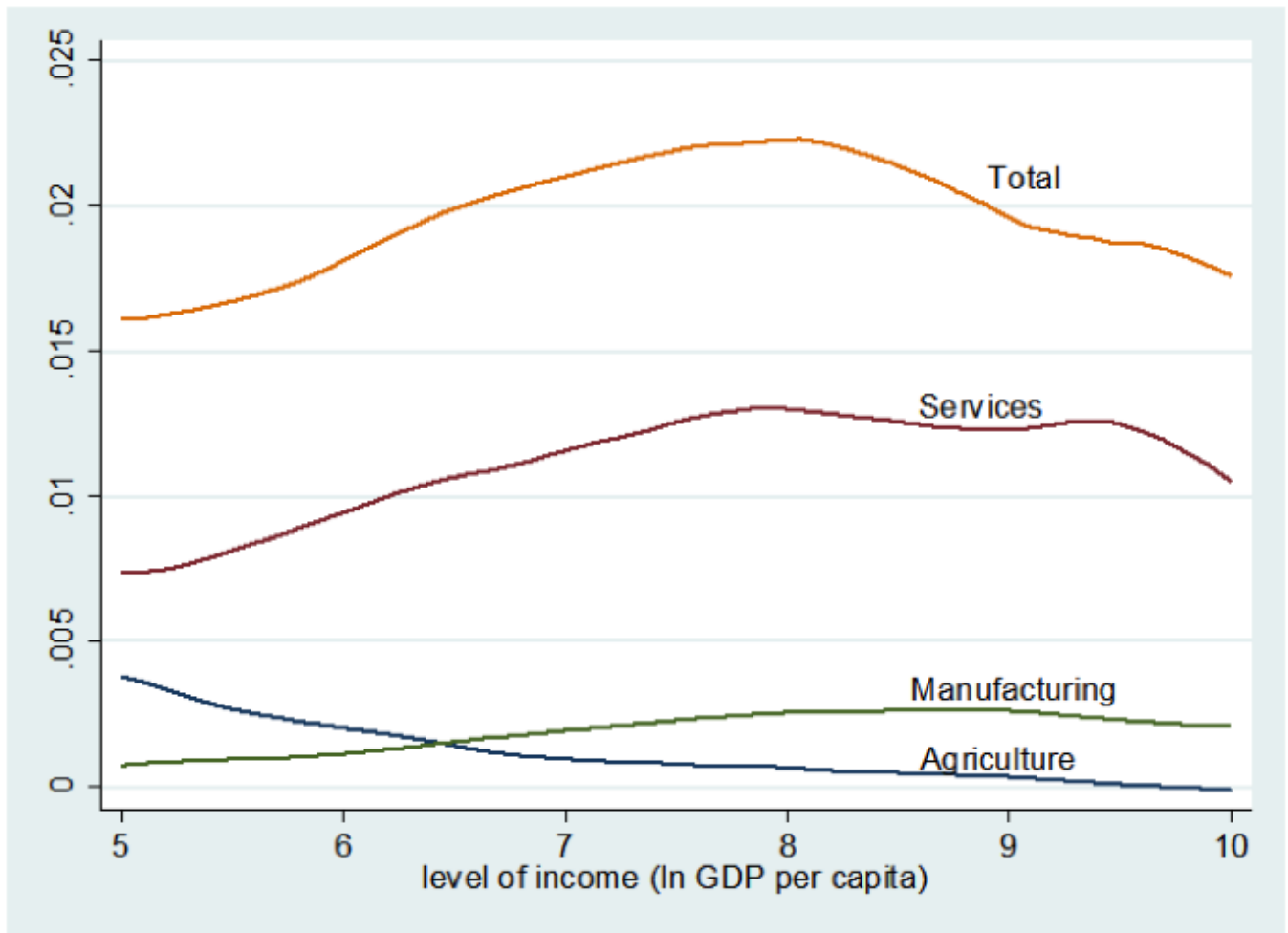
**Figure A9.** Relative labour productivity for different sectors levels converges at higher levels of income



Source: UN and ILO database, data available from <http://set.odi.org/>

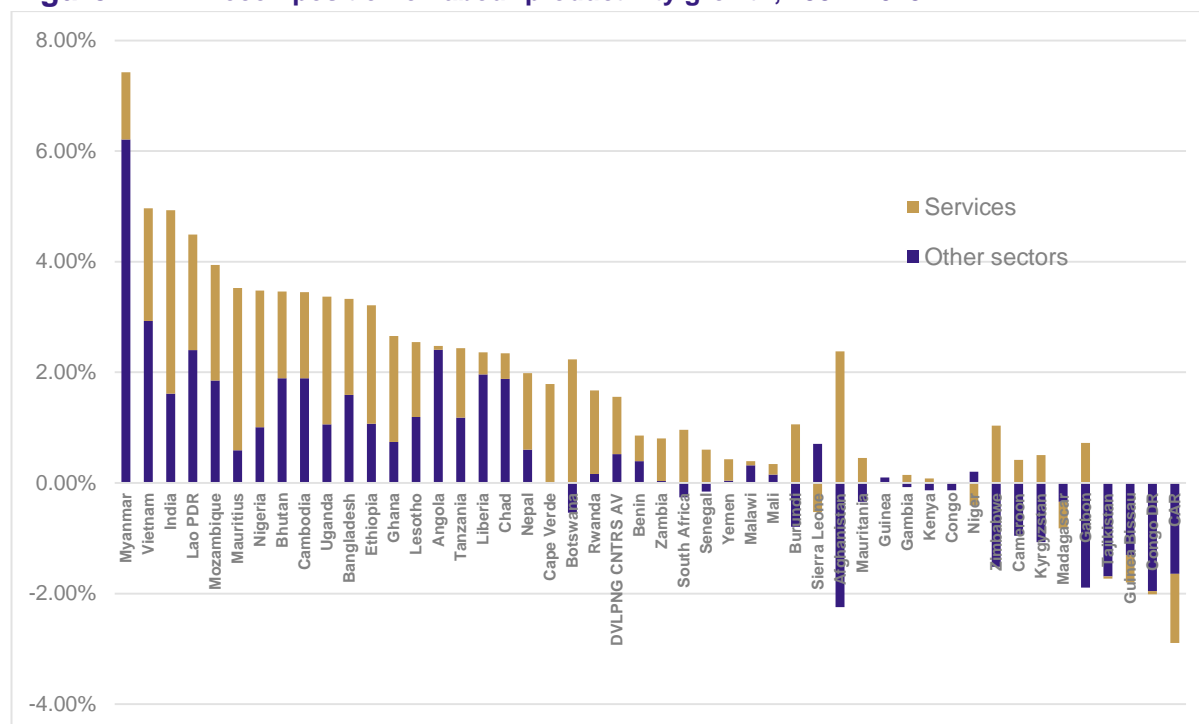
The contribution of different sectors to productivity change varies by country and over time. It also varies by level of income. At low income levels, agriculture contributes a significant part of labour productivity change (in part because it is a large sector), but manufacturing takes over, up to a point. But it is the services sector that has contributed the most to productivity change (Figure A10). Countries gain labour productivity through changes *between* sectors (structural change) – that is, moving to a services sector with higher productivity. But over time the *within*-services sector change in productivity has the greatest contribution to overall productivity change.

**Figure A10.** Contribution of different sectors to productivity change, 1991–2003



Source: UN and ILO database, data available from <http://set.odi.org/>

Taking the total labour productivity change and considering individual developing countries, empirical evidence suggests the growth in productivity in the services sector explains much of the total productivity change. Figure A11 indicates that the services sector accounts for the majority of the labour productivity change in many developing countries between 1991 and 2013. Even in countries that have experienced major expansion of the manufacturing sector, such as Bangladesh and Vietnam, the services sector is responsible for a substantial part of aggregate labour productivity change. When we take the average of productivity growth across developing countries, the services sector is responsible for two thirds of total productivity growth. This suggests that, in addition to becoming a major employer in many developing countries, services are responsible for most of the increase in productivity observed in the past 25 years.

**Figure A11. Decomposition of labour productivity growth, 1991–2013**


Source: Own calculations based on WDI.

The differences in productivity growth between services and manufacturing could be explained by different development stages. However, they may also be the result of constraints affecting some sectors more than others. Lack of reliable and cheap energy, for example, prevents the development of all sectors but is particular constraining in the manufacturing sector. These unequal constraints may lead to an unbalanced growth path that restricts economic transformation opportunities. Table A8 presents the top annual changes in labour productivity in the services (left panel) and manufacturing (right panel) sectors. China, for example, presented the highest labour productivity change in both services and manufacturing. In green, we highlight those countries present on both lists. This means productivity growth has been high in both sectors. China, India, the Korean Republic, Mozambique and Sri Lanka have presented, in this sense, more balanced growth, with productivity growing in both sectors.

On the other hand, other countries have observed high productivity growth in services but weak and even negative productivity growth in manufacturing. Afghanistan, Botswana, Ethiopia, Ghana, Hong Kong, Lao PDR, Mauritius, Nigeria, Panama and Uganda are among the top 15 in terms of labour productivity growth in services but have low growth in productivity in manufacturing. In some countries, such as Afghanistan, Ghana, Hong Kong and Panama, productivity in the manufacturing sector actually fell during the period.

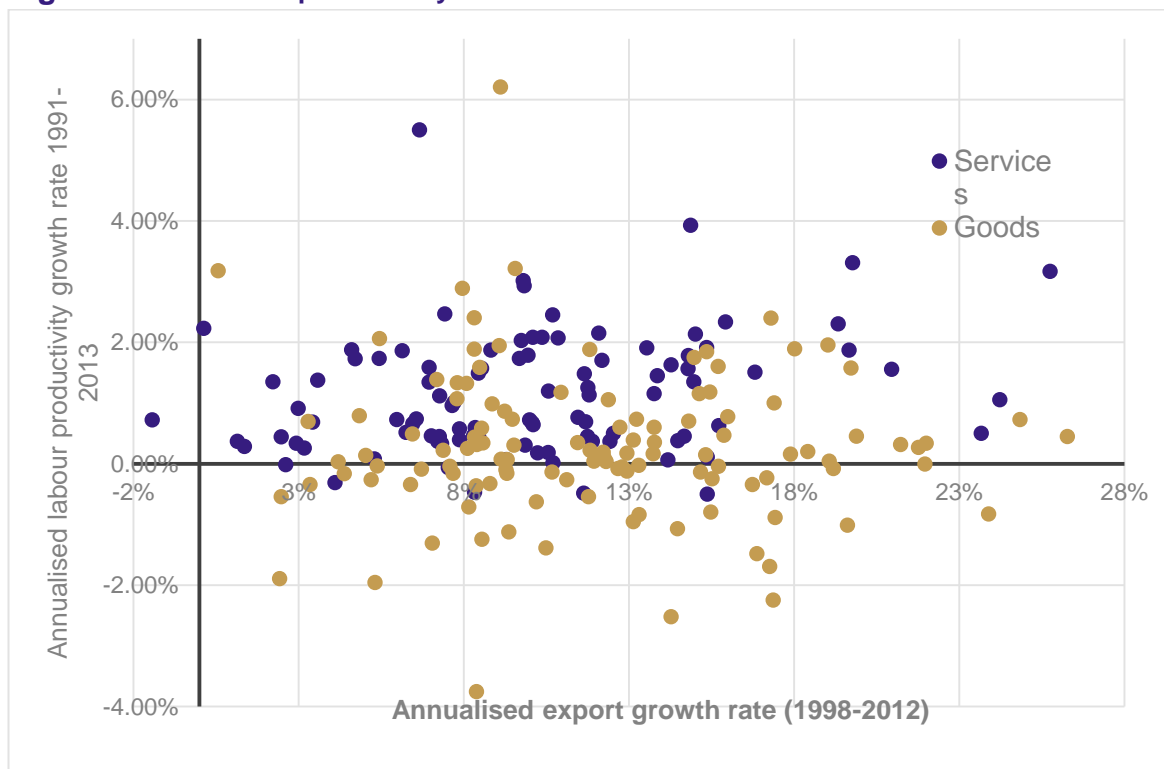
**Table A8. Top 15 annual percentage point contribution to labour productivity change in services and manufacturing**

Top 15 labour productivity growth in services			Top 15 labour productivity growth in manufacturing		
	Services	Manufacturing		Services	Manufacturing
China	4.99%	3.73%	China	4.99%	3.73%
India	3.32%	0.81%	Belarus	1.63%	1.68%
Hong Kong	3.02%	-0.34%	Myanmar	1.35%	1.51%
Mauritius	2.94%	0.39%	Vietnam	0.26%	1.46%
Nigeria	2.47%	0.17%	Korea Rep.	2.08%	1.44%
Sri Lanka	2.45%	0.81%	Cambodia	1.56%	1.27%
Uganda	2.31%	0.39%	Thailand	1.79%	1.04%
Afghanistan	2.28%	-0.09%	Malaysia	1.88%	0.84%

Top 15 labour productivity growth in services			Top 15 labour productivity growth in manufacturing		
	Services	Manufacturing		Services	Manufacturing
Botswana	2.23%	0.16%	Trinidad & Tobago	0.57%	0.84%
Panama	2.16%	-0.15%	Indonesia	1.42%	0.84%
Ethiopia	2.14%	0.20%	Bangladesh	1.74%	0.84%
Mozambique	2.09%	0.72%	India	3.32%	0.81%
Lao PDR	2.09%	0.55%	Sri Lanka	2.45%	0.81%
Korea Rep.	2.08%	1.44%	Lesotho	1.35%	0.81%
Ghana	1.92%	-0.37%	Mozambique	2.09%	0.72%

Figure A12 examines the link between changes in exports of services and productivity growth. The positive association between sectoral productivity growth and trade seems stronger in the services sector. In almost all countries, positive rates of growth in sectoral productivity have been related to a positive rate of growth in the export of services. In fact, in almost all countries where exports of services have increased, productivity in the sector has also gone up.

**Figure A12. Labour productivity and trade**



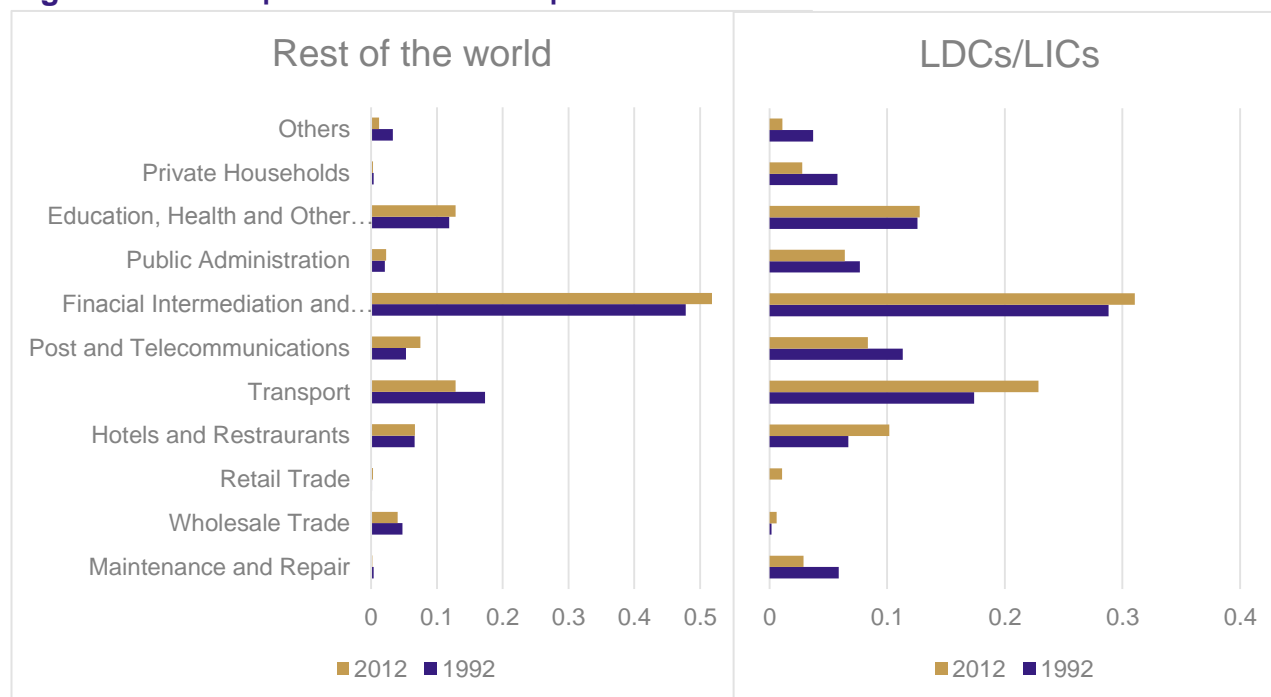
Source: Own elaboration based on trade data from UNCTAD using BoP data and productivity calculations made using the WDI.

When we look at the trade structure of services in LICs (Figure A13), we find modern services play an important role. Exports of financial intermediation and business activities represent more than 30% of the total export of services. It is interesting to see these exports have been high since at least 1992. There is certainly a possibility that, within this category, there may also be traditional services. However, the share of these types of services in the exports of the rest of the world is substantially higher.

At the same time, exports of traditional services such as hotels and restaurants and transport are important, and together they represent as much as modern services exports. If we add to this education, health and maintenance and repair, traditional services become the dominant type of services in the exports of LICs. Moreover, many of these services are gaining share (e.g. hotels and restaurants and transport). This contrasts notably with the experience of developed countries, where traditional services exports are losing share. This indicates that, although modern services may be important, growth in trade

in services in LICs seems to be related to the development of trade of traditional services rather than modern services.

**Figure A13. Composition of services exports in 1992 and 2012**



Source: Own elaboration based on EORA-MRIO.

## C2 SERVICES AND VALUE CHAINS

In addition to being directly involved in trade, services are increasingly being used in the production of goods through a combination of outsourcing and offshore processes. The first involves activities such as accounting, cleaning or repairing services, which are decreasingly being produced using employees and resources within the firm. Instead, they are contracted to other domestic firms. This leads to a reduction of the within-firm value added and an increase in the use of inputs. Consequently, we would see an increase in the use of intermediate services by firms, including of those inputs sourced from firms located in other countries.

We assess intermediate services – the participation of service providers in production processes located elsewhere – by looking into the evolution of the export of intermediate services. Figure A14 shows how exports of intermediates grew relative to total export of services between 1992 and 2012.<sup>35</sup> In almost all LICs, the share of exports of intermediates in total exports of services increased. This can be attributed to technological and institutional changes in the way services are provided. Rather than being directly provided, services are increasingly provided through intermediaries. For example, tourism services are increasingly marketed through operators located in the country of origin of the consumer rather than merely being provided directly to the consumer in the provider country.<sup>36</sup> Therefore, the exported service is being provided to a firm rather than to a final consumer. This increases the share of intermediate services in total exports.

As countries develop and income per capita rises, business, financial and other modern or producer services tend to displace traditional services. Clark (1940) originally developed the idea that services development is associated with income growth. This demand-side explanation for services development was extended by Bhagwati (1984) and Panagariya (1988). Francois (1990) focused primarily on supply-

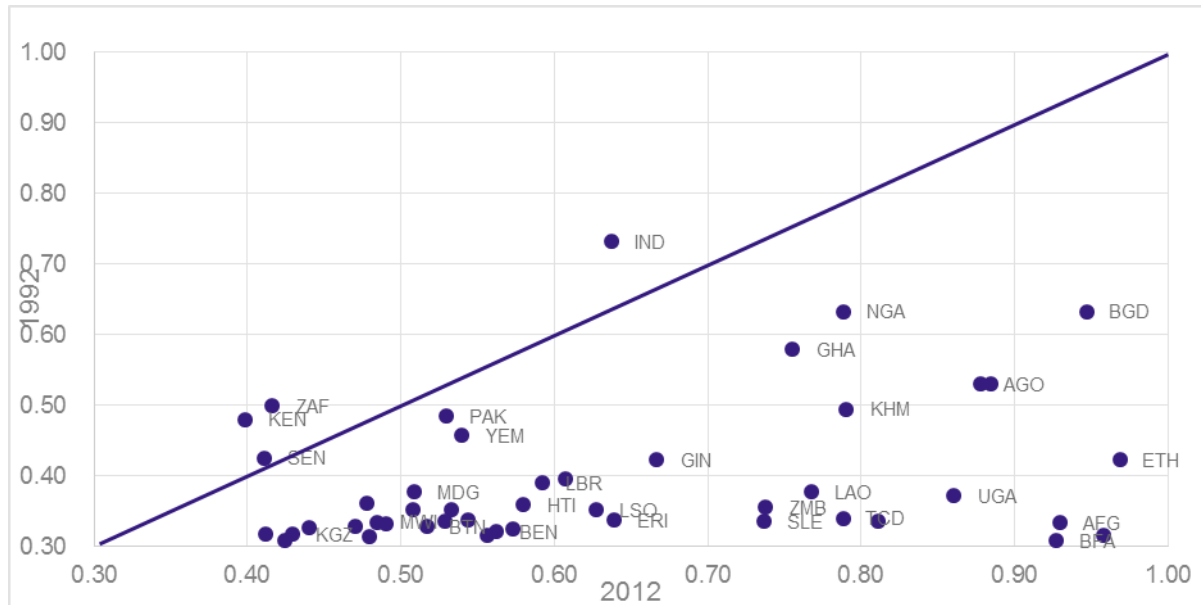
<sup>35</sup> As we are using input–output tables to obtain these figures, intermediates are defined as products or services that may be used in other production processes.

<sup>36</sup> This trend may be reversed if we consider the increasing use of internet-based resources (i.e. Airbnb) in the latest years. However, the effect is unlikely to be reflected in the data.

side elements in services development, highlighting that producer services are mostly linked to production scale and specialisation. Khanna et al. (2013) discuss the role of services in transforming the economies of developing countries.

At the same time, trade in intermediates (services and goods) has been associated with value chain activity. As stages of production processes are both outsourced and offshored, the share of intermediates and total trade increase. This leads to an increase of both the provision of intermediate services and the services associated with the increased trade in goods. This general picture, of course, does not apply to all countries.

**Figure A14. Share of export of intermediate services in total services exports in 1992 and 2012 in developing countries**

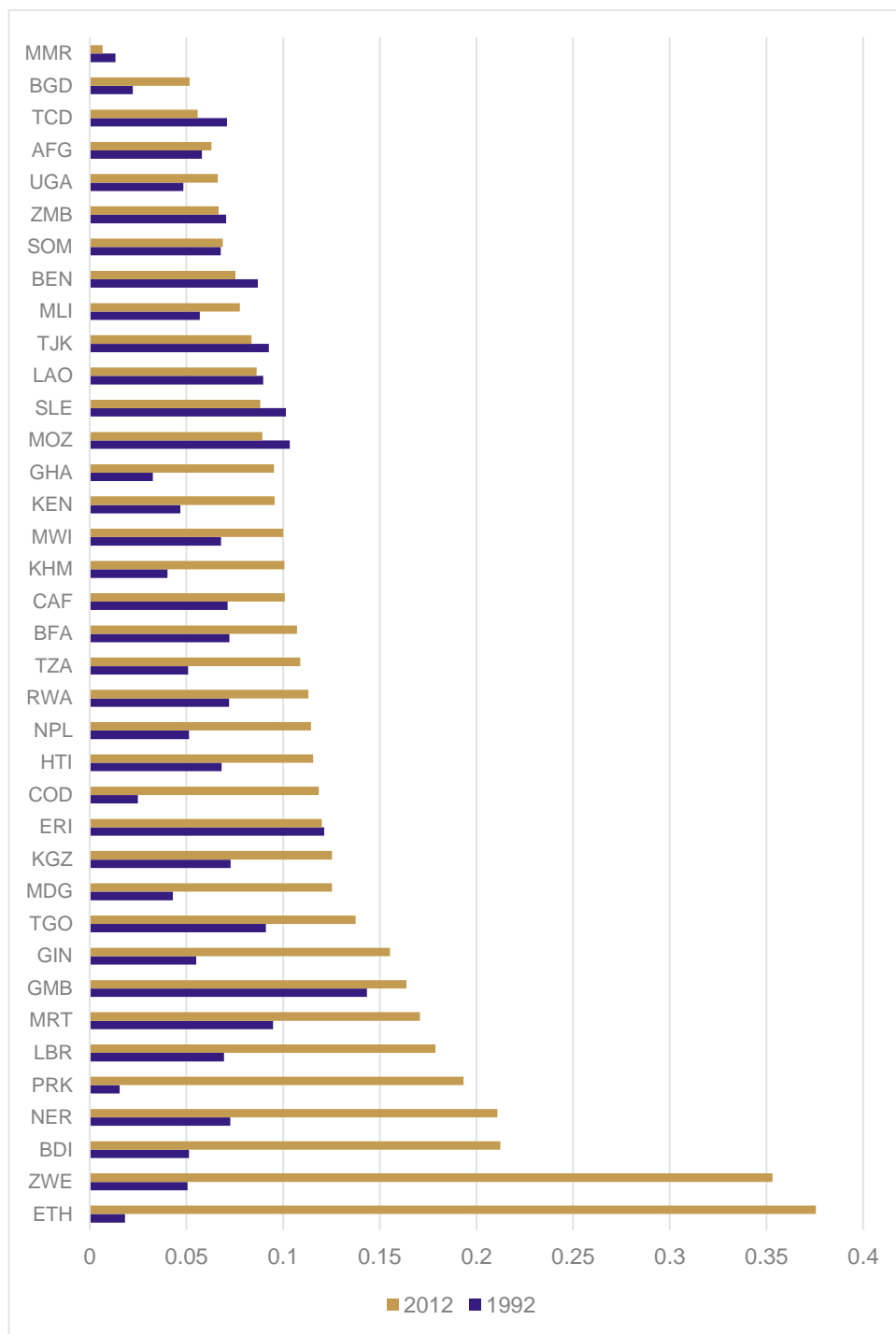


Source: Own elaboration based on EORA-MRIO.

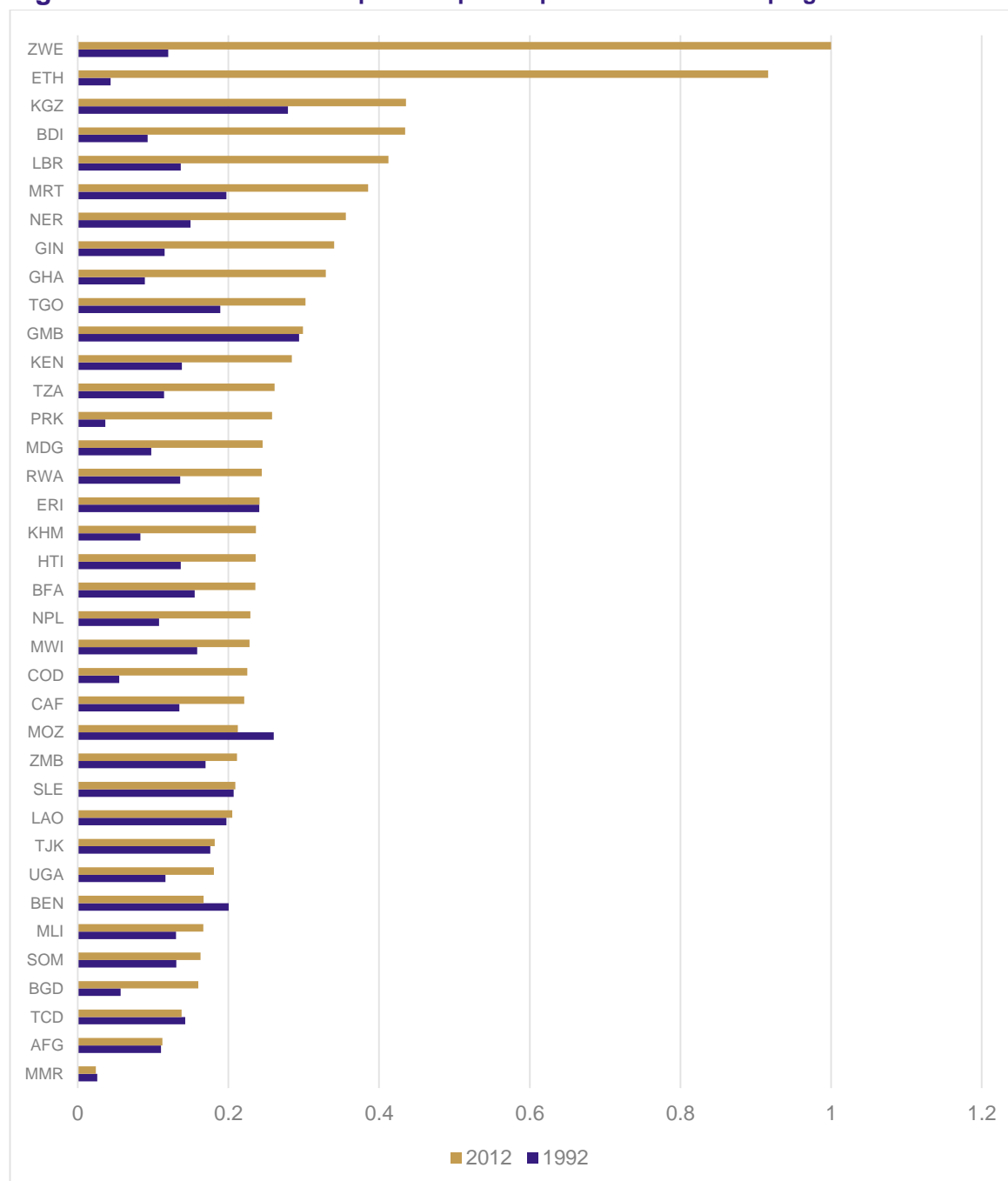
All this explains why forward participation in services value chains in LICs has increased. LICs are increasingly using more foreign services in production. In most of the countries represented in Figure A15, the share of imported services in total use of inputs has gone up, from an average of 6% in 1992 to 12% in 2012.



**Figure A15. Share of services intermediates in total use of inputs in developing countries in 1992 and 2012**



Source: Own elaboration based on EORA-MRIO.

**Figure A16. Share of total imported inputs in production in developing countries in 1992 and 2012**


Source: Own elaboration based on EORA-MRIO.

Trade in intermediate services has a regional dimension. Whereas trade in goods tends to be more diversified in terms of export destinations, trade in intermediate services is clearly oriented to the same region (see Table A9). First, distance still matters in services provision (i.e. mode 2 requires the presence of the consumer in the providing country). Second, neighbouring countries are more likely to share some institutional or cultural characteristics that facilitate the provision of these services. Given the high degree of protection that exists in the services sector, regional integration agreements play a key role. Moreover, trade with neighbouring countries is expected to be very important (i.e. transportation services).

Table A10 examines the distribution for LICs. For the majority of the countries, intraregional trade represents well above 85%. Other countries, such as Mauritania and Zimbabwe, present a more diversified destination pattern. Although there may be reasons behind this distribution founded on the composition of

their services exports, it is likely this reflects some abnormalities in the data. There is, however, a limited number of countries, which suggests we should treat these cases with caution.

**Table A9. Distribution of trade in intermediate services in 2012 (in %)**

	Africa	Asia-Pacific	Latin America	Middle East and Central Asia	North America	Other Europe	Western Europe
Africa	94.49	1.35	0.29	0.29	0.15	0.65	2.79
Asia-Pacific	0.07	98.86	0.15	0.21	-	0.05	1.10
Latin America	0.13	0.62	98.24	0.23	-	0.13	1.17
Middle East and Central Asia	0.41	5.93	0.16	89.95	0.56	0.30	2.69
North America	0.11	1.43	0.58	0.17	96.22	0.05	1.44
Other Europe	0.26	-	0.17	0.28	0.09	92.90	6.73
Western Europe	0.28	0.57	0.21	0.28	0.06	0.26	98.33

Source: Own elaboration based on EORA-MRIO.

**Table A10. Distribution of exports of intermediate services in developing countries by destination region in 2012 (in % of total exports)**

	Africa	Asia-Pacific	Latin America	Middle East and Central Asia	North America	Other Europe	Western Europe
Afghanistan	0.10	0.51	0.06	98.50	0.05	0.52	0.25
Angola	95.21	2.02	0.26	0.04	0.76	0.22	1.49
Burundi	59.78	7.83	3.29	4.01	2.11	15.79	7.20
Benin	94.51	2.49	0.60	0.46	0.19	1.74	-
Burkina Faso	93.48	2.28	0.71	0.67	0.33	1.65	0.88
Bangladesh	0.06	94.70	0.03	0.25	0.83	0.09	4.03
Bhutan	3.75	63.10	3.18	3.68	1.72	20.72	3.85
CAR	84.36	2.16	0.72	0.93	-	6.21	5.61
DRC	94.01	0.40	0.11	0.14	0.26	0.56	4.50
Djibouti	71.60	5.95	1.65	2.35	0.95	15.31	2.19
Eritrea	75.59	4.31	1.19	1.69	0.73	14.65	1.84
Ethiopia	10.54	19.03	2.57	9.15	3.00	30.79	24.92
Ghana	90.60	1.63	0.16	0.40	0.42	1.07	5.73
Guinea	77.87	8.99	0.63	1.52	0.78	3.68	6.53
Gambia	85.80	4.00	1.69	1.58	0.88	3.60	2.45
Haiti	0.32	0.64	0.27	0.36	96.42	1.99	-
Kenya	94.31	1.08	0.13	0.57	-	0.43	3.48
Kyrgyzstan	3.63	19.74	3.46	36.49	1.99	19.69	15.00
Cambodia	0.24	93.58	0.24	0.25	1.94	1.09	2.66
Lao	0.54	92.88	0.44	0.54	0.26	3.10	2.25
Liberia	58.49	4.27	1.54	1.63	0.83	9.67	23.57
Lesotho	76.01	4.63	1.40	1.80	3.78	8.92	3.46
Madagascar	95.39	1.63	0.19	0.18	0.35	1.18	1.09
Mali	93.72	1.93	0.62	0.44	0.42	2.09	0.78
Myanmar	0.07	98.97	0.07	0.08	0.14	0.18	0.48
Mozambique	93.07	2.61	0.41	0.50	0.41	1.31	1.69
Mauritania	65.67	7.95	1.48	1.59	0.73	11.68	10.89
Malawi	91.16	2.21	0.36	0.51	0.40	2.59	2.77
Niger	87.35	9.82	0.70	0.90	0.41	3.76	-2.93
Nigeria	94.23	1.74	1.54	0.04	0.87	0.10	1.49

	Africa	Asia-Pacific	Latin America	Middle East and Central Asia	North America	Other Europe	Western Europe
Nepal	0.09	99.11	0.07	0.08	0.06	0.29	0.30
Pakistan	0.00	99.94	0.00	0.05	-	-	-
Rwanda	94.30	1.11	0.37	0.46	0.28	2.49	0.99
Senegal	94.77	1.80	0.41	0.47	-	1.11	1.43
Sierra Leone	92.60	1.45	0.74	0.56	0.12	2.85	1.68
Somalia	91.63	2.22	0.71	1.55	0.44	2.62	0.83
São Tomé and Príncipe	26.30	11.81	3.90	4.56	2.35	46.35	4.72
Chad	86.13	2.62	0.75	0.99	0.62	7.08	1.82
Togo	86.60	3.19	1.30	2.05	0.40	4.92	1.54
Tajikistan	0.29	5.17	0.25	91.30	0.05	2.45	0.49
Tanzania	96.26	1.06	0.05	0.08	0.07	0.43	2.04
Uganda	97.27	0.67	0.17	0.11	0.14	0.64	1.00
Vietnam	0.52	89.53	0.20	1.48	0.60	0.55	7.13
Vanuatu	2.75	68.97	2.14	2.69	1.25	18.55	3.66
Samoa	3.60	70.79	3.02	3.73	1.20	13.77	3.89
Yemen	0.10	2.60	0.20	96.34	0.19	0.38	0.19
Zambia	94.48	1.52	0.24	1.41	0.17	1.68	0.50
Zimbabwe	15.41	26.15	10.80	11.46	5.54	9.65	20.99

Source: Own elaboration based on EORA-MRIO.

The sectoral distribution of intermediate services exports is relevant in understanding the type of engagement in value chains (Table A11). Financial intermediation and business activities provide the majority of the intermediate services exported. In all regions, this is the most important sector. It is followed by transport, post and telecommunications. Together, these constitute typical modern services. This should not be a surprise in light of the discussion above. Modern services increase in importance as countries grow and as production processes become more diversified and complex. This distribution presents a contrast with the analysis presented above (see Figure A13). Although traditional services can be tradable and in many cases constitute the main sectors in terms of total exports (goods and services), modern services are expected to play a more direct role in the participation of the services sector in international value chains. They are used directly in production processes in other countries.

We present in Table A12 the sectoral distribution of intermediate services exported in LICs. In general, countries tend to export primarily finance, business services and transport and communications services. The low share of financial and business services exported by Ethiopia and the high share of wholesale services exported by Sierra Leone are somewhat surprising. Unless evidence about special cases exists that can explain these issues, these examples that tend not to follow the general distribution should be taken as anomalies in the data and not as indicating differences in the distribution.

Participation in value chains is not limited to modern services. Traditional services are also part of value chains. However, they tend to have more of a domestic role than an international one. They may be used as inputs to produce other inputs in the production of exports. Nevertheless, the exports of intermediate services say very little about this. In the next section, will use trade in value added data to characterise the role of traditional services in value chains.

**Table A11. Export of intermediate services by sector (in % of total exports)**

	Africa	Asia-Pacific	Latin America	Middle East and Central Asia	North America	Other Europe	Western Europe
Maintenance and repair	0.7	0.3	0.3	0.7	0.2	1.6	0.2
Wholesale trade	10.2	5.5	6.0	6.5	11.2	12.8	5.2
Retail trade	2.0	8.5	3.4	-	-	-	-
Hotels and restaurants	1.6	3.0	2.3	2.1	3.3	3.1	2.1
Transport	5.0	12.8	12.5	16.1	-	17.4	14.8
Post and telecoms	11.0	7.9	13.2	9.1	7.9	9.5	6.7
Financial intermediation and business activities	61.1	50.7	56.0	59.0	70.2	46.9	60.8
Public administration	1.2	1.0	0.2	0.4	0.8	1.1	0.8
Education, health and other services	4.5	7.8	5.4	5.3	6.3	6.5	9.0
Private households	0.2	0.1	0.0	0.1	0.0	0.1	0.0
Others	2.4	2.3	0.8	0.7	0.1	0.9	0.3

Source: Own elaboration based on EORA-MRIO.

### C3 SERVICES EMBODIED IN TRADE IN VALUE ADDED

The increase in trade in intermediate services is a first approximation of value chain activity. It only helps identify whether domestic services firms use foreign intermediate services or whether domestic intermediate services providers are part of production processes abroad. This means it can only identify value chain activity associated with particular stages of production; it cannot be used to examine value chains from a more general conception.

In particular, domestic services firms may be providing services to other exporting domestic firms. For example, transport of products from the farm to the port may not be registered as an export, but it is part of the value chain associated with the product in question. This requires identification of the origin of the inputs used in the production of the product exported. However, a more complete picture of the value chain should also examine other inputs used to produce the inputs used in the product exported.

That said, even in cases where we identify the origin of all the inputs used along the value chain, we may double-count the value of the inputs used in production. For example, we may count the financial services used in the automobile value chain twice: once when we count the financial services used by the tyre producer and again when we count the tyres fitted in the car, as part of their value has been generated in financial services. To avoid this, we calculate the value (i.e. payment to production factors) added in each production stage. In this way, we can count, for example, the value added generated in the financial sector embedded in each final product. This needs to be calculated using input–output matrices.

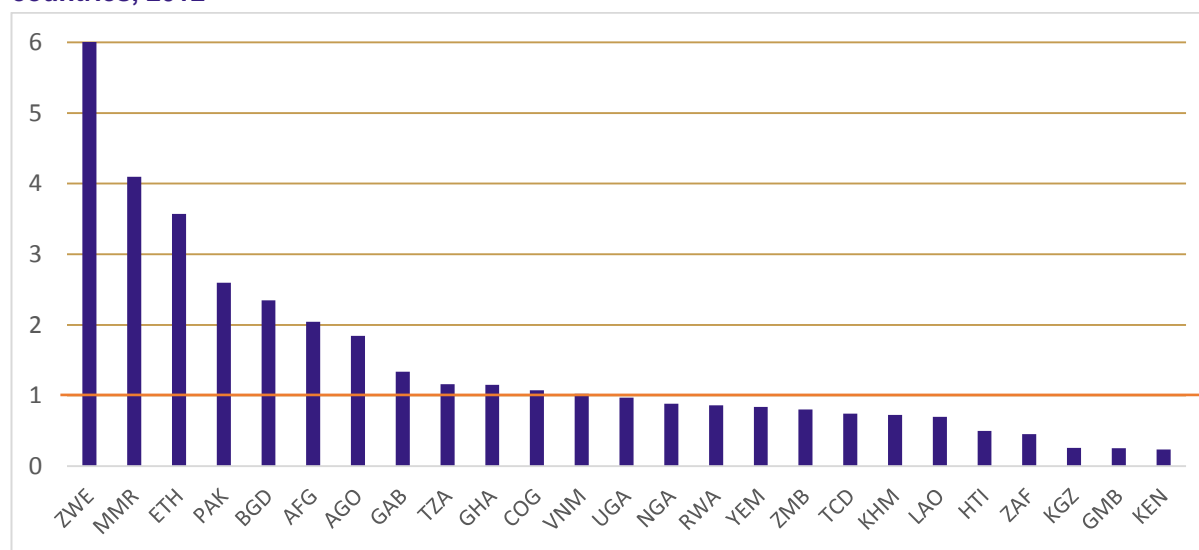
When we consider exports, we can calculate the value added exported from each sector. The availability of trade in value added data allows us to identify the origin of the value added in exports. Identification of the inputs used in the exports and their origin allows us to trace the origin of the value added. This allows us to highlight another way services are used in trade.

The structure of trade is different from the structure of production. Trade is frequently dominated by goods, whereas production presents a more diversified structure, including a higher share of services. Moreover, even within goods and services, there are differences among the different products and services being produced and traded. This is because of the presence of important goods that, for multiple reasons, are not tradable. For example, certain food products, given their characteristics and consumer preferences, are mostly commercialised domestically. However, when trade is measured in value added terms, the trade structure tends to reflect more closely the domestic production structure. When this happens, the share of the value added originating in the services sector tends to go up.

Figure A17 presents the ratio in 2012 of value added in exports and exports of services. Whenever the ratio is greater than one, it means the value added from services embedded in other countries' exports is

greater than the exports of services. This is basically comparing exports in value added terms with gross exports. The idea behind this is that, when value added exports from the services sector are larger than gross exports of services, this indicates larger value chain participation of the services sector in the rest of the economy relative to the final exports or forward linkages in production processes in other countries. This means the services sector is oriented towards the provision of inputs to exporters in the domestic manufacturing sector, for example. If the country, on the contrary, presents larger exports of services relative to exports of value added, this is an indication of participation in foreign value chains. For example, Kenya may be providing substantial financial and transport services to products produced by other countries.

**Figure A17. Services value added in exports as a ratio of gross exports of services in developing countries, 2012**



Source: Own elaboration based on EORA-MRIO.

This means that, in addition to value added embedded in gross exports of services, many countries export services through their exports of other products. For example, Ethiopia and Myanmar, in addition to their services exports, export value added from services in other products. On the other side of the spectrum, Gambia, Kenya and Kyrgyzstan have services sectors with smaller forward linkages to other exporting sectors. Most of the value added exported is embedded primarily in the exports of the services sector.

This may be the result of a combination of factors. On the one side, exports of goods (or services) use value added from the services sector. When exports of these products are very high, the value added from the services sector (i.e. transport or business services) will be high as well. The cases of Bangladesh, Ethiopia and Myanmar suggest their important exports of textiles and garments also carry value added generated in the services sector. This suggests stronger integration of the services sector in the production processes of these countries.

Countries at the other extreme – Kenya, for example – present relative to other countries higher exports of services. Table A12 suggests 25% of their intermediate services exports are in transport. This suggests Kenya's services are relatively more embedded in the production and trade of other countries than in their own exports. This suggests most of the value added generated in the services sector is embedded in its direct services exports.



**Table A12. Distribution of intermediate services exports in LICs in 2012 (in % of total exports)**

	Maintenance and repair	Wholesale trade	Retail trade	Hotels and restaurants	Transport	Post and telecommunications	Financial intermediation and business activities	Public administration	Education, health and other services	Private households	Others
AFG	0.6	8.2	-	2.1	1.2	12.0	67.8	0.7	6.3	0.2	0.9
AGO	0.5	8.7	-	2.3	4.6	9.6	67.2	0.3	6.0	0.1	0.8
BDI	3.8	-	-	4.6	-	12.9	62.1	3.5	6.8	3.5	2.7
BEN	0.9	7.8	-	2.4	4.2	10.9	65.2	0.9	6.4	0.5	0.8
BFA	1.2	19.4	-	4.7	1.3	10.9	57.5	0.7	2.4	0.7	1.2
BGD	0.6	13.3	-	1.2	3.1	13.4	61.8	0.8	4.5	0.1	1.2
BTN	6.5	-	-	4.7	2.0	25.9	32.4	6.4	12.2	6.9	2.9
CAF	2.0	5.5	-	4.3	0.7	12.3	63.0	1.9	7.4	1.6	1.4
COD	0.6	8.5	-	3.1	1.5	10.1	67.0	0.8	7.2	0.2	0.8
DJI	3.6	4.3	-	5.0	6.2	16.9	48.7	3.5	7.1	3.4	1.2
ERI	3.3	6.6	-	4.9	3.1	13.7	53.8	3.1	7.2	3.0	1.2
ETH	7.4	11.1	4.3	7.0	23.1	13.1	2.9	9.8	12.8	7.2	1.3
GHA	0.8	24.8	-	6.4	-	9.9	52.7	0.6	3.6	0.3	0.9
GIN	1.7	10.5	-	2.6	3.6	12.5	58.8	1.5	6.3	1.1	1.3
GMB	2.3	7.0	-	5.0	-	15.8	56.6	2.2	7.5	1.9	1.7
HTI	1.0	9.4	-	1.3	2.2	12.3	65.3	1.0	5.9	0.6	1.0
KEN	0.6	7.8	17.4	5.1	25.7	8.1	25.1	1.9	2.0	0.0	6.2
KGZ	-	-	-	6.0	-	10.5	61.6	8.2	13.7	-	-
KHM	0.8	10.6	-	2.0	4.7	10.7	62.1	1.3	6.4	0.4	1.0
LAO	1.4	11.8	-	3.5	-	11.7	61.7	1.3	6.5	0.9	1.2
LBR	3.1	3.9	-	4.7	9.3	12.1	52.1	2.8	7.8	2.7	1.7
LSO	3.5	9.2	-	4.7	-	11.9	55.1	3.9	6.3	3.0	2.5
MDG	0.7	9.3	-	1.6	6.2	11.0	63.0	0.9	5.9	0.4	0.9
MLI	0.9	8.2	-	2.7	4.4	10.3	64.8	0.9	6.4	0.6	0.8

	Maintenance and repair	Wholesale trade	Retail trade	Hotels and restaurants	Transport	Post and telecommunications	Financial intermediation and business activities	Public administration	Education, health and other services	Private households	Others
MMR	0.9	32.4	-	5.2	-	19.2	37.9	0.5	2.9	0.1	1.0
MOZ	1.0	10.6	-	1.6	7.1	19.5	52.6	0.9	4.0	1.7	1.0
MRT	3.0	9.5	-	2.6	7.2	13.8	46.7	5.4	7.0	3.1	1.7
MWI	1.1	8.1	-	2.5	1.0	11.0	66.5	1.2	6.8	0.7	1.0
NER	1.9	12.9	-	3.1	2.7	14.8	49.0	7.6	5.4	1.4	1.3
NGA	0.4	6.6	-	-	0.9	11.4	77.3	0.1	2.3	0.0	1.0
NPL	0.5	9.9	-	1.5	3.2	10.3	66.7	0.7	6.2	0.1	0.9
PAK	0.4	9.7	-	1.1	1.4	10.1	69.2	0.8	6.3	0.0	1.0
RWA	1.0	6.4	-	2.4	0.6	11.3	69.3	1.1	6.2	0.7	0.9
SEN	1.1	9.8	-	1.8	-	12.2	68.6	0.8	3.7	0.5	1.4
SLE	1.1	49.7	-	13.9	-	5.8	16.8	4.7	6.2	1.3	0.6
SOM	1.6	5.6	-	3.8	5.9	12.7	59.6	1.5	6.6	1.2	1.5
STP	10.1	3.2	-	6.2	-	17.6	28.5	9.5	12.1	9.8	2.9
TCD	1.9	8.1	-	4.4	1.2	9.5	63.4	1.8	7.4	1.6	0.8
TGO	1.6	7.1	-	3.0	5.1	11.2	60.9	1.7	7.1	1.3	1.0
TJK	0.9	6.5	0.3	0.9	4.0	9.4	69.2	1.0	6.7	0.6	0.6
TZA	0.4	8.1	-	1.4	1.8	9.6	71.9	0.6	5.2	0.2	0.8
UGA	0.6	8.5	-	2.2	2.0	10.1	68.5	0.7	6.4	0.2	0.8
VNM	0.7	35.1	2.5	5.5	12.1	8.5	30.6	0.1	4.9	0.0	0.1
VUT	4.9	3.4	-	5.3	-	14.5	51.0	4.7	9.8	4.6	1.8
WSM	4.9	4.1	-	4.9	-	16.7	46.8	4.6	10.9	4.6	2.4
YEM	0.7	15.7	-	2.0	7.4	15.9	53.1	0.8	3.3	0.2	1.0
ZMB	0.8	8.3	-	1.3	2.0	10.1	68.2	0.9	6.9	0.5	0.9
ZWE	10.1	7.8	7.1	8.1	9.4	13.0	5.7	10.5	12.7	10.0	5.7

Source: Own elaboration based on EORA-MRIO.

The way value added from the services sector is embedded in exports can also be assessed through the distribution of value added exported by region. This is presented in Table A13, which suggests that, although exports of value added from the services sector are concentrated mostly in the same region, the share is lower than that presented in the case of trade in intermediates (see Table A9 above).

**Table A13. Distribution of trade in value added from services in 2012 (in %)**

	Africa	Asia-Pacific	Latin America	Middle East and Central Asia	North America	Other Europe	Western Europe
Africa	67.61	5.80	0.62	1.25	2.44	1.99	20.28
Asia-Pacific	0.74	76.74	0.56	1.99	1.51	1.67	16.80
Latin America	0.55	4.62	80.24	0.81	3.04	1.01	9.72
Middle East and Central Asia	0.93	6.41	0.35	76.66	0.93	1.37	13.35
North America	0.42	5.78	1.12	0.80	78.46	0.66	12.76
Other Europe	0.70	3.85	0.41	1.42	1.15	64.55	27.92
Western Europe	0.73	4.61	0.54	1.22	1.45	1.94	89.50

Source: Own elaboration based on EORA-MRIO.

The sectoral dimension of trade in value added suggests modern services still play a major role in value chains. When we consider how services are used domestically and internationally in value chains, financial intermediation and business services still dominate. However, comparing this with the analysis presented previously (see Table A11), the share of these modern services has fallen and some traditional services have gained share. This can be seen in the case of Africa. Maintenance and repair and hotels and restaurants, for example, have increased their share. They are more likely to be used by domestic input producers that, eventually, may use them to produce exports and are, consequently, embedded in them.

**Table A14. Trade in value added by service sector in 2012 (in %)**

	Africa	Asia-Pacific	Latin America	Middle East and Central Asia	North America	Other Europe	Western Europe
Maintenance and repair	1.41	0.22	-	-	-	0.91	-
Wholesale trade	9.07	1.95	-	4.32	16.37	12.24	-
Retail trade	1.24	4.96	-	-	-	-	-
Hotels and restaurants	2.58	-	1.69	3.25	2.96	1.93	4.16
Transport	12.73	-	14.51	6.56	-	12.95	13.41
Post and telecommunications	7.89	8.99	8.48	7.74	5.46	7.42	5.56
Financial intermediation and business activities	52.36	68.24	65.44	62.99	70.55	51.52	65.24
Public administration	2.38	0.70	0.91	3.63	0.56	2.78	1.59
Education, health and other services	6.53	12.17	8.00	10.44	3.89	9.22	9.69
Private households	0.85	0.13	0.29	0.18	0.02	0.19	0.10
Others	2.96	2.63	0.67	0.89	0.18	0.85	0.25

Source: Own elaboration based on EORA-MRIO.

This presents LICs with the opportunity to use the services sector to engage and upgrade in value chains. Although modern services present a direct involvement in value chains, the development and improvement of the provision of traditional services may constitute an easy way to upgrade in value chains. These services generate value added employed by other productive sectors. Any improvement on their quality and productivity will lead also to improvement in productivity in other sectors. Eventually, LICs can move to modern services and continue upgrading, but the functional upgrading and improvement towards efficiency in the provision in traditional services can be a first step in this process.

## APPENDIX D: CASE STUDIES

In this appendix, we explore the link between services and economic transformation in a range of developing country cases. We focus on the determinants and effects of trade in five services sectors:

- financial services in Kenya and Nigeria
- hydropower transmission services in Lesotho and Nepal
- ICT services in India, Mauritius and Senegal
- tourism services in Mauritius and Tanzania and
- trade in air transport services in Ethiopia and Kenya (comparing the performance of Ethiopian and Kenyan airlines)

Drawing on the framework outlined in Section 2 in the main report, the various possible direct and indirect effects of each of these sectors on economic transformation are summarised in the conceptual framework in Table A15. The sectors are chosen in such a way that they can illustrate the wide variety of impacts of trade in services on economic transformation. Financial services brings in export revenues and inward FDI and employs often skilled workers, but its role as an intermediary between savings and investment opportunities drives the extent to which transformation effects are felt throughout the economy. We look at two African countries that have managed to develop a relatively large financial sector: Kenya and Nigeria. Hydropower generation and transmission services can drive economic transformation if their export revenues are used effectively and if they supply local industry with quality and sufficient electricity. We examine two small countries at different stages of use of large-scale hydropower investments: Lesotho and Nepal. ICT services have become important for many developing countries, in terms of generating export revenues and jobs but also in driving transformation through the rest of the economy. India is the frontrunner, but, in Africa, Mauritius is also an established player. Other countries are starting to explore the sector, including Senegal. Tourism services is a starter service, easy to access for poor countries, with job generation potential, but the impact of transformation depends on the cross-sector linkages. We examine Mauritius and Tanzania. Finally, we cover trade in air transport services, which is another backbone service with potential knock-on transformative effects. Here, we examine air transport services in Ethiopia and Kenya, both of which have major national airlines.

**Table A15. Effects of selected services sectors on economic transformation: conceptual pathways**

Sector	Direct effects			Indirect effects (static and dynamic)	Induced/ productivity effects
	Jobs (skilled, medium or low-skilled workers)	Exports	GDP		
<b>Financial services</b>	Important, especially for skilled workers	Potentially a major source of exports and capital inflows	High (around 10% of GDP)	Less important for offshore centres, but potential for forward linkages	Less important for offshore centres, but important role as intermediary for finance directed at real economy
<b>Hydropower transmission services</b>	Less important, mostly skilled workers	Important for a niche country	Low	Forward linkages to supply local industry with energy	Limited
<b>ICT services</b>	Important, especially for skilled workers	Potentially a major source of exports and capital inflows	Medium (mostly less than 10% of GDP)	Less important	Important productivity effects
<b>Tourism services</b>	Important for low to medium-skilled workers	Potentially a major source of export revenues	High in certain developing countries	Important knock-on effects with suppliers through backward linkages	Less important
<b>Air transport services</b>	Less important	Medium, important for some countries	Low	Important for agricultural value chains	Important for economy-wide productivity

Source: Adapted from Khanna et al. (2016).

In each of the case studies, we examine 1) the impact of trade in services on economic transformation on the basis of GDP, exports, employment and productivity spillovers; 2) the factors behind the development of the traded service, understanding the respective roles played by endowments and structural factors, domestic productive capabilities, the regulatory and institutional framework, trade policy, international demand and political economy; and give 3) a short summary of insights we have learnt.

#### D1 THE FINANCIAL SERVICES SECTORS IN KENYA AND NIGERIA

The financial services<sup>37</sup> sector is integral to the functioning of the real economy and to economic transformation. And yet financial intermediation, credit growth and financial sector development have been slow in most of Sub-Saharan Africa, with few exceptions. In this case study, we examine the development of trade in financial services in Kenya and Nigeria and some of its economic impacts.

##### *IMPACT OF THE FINANCIAL SERVICES SECTOR ON ECONOMIC TRANSFORMATION IN KENYA AND NIGERIA*

Kenya's exports of services have been supported by an explicit strategy to position the country as a regional financial services hub. By 2012, financial services had grown to represent 5.9% of GDP (KNBS data), with many of its financial development indicators on a par with those of middle-income countries, illustrating its success (Beck et al., 2014). The World Bank currently classifies Kenya as a lower-middle-income economy and the government aims in its Vision 2030 to achieve middle-income status. Kenya's financial system is dominated by commercial banks. Of its 43 banks, 14 are foreign, accounting for roughly 33.4% of the commercial banks' total net assets (Central Bank of Kenya, 2014). There are increasing concerns regarding the soundness of Kenya's banking sector, given the restatement of loan loss provisions and the rise in non-performing loans (NPLs) (Olingo and Anyanzwa, 2016). In addition, recent crises in the commercial banking sector – three privately owned commercial banks in Kenya have collapsed in the past eight months – have raised further concern that a larger banking crisis may ensue (Carter, 2016).

In Nigeria, the size of the financial sector has shrunk. Financial institutions' share of services output dropped to 7.6% in 2012 from 11.7% in 2006, while its share of GDP declined from 3.7% to 3.2% in the same period, contrasting with services' 50.9% share of GDP in 2012, according to World Bank data. Nigeria has 22 commercial banks, according to the Central Bank of Nigeria. And yet banking reform, guided deregulation and high incidence of NPLs have partly accounted for the decline in the growth contribution of financial institutions.

Activities in the financial services sector tend to be highly skills-intensive, with the sector potentially an important employer of skilled workers in high-wage employment. In Kenya, onshore and offshore financial services have supported some **employment** growth. But the greatest scope for further employment generation in the sector in Kenya actually lies in less skills-intensive jobs in the country's financial sector processing hubs, which have the potential to create much larger numbers of lower-skill, lower-wage jobs. This owes to the fact that processing hubs fuel lower wage cost employment, particularly for financial services (WTO, 2013). The financial services sector has also supported jobs in business support services such as real estate, legal services and technology and communication services.

Although financial service **exports** from Kenya remain small in absolute terms and relative to the established Asian hubs, they have grown rapidly. FDI inflows have been low compared with the country's neighbours (AfDB, 2013) with the high cost of capital cited as an obstacle. FDI flows have largely been oriented to its services sector, particularly in telecommunications (UNCTAD, 2015). Portfolio inflows have also been solid amid foreign participation in sovereign bond issuance (Mwega, 2013), though there has been some sign of a reversal in inflows.

Turning to Nigeria, growth has not been job-intensive or transformative (te Velde et al., 2015). Although the banking sector's contribution to GDP has increased considerably over time, following the

<sup>37</sup> In the context of the GATS under the WTO, we define financial services as 1) insurance and insurance-related services and 2) banking and other financial services.

nationalisation of some banks in 2009, which led to the retrenchment of many bank employees, bank employees as a percentage of total employment made up less than half of 1%, perhaps indicative of inadequate numbers of bank staff too. The Nigerian Bankers Association has resorted to bringing in expatriates to train bank staff to meet international standards.

In terms of **export growth** of financial services, Nigerian commercial banks' cross-border expansion has been evident in their setting up entities or branches abroad and gaining market share from local banks in foreign markets. Exports of banking services to Sub-Saharan Africa are already taking place. A factor behind Nigerian banks exporting their services is domestic bank consolidation and the injection of funds from oil exports into the economy. This played a significant part in providing the domestic capital base for financial sector expansion in Nigeria.

Growth in financial services can also lead to economic transformation indirectly through financial intermediation. Intermediation can make the economy more efficient. World Bank data suggest Kenya has achieved stronger intermediation than Nigeria. Kenya's broad money is at 42.9% of GDP, compared with Nigeria's 20.2% in 2014. Credit growth to the real economy has also shown divergence. In Kenya, domestic credit provided by the financial and banking sectors was 44.6% and 34.4% of GDP, respectively, in 2014. Nigeria's comparable credit indicators were 21.6% and 14.5%.

Table A16 summarises the impacts of the financial services sectors in Kenya and Nigeria on economic transformation using data on their direct effects on employment, exports and GDP.

**Table A16. Financial services sector contributions to direct employment, exports and GDP**

Country	Direct employment	Exports (US\$) (2013)	Contribution to GDP (%) (2012)
Kenya	67,584 (2014) (0.5% of total employment, 2.8% of total formal sector employment)	227.3 million (4.6% of total services exports)	5.9
Nigeria	171,403 (2010) (0.4% of total employment)	22 million (0.9% of total services exports)	3.2

Sources: KNBS (2015); NBS (2010); UNComtrade data; KNBS data; World Bank data.

## THE DEVELOPMENT OF FINANCIAL SERVICES IN KENYA AND NIGERIA

### Endowments and structural factors

Kenya's financial market has been driven by the growth of diversified and numerous hubs emerging in recent decades. Financial development has included strong credit growth relative to GDP and improving domestic resource mobilisation. Kenya's liquid liabilities (M3)/GDP ratio is about 39% compared with an average of 63% for emerging market economies in 2008–10 and 31.2% for LICs in 2013 (World Bank Global Financial Development data). Kenya's equity market is the fifth largest by market capitalisation in Africa. Since the late 2000s, the number of deposit accounts has increased from about 2 million to 18 million (equivalent to about 40% of the total population). The 2013 Kenya Financial Access Survey indicates that the proportion of the population reliant on formal use of financial services rose from 12% in 2006 to 38% in 2013, yet 25% of the population is still excluded from access to finance. Notwithstanding its recent growth, Kenya's financial sector is probably not yet large enough to negatively impact on economic growth (Mwega, 2014).

In Nigeria, despite growth in banking activities in the past two decades, the reach of financial services is low. Additionally, its financial market structure is not competitive, but oligopolistic, with high wealth concentration within the 10 largest banks accounting for over 50% of the industry's total assets/liabilities (Ajakaiye and Tella, 2014). The Enhancing Financial Innovation & Access to Financial Services 2012 survey revealed that, of a population of 87.9 million adults, 34.9 million (39.7%) were financially excluded (i.e. have no access to financial services at all). Among those that do have access to some form of financial services, about 32.5% bank and 17.3% have access to informal financial services. However, mobile phone ownership is about 85% in urban areas and 56% in rural areas, so there is potential for mobile technologies to improve financial access. This prompted the launch of the Financial Inclusion Strategy in October 2012, which aims to reduce financial exclusion to 20% by 2020 (Bankole and Chaitoo, 2015). There is already



some evidence to suggest the strategy has helped improve financial inclusion, with the proportion of Kenyans who are financially excluded estimated to have fallen to 25.4% in 2013 (Njoroge, 2015).

### **Domestic productive capabilities**

Kenya's domestic capabilities are driven by both mobile technology and, to a lesser degree, its labour force. Mobile technology such as M-PESA and the establishment of new currency centres have increased the velocity of money (Mbiti and Weil, 2011; Ndung'u, 2011). It provides mobile banking to 70% of Kenya's adult population and handles more than \$19.9 billion worth of transactions per year: about 47% of Kenya's GDP (AfDB, 2013). Mobile banking in Kenya has allowed 'leap-frogging' within the industry and has encouraged economies of scale and pooling of assets, which will facilitate further sector deepening (Beck et al., 2014). Although graduate unemployment is high, the government plans to target lower-skilled labour (Omollo, 2012; Zepeda et al., 2013). The development of processing centres and onshore banking hubs stands to boost low-wage employment and low-volume, high-skill, high-wage employment, respectively (Khanna et al., 2016).

In Nigeria, mobile banking is also gaining in prominence. There are nine mobile network operators in Nigeria, of which MTN, Globacom and Airtel account for a combined market share of 85%, which is significant in light of Nigeria's dispersed population. And yet many banks do not have adequate technology platforms, and payments and transfers and relatively small, less risky, investments per transaction, rather than credit, represent the major activity of mobile technology. On the employment front, financial services is small: 2010 data show the wholesale and retail trade sector is the largest, with total employment of 12 million people. In comparison, only 171,403 people were employed in the financial services sector in 2010 (Bankole and Chaitoo, 2015).

### **Regulatory and institutional framework**

In Kenya, strong private and public sector institutions have supported trade in financial services, in the context of regulation by the Central Bank of Kenya (Tyson, 2015) and sustained improvements in anti-money laundering and terrorism financing measures (IMF, 2014). In 2015, the Central Bank of Kenya implemented enhanced capital buffers to comply with the Bank for International Settlements (BIS) Core Principles for Effective Banking Supervision (BIS, 2012).<sup>38</sup> According to the Central Bank of Kenya (2015), these buffers helped Kenyan banks absorb additional loan loss provisions in the face of marginal increases in NPLs registered in 2014, while also improving the resilience of those banks that did not face such increases. Institutionally, tax incentives and light-touch tax regimes for non-resident entities are common among successful financial hubs and have been important for competitiveness in attracting international financial institutions (Furstenberg, 2008).

In Nigeria, the Central Bank of Nigeria (CBN), the Nigeria Deposit Insurance Corporation and the Securities and Exchange Commission are the key regulators. The CBN licenses all financial institutions and engages in compliance-based supervision using the Basel Core Principles, and it has approved a number of initiatives, including Agent Banking Guidelines and tiered Know Your Customer requirements. It has assisted in the establishment of specialised banks such as the Nigerian Industrial Development Bank to make cheap credit available. The banking industry is currently undergoing consolidation, having been recapitalised, to ensure the safety of depositors' money in the wake of the global financial crisis.

### **Trade policy**

Kenya's trade in financial services has been boosted by policy-led regional integration within the EAC that committed to a harmonised regulatory environment for financial and banking services, including a common payment and settlement system (BIS, 2014). Equally significant has been the growing importance of Kenya's broader international links: 15 international banks have been increasing their participation in Kenya in the past decade, with foreign claims in Kenya rising from 8% of GDP in 2006 to 15% by 2012 (Khanna et al., 2016). As a consequence, Kenya's domestic pool of finance professionals has enhanced its status as a financial hub. Its suspension of capital gains tax and exemption of withholding tax on

<sup>38</sup> See <https://www.centralbank.go.ke/index.php/news/402-introduction-capital-buffers-to-promote-financial-stability>

financial companies' dividends have been supportive. However, non-resident corporations pay higher rates of corporate tax<sup>39</sup> and higher withholding tax on interest income on certain types of bonds (KPMG, 2013). The government has special tax treatment for 'export processing zones' that have not been applied for financial services.<sup>40</sup>

In Nigeria, there has been no clear strategy to promote trade in financial services. Most notably, as *The Economist* reported in September 2010, the CBN announced it would allow foreign takeovers of up to 100% ownership. However, government export development programmes have been directed at goods rather than services. Although the Nigerian Export-Import Bank granted up to 56.6% of its export incentives to services exports in 2011, none was for financial services. In 2012, the government spent N257.09 billion under its Export Expansion Grant programme, yet the banking sector received no grants. Finally, the Federal Financial System Strategy 2020 focused exclusively on domestic issues rather than export strategy. Notwithstanding this, Nigeria's regional banking links have grown. Between 2002 and 2007, its banks became major players in the international market, with some successfully raising funds from the Eurobond market and some, such as United Bank for Africa, Zenith Bank and Guarantee Trust Bank, opening branches in Ghana, Kenya and Uganda (Ajakaiye and Tella, 2014).

### International demand

International demand for Kenya's financial services has been driven by its growth as a regional financial hub, particularly for onshore banking<sup>41</sup> as a processing hub to export financial services or as an offshore banking centre.<sup>42</sup> International banks have been increasing their participation in Kenya in the past decade, with foreign claims rising from 8% of GDP in 2006 to 15% by 2012. This reflects the growing importance in Sub-Saharan Africa of regional banks (Beck et al., 2014). More informally, there is also evidence that proceeds of piracy in Somalia are laundered through investments in Kenya's service sector (World Bank, 2013).

In Nigeria, trade in financial services shows a trend of increasing deficits for Nigeria over the 2005–8 period. This may owe to banks borrowing overseas (where borrowing costs are lower) in order to fund investments in Sub-Saharan Africa (Bankole and Chaitoo, 2015). There is little international demand: the main demand for financial services is from the domestic corporate sector, notwithstanding export expansion of United Bank for Africa, which has subsidiaries in 20 Sub-Saharan African countries and offices in France, the UK and the US, and offers universal banking services to more than 7 million customers across 750 branches.

### Political economy

In Kenya, promotion of private enterprise has been critical in the expansion of the financial sector, highlighting the effectiveness of a liberalised business environment. And yet there is still a need to develop interbank markets and to deepen secondary financial markets in a variety of financial assets, in order to broaden Kenya's financial system (Bai et al., 2013). Such deepening has been interlinked with private institutional capacity-building and development of private market conventions and practices. There is a political interest in broader-based sustainable finance, according to Kenya's Banking Association, which reports commercial bank activity in insurance, microfinance, custodial services, private equity ventures and engagement with capital markets to raise long-term funding (Kariuki, 2015). The financial sector is a key pillar of the government's Vision 2030 plan to achieve 10% GDP growth by 2017.<sup>43</sup>

<sup>39</sup> 37.7% of taxable profits vs. 30% for resident companies.

<sup>40</sup> See <http://www.epzakenya.com/index.php/sector-profiles.html>

<sup>41</sup> Onshore banking centres can include a concentration of business activities that host jurisdiction for financial markets, exchanges and over-the-counter transactions. They typically have high levels of financial intermediation.

<sup>42</sup> Offshore banking centres entail financial sector transactions with individuals or companies that are non-residents and where non-residents control the institutions involved. Their benefits include low or zero taxation; moderate or light financial regulation; and banking secrecy and anonymity (IMF, 2000).

<sup>43</sup> See <http://www.vision2030.go.ke/index.php/pillars/>

The development of Nigeria's financial sector has been hindered, in part, by bouts of financial instability and an absence of corporate governance, which has yielded deterioration in bank asset quality. The ratio of banks' NPLs to total loans rose from 6.25% in 2008 to 37.25% in 2009. Since then, the CBN has taken steps to repair the sector's balance sheet, including a \$4.2 billion injection into troubled banks and setting up an asset management company, AMCON, to swap all NPLs with tradable zero-coupon bonds. World Bank data show Nigeria's NPL ratio back to 5.19% in 2015. Additionally, CBN efforts to promote e-banking and cashless banking have targeted promotion of a more transparent banking system, with the goal of reducing financial corruption (CBN, 2014; Thompson, 2014).

Macroeconomic stability is a key factor in both Nigeria and Kenya: their growing financial sectors can increase financial volatility and exacerbate macroeconomic uncertainty. This is because of increased cross-border capital flows and the larger scale of the financial sector relative to GDP. These problems can be worse for relatively small or emerging economies such as Kenya (Tyson et al., 2014). In Kenya, inflows have been associated with the shilling's appreciation, which negatively affects inflation and export competitiveness (colloquially termed 'Dutch disease') (Ebrahim-Zadeh, 2003). More recently, outflows have seen significant currency depreciation in Kenya and downward pressure on Nigeria's naira peg (Papadavid, 2016).

### *SUMMARY OF KEY LESSONS*

Kenya has been more successful than Nigeria in promoting financial sector exports and job-intensive growth. Regional integration has helped in Kenya, as has the development of onshore and offshore financial hubs. By contrast, in Nigeria, banking service exports have stemmed from sector consolidation and the injection of funds from oil exports into the economy. Divergent credit growth has also been a factor: Kenya's credit growth from the financial sector to the real economy is more than double that in Nigeria, where the reach of financial services is low. Kenya's domestic capabilities are driven by mobile technology, such as M-PESA. From a regulatory perspective, in Kenya, strong private and public sector institutions have supported trade in financial services alongside policy-led regional integration. In Nigeria there has been no clear regulatory or regional trade strategy. As a result, international demand for Kenya's financial services has been driven by its growth as a regional financial hub, whereas in Nigeria the domestic corporate sector is the only main source of demand. From a broad political economy perspective, the promotion of private enterprise has been critical in Kenya, whereas Nigeria's trade in financial services has been hindered, in part, by bouts of pronounced economic instability and an absence of corporate governance.

### **D2 HYDROPOWER TRANSMISSION SERVICES IN LESOTHO AND NEPAL**

In this case study we examine hydropower transmission services in Lesotho and Nepal. Technically, hydropower itself is classified as a good rather than a service. Nevertheless, the export of hydropower from one country to another relies critically on transmission services provided by an interconnected grid. By definition, trade in hydroelectricity requires cross-border cooperation on multiple dimensions, ranging from coordination on the required hardware investments and financing to technical regulatory matters such as load balancing and interconnection to allow transmission/trade to occur.

Both Lesotho and Nepal have considerable potential to ramp up the production of hydroelectricity for domestic consumption and, through transmission services provided by interconnected grids, substantially boost energy exports in the future. The former is particularly important in Nepal, which, despite the presence of a number of run-of-river-type power plants, currently experiences major energy shortages and frequent power outages and is a net importer of electricity from India, and where electricity (90% of which is generated through hydropower) currently powers only a small proportion of total energy consumption.<sup>44</sup> But a range of problematic issues in Nepal – including regulatory and infrastructure deficiencies, difficulties finalising a power trade agreement with India and high domestic electricity tariffs – continue to act as a constraint to realising the vast potential for hydropower generation. If these constraints can be overcome, Nepal boasts among the world's highest commercially feasible hydropower potential (Bergner, 2013). This

<sup>44</sup> Fuel wood, agricultural waste, animal dung and imported fossil fuel provide the bulk of Nepal's energy for consumption.

could be harnessed to not only meet domestic energy demand but also allow for surplus supply to be traded via transmission services to supply hydroelectricity to regional neighbours.

In contrast with Nepal, development of the hydropower sector in Lesotho has enabled the country to come close to reaching self-sufficiency in energy production. One of Africa's largest hydroelectric projects, the LHWP – which combines water storage and electricity generation – has been central to the development of hydropower in the country. The principal purpose of the project, which commenced in 1986 (and has involved two distinct phases of development), is to export water to South Africa (for use in South Africa's industrial hub around Johannesburg), but the diversion of water through a gravity drop has enabled Lesotho to generate electricity independently (it was previously dependent on imported electricity from South Africa, importing all of its electricity as recently as 1995) to meet the bulk of its energy needs (and to export surplus supply to South Africa) at an underground hydroelectric station at Muela.

Despite the significant potential to produce large quantities of hydropower in Lesotho and Nepal, electrification rates remain low in both countries. In Nepal, around three quarters (76.3%) of the population have access to electricity, but very few people in rural parts of the country (just 5% of the rural population) access electricity through the national grid (Bergner, 2013). In Lesotho, just 20.6% of the population had access to electricity in 2012 (WDI 2016). This means boosting the generation of hydropower and improving interconnection infrastructure to allow transmission of electricity to other countries is important to spur economic transformation in both Lesotho and Nepal, not just as a potential source of export revenue that, if invested wisely, can be used to power productive activity in other sectors, but also to address energy shortages that constrain transformative processes by providing access to a cheaper, more reliable, supply of electricity.

#### *IMPACT OF THE HYDROPOWER SECTOR ON ECONOMIC TRANSFORMATION, LESOTHO AND NEPAL*

When measured in current prices, the broad electricity and water sector in Lesotho contributes 4.6% to national GDP (BOS, 2015). In comparison, the sector (including gas) accounts for a smaller share of total GDP in Nepal (just over 1% of GDP). In Lesotho, the GDP contribution of the electricity and water sector is expected to rise in the coming five to 10 years as the development of Phase 2 of the LHWP and the construction of the Polihali Dam (with accompanying water transfer and hydropower infrastructure) is completed (World Bank, 2014a). Attention has also recently been directed to new initiatives to mobilise investment in Nepal's largely untapped hydroelectric power potential (discussed further below), which are expected to have a significant impact on Nepal's future electricity production, as well as in raising the contribution of hydropower to export revenues and, more generally, national GDP (Booth, 2016b).

In Lesotho, generation of hydroelectricity through the LHWP has already made significant strides towards ensuring energy self-sufficiency, and has substantially reduced the country's dependence on energy imports from South Africa. In contrast, Nepal has a long way to go to address shortfalls in domestic energy production, but it also boasts considerably greater potential for generating hydropower. For both countries, development of hydropower has the added benefit of reducing carbon emissions, meaning it can facilitate economic transformation on a more environmentally sustainable basis.

While the impact of exports of hydropower on economic transformation in Lesotho and Nepal has been limited to date, there is considerable potential for **hydropower revenues** to be utilised to support and expand productive activity in other sectors in the future. In the case of Lesotho, export revenues associated with the LHWP are currently earned primarily through water exports to South Africa – Lesotho exports 780 million m<sup>3</sup> of water per annum to South Africa through the LHWP, receiving \$45 million per year in royalty payments from South Africa (Hoag, 2014).<sup>45</sup> In recent years, Lesotho has exported only a relatively modest amount of electricity to South Africa during the summer months when it is able to meet its own electricity needs (UNEP, 2013). Consequently, export revenue from energy exports has been limited – the value of electrical energy exports from Lesotho to South Africa in 2012 was \$423,262, down from \$862,786 in 2011 (UNComtrade data). Nevertheless, there is considerable potential to scale up export revenues over the next two decades. Lesotho signed a renewable energy deal in October 2011 to generate 1,000 MW

<sup>45</sup> The second phase of the LHWP is expected to boost the volume of water exported from Lesotho to South Africa to 15 billion m<sup>3</sup> each year.



through a hydropower generation scheme plus water delivery system (using a combination of hydropower and pump storage, wind and solar) using the Polihali and Katse Dams. The system will be operational in 2018. Of the anticipated generation capacity, 200 MW will be used to meet Lesotho's own electricity needs and the remaining 800 MW will be available to export to South Africa along with the water (ESI Africa, 2013; Kernan, 2012).<sup>46</sup>

The revenue generated from hydropower in Nepal is significant for an economy of its size, and has increased significantly (threefold) since the early 1990s. In 2010, the government collected \$2.45 million from hydroelectricity (Balasubramanya et al., 2014), accounting for around 0.1% of total government revenue in that year. To date, Nepal has harnessed only 1.5% of its commercially feasible hydropower potential, significantly below the capacity already harnessed in other South Asian countries (the next lowest is Bhutan at 6.2%) (Bergner, 2013). Consequently, while domestic demand for electricity currently outstrips supply, total domestic demand is nevertheless small relative to the country's potential for hydropower generation, meaning there is significant potential to become a power surplus supplier and to export excess power through interconnected grids in the future. The government of Nepal has been vocal in its goal of harnessing the country's vast hydro resources to drive socioeconomic transformation. The 2002 National Water Resources Strategy targeted the generation of 2,230 MW of hydropower in 2017, with 400 MW to be exported (IPP and CII, 2006). In 2013, Thanju reported that the government of Nepal planned to develop 10,000 MW of hydropower in the next 10 years, and 25,000 MW over the next 20 years. The new investment deals discussed above represent an important initial step towards achieving this goal.

In Nepal, the combined effect of large inflows of foreign currency revenues through investment in hydropower generation as well as the potentially substantial amount of revenue accrued through exporting electricity may expose the country to **Dutch disease**. Large inflows of foreign currency (or expectations of future inflows) may cause the Nepali rupee to appreciate, thereby adversely affecting the price competitiveness of products in other sectors on the export market. Looking ahead, if Nepal is to ramp up hydropower exports, volatility in revenues and periods of excess liquidity resulting from the seasonality of revenue flows – which are expected to peak during the rainy season when excess power can be exported – will also need to be carefully managed to reduce volatility in Nepal's broader financial system (Thapa and Basnett, 2015).

There is potential to utilise hydropower revenues in both Lesotho and Nepal to support and expand productive activity in other sectors, for instance by financing the upgrading and modernisation of industrial zones. There is also potential for the generation of hydropower to contribute indirectly to enhancing **productivity** in the agriculture sector. For example, Bergner (2013) argues that micro-hydropower installations in Nepal can have a positive impact on productivity in agricultural processing activities (such as milling, hulling and expelling), estimating time savings ranging from 30 hours for milling to up to 110 hours in the case of expelling activities. Greater electrification in rural areas would also enable farmers in rural Nepal to utilise refrigeration for cold storage of perishable agricultural products (ibid.). The vast water resources used in the generation of hydropower in both Lesotho and Nepal could also be employed to improve agricultural productivity through the irrigation of agricultural land. In Lesotho, the country's rich water resources far exceed existing consumption needs, suggesting there are considerable surplus water reserves that can be deployed to scale up irrigation projects. In Nepal, a lack of irrigation (just 28% of Nepal's total agricultural land is irrigated) is already a clear constraint to agricultural productivity (World Bank, 2014b).

The direct job creating potential of the hydropower transmission services sector is generally limited, with jobs mostly available for a relatively small number of skilled workers in technical disciplines such as engineering. Even so, the need to construct and maintain hydropower generation and transmission facilities and supporting infrastructure does lead to job-creating opportunities. In this respect, in both

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<sup>46</sup> In addition, up to 22 sites have been identified for small hydropower developments, which, when combined, could produce up to 20 MW (Taele et al., 2012). In the past, four such plants have been operated by the Lesotho Electricity Company (at Mantsonyane, Mokhotlong, Tsoelike and Semonkong), with an installed capacity of 3.25 MW, but three of these plants are not currently connected to the national grid, instead supplying isolated communities (UNEP, 2013). The Tsoelike hydropower system at Qacha's Nek has been connected through a cross-border connection to South Africa's Eskom grid since 1997 (UNIDO, 2013).

Lesotho and Nepal, the considerable scope for further development of the hydropower sector, and development of hydropower generation facilities and supporting infrastructure (including interconnection infrastructure) in particular, can positively affect **employment creation**, especially in the construction and engineering services sectors. Greater activity in the sector would also provide opportunities to create jobs indirectly through linkages with local materials suppliers. The second phase of the LHWP, for example, is expected to create thousands of jobs in both South African and Basotho construction and materials supply companies (Ensor, 2013).

Table A17 summarises the impacts of the hydropower sector (or the broader electricity, gas and water sector where no data are available that are specific to hydropower) in Lesotho and Nepal on economic transformation, using data on each country's sector's direct effects on employment, exports and GDP.

**Table A17. Hydropower/electricity, gas and water sector contributions to direct employment, exports and GDP in Lesotho and Nepal**

Country	Direct employment (2008)*	Exports (US\$)	Contribution to GDP (%) (2015)*
<b>Lesotho</b>	2,326 (0.4% of total employed population)	423,262 (2012) (0.06% of total goods and services exports) Plus \$45 million in revenue from water exports to South Africa	4.6
<b>Nepal</b>	109,000 (0.9% of total employed population)	2.45 million (2010) (0.16% of total goods and services exports)	1.0

Notes: \* For the direct employment and contribution to GDP figures data for the broader electricity, gas and water sector are used, owing to a lack of data specific to hydropower.

Sources: CBS (2008); BOS (2008, 2015); Balasubramanya et al. (2014); Hoag (2014); UNComtrade data.

## THE DEVELOPMENT OF HYDROPOWER IN NEPAL AND LESOTHO

### Endowments and structural factors

Nepal's physical geography – with an abundant water supply (6,000 rain- and/or snow-fed rivers producing the second largest volume of inland water resources in the world) and dramatic changes in topography that create natural drops in elevation within a relatively small area from the mountainous regions in the north to the lowland areas in the south – means it is well endowed to generate hydropower. Recent estimates of the country's theoretical hydropower generation potential range between 42,000 MW and 53,000 MW (Thapa and Basnett, 2015). However, at present, the total installed hydropower capacity is just 730 MW (Thanju, 2013). The current level of electricity generated from installed hydropower stations in Nepal meets only around 1% of the country's total energy demand (Thapa and Basnett, 2015). While expanding investment has boosted production of hydroelectricity, energy demand in Nepal has been growing rapidly (at a rate of around 7–9% each year) and load demand is expected to increase sharply between now and 2028, with the result that demand still exceeds supply by a considerable margin (ibid.). Thapa and Basnett report (using data for 2011) that the deficit between annual peak demand and generation in the dry season is some 500 MW.

As in the case of Nepal, Lesotho's topography and abundant water resources mean it is blessed with economically viable hydropower resources that can be employed for both large- and small-scale hydropower projects. It is estimated that the country could potentially produce 450 MW through conventional hydropower and a further 3,000 MW through pumped storage schemes (Taele et al., 2012; UNEP, 2013). At present, however, Lesotho is harnessing only a small proportion (around 17%) of this hydroelectric potential (75.25 MW), the bulk of which is generated at the Muela hydropower station (72 MW). Even so, this meets a large share of Lesotho's domestic electricity requirements, meaning it is moving closer to becoming self-sufficient in electricity supply, but it still needs to import electricity from South Africa and Mozambique during peak times to supplement shortfalls. There has been steady growth in demand for electricity in Lesotho, with the result that peak demand in winter frequently outstrips the currently available generation capacity.



### Domestic productive capabilities

Infrastructure development associated with the LHWP has played a central role in providing the necessary infrastructure to produce hydropower in Lesotho. The first phase of the project, financed by the World Bank and completed in 2004, involved construction of Katse (Africa's second largest dam) and Mohale Dams, the Muela hydropower station and a series of connecting tunnels and associated infrastructure. The second phase, due to be completed in 2018, includes the construction of Polihali Dam and a connecting transfer tunnel to Katse Dam, along with a series of new hydropower features and advanced infrastructure (including construction of a pumping plant). South Africa has committed to bearing the cost of the second phase of the LHWP (estimated at R12 billion) (ESI Africa, 2013).

The development of infrastructure to support the generation of hydropower in Nepal has been more problematic, in part owing to a lack of sufficient financial resources to finance the development of capital-intensive hydropower projects. In contrast with Lesotho, Nepal has no storage dams, which makes it difficult to store electricity (Thapa and Basnett, 2015). The bulk of the country's hydropower project sites are located in remote areas, and the transmission lines connecting energy producers to the distribution network are insufficient.<sup>47</sup> As a result, Nepal suffers major electricity transmission losses (at 31.45%, the highest in South Asia, with the next highest recorded in India at 24.4%) (ibid.). There is an urgent need for cross-border grid development to facilitate greater exports of hydropower to India (Bergner, 2013). The lack of transmission lines (and the need to upgrade existing transmission infrastructure and capacity) connecting energy producers to the distribution network (both within Nepal and between Nepal and India and between Nepal and South Asia more broadly) also needs to be addressed (Thapa and Basnett, 2015).

In both countries, skills constraints hamper the expansion of hydropower generation capacity. For example, Lesotho still lacks sufficiently trained engineers, as well as financial and technical capacity, to maximise the development of its own conventional hydropower potential (Taele et al., 2012).

### Regulatory and institutional framework

In Lesotho, the regulatory and institutional framework governing the LHWP is fairly simple. An implementing agency, the Lesotho Highlands Water Development Authority, is responsible for the generation of hydropower from the Muela hydropower station. The sector has also been open to private sector participation since the enactment of the Lesotho Electricity Authority Act of 2002. Efforts to coordinate public and private investment for the hydropower sector, and other sectors, have been enhanced by the presence of the Lesotho National Development Corporation, a parastatal tasked with implementation of Lesotho's industrial development policies. Its principal role is to promote Lesotho as an attractive location for both domestic and foreign investment, and hydropower is included among its priority sectors for targeting investment.

In the case of Nepal, however, a range of regulatory deficiencies have hampered the development and expansion of the hydropower sector. There is no single institution tasked with managing hydropower development projects (Bergner, 2013), resulting in unclear and overlapping roles and responsibilities among existing organisations involved in the sector. This is exacerbated by weak institutional capacity within the Nepal Electricity Authority (NEA). There is also a lack of alignment of electricity tariff structures and costs of production,<sup>48</sup> and cumbersome processes delay the allocation of licences to generate and distribute electricity (Thapa and Basnett, 2015). Even among hydropower projects that do receive licences, very few actually move forward to the construction phase (Bergner, 2013). This is particularly true for smaller-scale energy projects, which do not benefit from the fast-tracking support from the IBN enjoyed by energy projects above 500 MW. The result is that many small-scale independent power producers 'are reluctant to invest in new energy since they are not guaranteed sufficiently quick access to markets' (ibid.: 11). These factors have hampered attempts to open up hydropower generation to the private sector.

<sup>47</sup> Recognising these shortcomings in transmission infrastructure, the Nepal Electrical Authority (NEA) plans to construct 3,300 km of transmission lines and 64 sub-stations up to 2023 (Thanju, 2013).

<sup>48</sup> Nepal's electricity tariffs are the highest among all South Asian countries.

Nevertheless, the government of Nepal has taken steps to improve the support available for private sector participation in hydropower generation. These include the introduction of subsidies for renewable rural energy technologies (including micro hydropower, covering under 40% of project costs) in 2009. Private sector hydropower projects such as Khimti I have benefited from partial guarantees, fiscal incentives (tax holidays) and fixed royalty payments (Bergner, 2013). In recent years, the government has also been more accepting of foreign ownership in the sector – with recently introduced regulations allowing 100% FDI in hydropower (*ibid.*). It has also set up an investment board to attract FDI for large infrastructure projects, including hydropower schemes larger than 500 MW (Thanju, 2013). This commitment to greater openness to FDI has paved the way for the largest foreign investment deal in the country's history, for GMR, an Indian infrastructure group, to build a \$1.4 billion hydropower project on the upper Karnali River (Mallet, 2014). The deal, announced in late 2014, will involve the construction of a 900 MW dam and tunnel system. Similarly, three more mega-projects (Arun III, 900 MW; Upper Marsyangdi-A, 600 MW; Lower Tamakoshi, 400 MW), focused on exporting electricity to India, while also producing electricity for domestic consumption to alleviate local power shortages, are also expected. Taken together, these projects are expected to produce benefits to Nepal to the value of \$17 billion through royalties, energy, tax income, dividends, import duties and eventual transfer of the value of the project (after the operating concessions have expired) (*ibid.*).

### Trade policy

Both Lesotho and Nepal have bilateral agreements with neighbouring countries (South Africa and India) that facilitate trade in energy. Trade in electricity between South Africa and Lesotho occurs through a direct bilateral relationship, with Lesotho currently trading electricity exclusively with the Electricity Supply Commission in South Africa (Eskom). Even so, Lesotho is a member of the SAPP, a regional energy organisation established in 1995 to promote cross-border energy (electricity) trade by integrating regional national utilities, and the Muela hydropower station is connected to the SAPP. The establishment of the SAPP and the subsequent adoption of an SADC Protocol on Energy in 1996 and an Energy Action Plan in 1997 (both of which preceded the SADC Protocol on Trade) provided a platform for regional cooperation in energy and a range of cross-border energy initiatives in SADC have followed, including the construction of power lines between member states through bilateral agreements and the initiation of several prominent hydropower projects to supply power through the SAPP (Mutanga and Simelane, 2016).<sup>49</sup> Thus, in theory, Lesotho is able to sell electricity to other buyers in the region through the SAPP (Kaseke and Hosking, 2011; UNIDO, 2013). At present, nine SADC member states are interconnected through the SAPP, creating possibilities for cross-border electricity transmission (Mutanga and Simelane, 2016). The SAPP's ultimate goal is to create a regional competitive power market. Alongside thermal resources, hydroelectric power is the main source of electricity in the SAPP. Trade in electricity between countries under the SAPP is facilitated through bilateral contracts, but remains relatively limited at present (Hinds, 2015). Infrastructure issues continue to hamper regional power trade, particularly transmission congestion within transit countries and at the interconnection level between countries (*ibid.*).

Power exchanges between India and Nepal date back to 1971, when limited volumes of low capacity were exchanged at a handful of locations along the border (IPP and CII, 2006). There are clear complementarities between the generation systems in Nepal and India, which further boost the scope for bilateral trade in power. Nepal's system is dominated by hydropower (which can address shortages and reduce the adverse environmental impact of power generation in India), whereas India has capabilities in terms of generating thermal energy (which can help reduce seasonal imbalances in hydropower generation in Nepal).

Nepal has an electricity trading arrangement (signed in 1996) with India that makes it possible to export excess supply to India in peak production periods, and, in turn, to import energy from India to make up for shortfalls in the dry season when domestic production of electricity is low. This is facilitated through transmission interconnections at the border, but these interconnections remain limited. Nepal's exports of hydropower to India have also been affected by restrictions on electricity imports into India – approval to

<sup>49</sup> This includes installations at the Kariba Dam between Zambia and Zimbabwe and the Cahora Bassa Dam in Mozambique; the Grand Inga hydropower project on the Congo River in DRC offers great potential for regional integration through energy.

import electricity in India requires clearance from three Indian government ministries and must be obtained annually, and electricity imports incur an import tariff of approximately Rs 2 per kWh (Thanju, 2013). Furthermore, a 2% Surcharge Tax imposed by the government of India on imported power from Nepal has also raised the cost of Nepal's electricity exports in the past, although this charge has reportedly now been waived (Gangol, 2014).

Complex political dynamics in the region, marked by a general mistrust of Indian influence (reflecting concerns about potential Indian domination of Nepal) and suspicion about further economic integration with India, meant Nepal initially struggled to finalise a new Power Trade Agreement (PTA) to define the framework under which it will export power to India. However, the election of Narendra Modi as Indian Prime Minister in 2014, and his subsequent efforts to improve bilateral relations with Nepal, together with the IBN's DFID-funded political economy work in Nepal (see Booth et al., 2016), played an important role in facilitating the conclusion of the PTA. This is a key development for any future plans to expand trade in hydropower with India, as it provides confidence to investors that Nepal's access to India's vast energy market will be ensured (Booth, 2016b; Celestine, 2014). In turn, it provides a platform from which to facilitate well-regulated trade in energy between Nepal and India, which itself is crucial to ensuring an uninterrupted supply of electricity to power economic transformation in Nepal (Laric and Waddell, 2016).

### **International demand**

For both Lesotho and Nepal, demand for hydroelectricity exports to date has been purely bilateral in nature, coming from the countries' large emerging market neighbours. Energy shortages in South Africa have created demand for imported electricity generated at the Muela hydropower station. For Nepal, there is significant demand in neighbouring India for electricity to make up for energy and peak load shortages. India is a net importer of electricity and demand for energy in India is considerable (India is the fourth largest energy consumer in the world behind the US, China and Russia). At present, the shortfall in unmet electricity demand in Northern India alone is 6,500 MW (Thanju, 2013). India is expected to require up to 511 GW of electricity by 2030 (ibid.). China has also expressed an interest in developing hydropower projects with Nepal in order to meet rapidly growing demand for energy to fuel growth (Bergner, 2013) – projections from the US Energy Information Administration suggest the combined share of China and India in world energy consumption will reach 31% by 2035. If Nepal can harness its considerable hydropower generation potential, it will be well placed to boost exports of electricity to these two emerging market giants.

Beyond these countries, there is scope for both Lesotho and Nepal to export hydropower within their respective regions. For Lesotho, the energy supply challenges in Southern Africa suggest it is a potentially lucrative market for exports. At present, demand for electricity substantially outstrips available supply in the SADC, with the result that the region is facing an expanding electrical energy crisis (Hinds, 2015). South Africa has traditionally dominated trade in electricity in the regional market (Eberhard and Shkaratan, 2012), but Lesotho's hydroelectric potential presents an opportunity to contribute to plans for developing renewable energy in the sub-region, which currently relies heavily on coal to produce electricity (Lesotho also has plans to produce windpower through windfarms). Similarly, there is considerable scope for Nepal to export excess energy supply beyond India to the rest of the South Asian region, where there are major energy shortages (Razzaque and Basnett, 2014).

### **Political economy**

The political economy of energy production in Nepal is complex. An earlier Overseas Development Institute (ODI) study (see Basnett et al., 2014) highlighted a range of general governance-related issues that act as constraints to economic transformation across all sectors in Nepal, but many of these are relevant to production and services associated with natural resources. These include low accountability and effectiveness outside the capital city, Kathmandu, a questionable bureaucratic culture and the prevalence of patronage and crony capitalism. The latter is only likely to worsen with the influx of large investment flows and revenues (both current and future) associated with the generation of hydropower, which may encourage rent-seeking and exacerbate corruption (already a major problem in Nepal). Issues related to land use arbitration have also affected hydropower investments: private power investments in

Nepal can go ahead only if the demands of local stakeholders are met.<sup>50</sup> This has implications for the viability of both power generation and transmission projects, and may, where projects are initiated, raise production costs (Thapa and Basnett, 2015). Finally, political instability (frequent changes within government, lack of intergovernmental agency coordination) and local resistance to large-scale hydropower projects have constrained efforts to construct dams in Nepal. For example, the planned Karnali development (discussed above) was initially stalled for six years because of ‘uncertainty in Kathmandu’ (Mallet, 2014).

This context of political instability and broader governance challenges has made attracting investment in hydropower in Nepal (and indeed other sectors) a difficult endeavour. However, the DFID-funded Centre for Inclusive Growth, which facilitated the creation of the IBN, demonstrated how a flexible, adaptive and iterative approach – which recognised the need to focus more on major infrastructure investment and was able to overcome collective action problems generated by fragmented elites through the use of Nepali professionals to address the objections, interests and incentives of potential blockers of any deal – can yield success in mobilising investment in hydropower generation, a priority area for economic development in Nepal (Laric and Wadell, 2016). Indeed, this was instrumental in securing around \$2 billion in new FDI in the hydropower sector in Nepal through two major investments in late 2014.

### *SUMMARY OF KEY ISSUES*

If harnessed correctly, hydropower can play a central role in powering industrial development and economic transformation in Lesotho and Nepal. Through interconnection infrastructure and transmission services, exports of surplus supply can serve as an important revenue generator, while also addressing regional energy constraints. Hydropower also boasts potential for productivity spillovers in other sectors such as agriculture, whether by aiding processing activities, by powering rural electrification or through irrigation schemes. Finally, use of hydropower can ensure economic transformation occurs in these countries on a more environmentally sustainable basis.

Both Lesotho and Nepal are small countries with abundant water resources and the necessary topography to support the generation of hydropower. But the considerable hydropower potential in these countries can be developed fully only in a regional context. The ability of Lesotho and Nepal to export electricity to their regional neighbours relies critically on the further development of regionally interconnected grid infrastructure to facilitate transmission services. This is particularly urgent for Nepal, whereas Lesotho could exploit the existing interconnections between SADC member states through the SAPP. In addition, because we are dealing with large-scale investments in small countries, it is important to consider the governance and coordination arrangements around attracting investment and investing the revenues in transformative development. This requires a flexible and adaptive approach (there is evidence that such an approach has begun to pay dividends in Nepal).

### **D3 ICT SERVICES EXPORTS FROM INDIA, MAURITIUS AND SENEGAL**

Trade in ICT services has grown rapidly over the past decade. The total value of world ICT services exports (in current US dollars, comprising computer and communications services (telecommunications and postal and courier services) and information services (computer data and news-related services transactions)) increased from \$679.5 billion in 2005 to \$1,441.3 billion in 2013 (WDI), growing at an average annual rate of 8.7%. This expansion has been driven, at least in part, by the increasing involvement of companies based in developing countries in the delivery of IT services.

Many developing countries are well placed to expand ICT services sectors, given the sector’s requirements in terms of factor endowments – it is human capital-intensive but requires relatively little physical capital input and can be expanded at relatively low cost. Furthermore, the physical location of ICT services sectors

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<sup>50</sup> There is considerable variation in local attitudes towards the development of hydropower in Nepal, with generally greater opposition (spearheaded by Nepal’s radical Maoist faction) to large-scale projects intended to generate electricity for export to India or China, particularly those funded through foreign investment from India (Bergner, 2013). In some instances, this has manifested in protests against planned hydropower development projects.



is less important than for other sectors, given the relative ease of connecting to global ICT technology networks. For these reasons, trade in ICT services is also useful for landlocked and remote island states. There is good potential to develop strong export-oriented IT services sectors even in countries with relatively limited infrastructure, provided they boast a labour force with good technical capabilities (Engman, 2010) – although good quality telecommunications infrastructure, which is capital-intensive, is necessary to develop competitiveness in ICT services. Moreover, the transaction costs associated with trade in IT services are comparatively low, and fragmentation of the IT services value chain – which increasingly involves trade in tasks – provides good opportunities for ICT companies in developing countries to export their services (ibid.).

From an economic transformation perspective, the ICT services sector can potentially provide a major source of export earnings and capital inflows. Trade in IT services offers potential for both skills and productivity upgrading in developing countries. Less skills-intensive IT services – including IT-enabled services such as back office support and call centre services – are typically outsourced from developed to developing countries where, although the skills base for IT services may be equivalent or even lower than that in developed countries, these skills are higher relative to the average skill level in a developing country. Growth of IT services in many countries has also tended to follow a clear transformation trajectory, involving movement towards more productive and higher value added services. Development of the sector thus provides clear opportunities for developing countries to move up the IT services value chain, beginning with relatively simple IT-enabled services such as call centres, before moving to the provision of more complex BPO and IT consulting services. This transformation pattern occurred in India, which eventually managed to occupy the whole spectrum of ICT services, upgrading from initially offering IT services to BPO operations, and later adding more complex knowledge process outsourcing activities (Khanna et al., 2016). Other countries with emerging ICT sectors may need to start small, building capacity initially in relatively lower value added IT-enabled services before moving to more complex IT services.

In this section, we examine the development of the ICT sectors in India, Mauritius and Senegal and their (past, current and potential future) contributions to economic transformation in these countries. India is distinguished from many developing countries by the rapid growth of its services sector, with especially strong growth in high-tech IT, communications and business services industries (Eichengreen and Gupta, 2011). It is also one of only a few developing countries (others include China and Israel) that have successfully established a sizable export-oriented IT service sector, backed by mature IT and BPO services industries.

While the ICT sector in Mauritius is considerably smaller in scale than that of India, Mauritius has emerged as an increasingly prominent exporter of ICT services since the early 2000s. This has occurred along with a broader refocusing of the Mauritian economy towards services. After initially being primarily an exporter of products with high preferences (principally sugar and thereafter clothing), when the value of these preferences fell Mauritius moved into sectors determined by economic rather than policy advantage. This resulted in diversification into services. The services sector is now the main contributor to GDP (services value added as a percentage of total GDP was around 74% in 2014, up from less than 60% in the early 1980s and around 62% in the early 2000s) and also the primary employer in the economy (accounting for around 75% of total employment in 2013). Against this backdrop, since the early 2000s, careful planning has seen Mauritius become a key growth centre for export-oriented ICT services.

Compared with India and even Mauritius, the nascent ICT services sector in Senegal remains small, but is expanding. Growth has been particularly strong in the export-oriented component of the sector, with Senegalese firms exporting ICT and, to a lesser extent, BPO services (mostly computer and information services, communication services and business support services), primarily through mode 1. Nevertheless, development of the sector remains constrained by a lack of human capital and few skilled ICT workers, as well as limitations in terms of internet connectivity and accessibility.

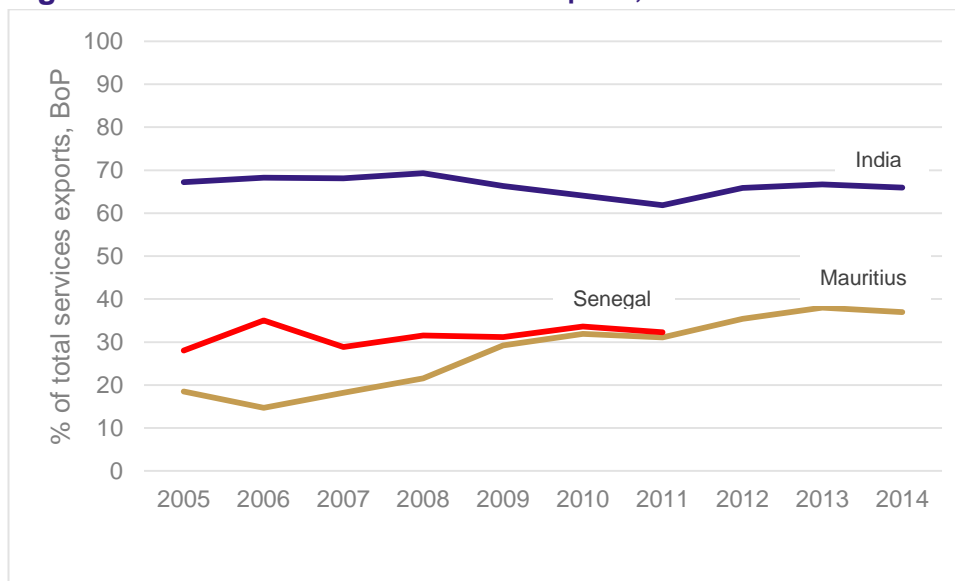
#### *IMPACT OF THE ICT SERVICES SECTOR ON ECONOMIC TRANSFORMATION, INDIA, MAURITIUS AND SENEGAL*

In both India and Mauritius, the IT services sectors are significant contributors to GDP. In India, the IT-BPO industry contributed around 9.5% to GDP in the 2015 financial year (NASSCOM data). The bulk of

this contribution comes from the global outsourcing market, which accounted for 8.1% of GDP in the 2014 financial year (Bhattacharjee and Chakrabarti, 2015). The contribution of ICT to GDP in Mauritius is similar, at 6.4% in 2014 (Statistics Mauritius, 2014).

In India, the share of ICT in total services exports has remained relatively stable over the past decade, dropping back marginally from 67.2% in 2005 to 65.9% in 2014 (Figure A18). By comparison, while the contribution of ICT exports to total services exports from Mauritius remains well below the equivalent in India, it has grown substantially since 2005 (with particularly rapid growth between 2005 and 2009), increasing from 18.5% in 2005 to account for more than one third (37%) of total services exports in 2014. This reflects the increasingly export-oriented nature of the IT services sector in Mauritius, which was initially established in the mid-1990s to serve domestic market needs (Mistry and Treebhoo, 2009) but has since recorded rapid growth in exports.

**Figure A18. ICT share in total services exports, 2005–14**



Note: No data available for Senegal for 2012–14.  
Source: WDI.

The share of ICT services in total services exports (measured in BoP terms) was largely flat between 2005 and 2011 (no WDI data are available for Senegal over 2011–14, but UNCTADStat estimates of the ICT share in 2012 and 2013 are lower than the WDI values, at 20.3% and 22.3%, respectively). The available data suggest that any limited growth in ICT’s share in Senegal has not matched that recorded in Mauritius between 2005 and 2014.

India is a leading global sourcing destination for IT services, holding around 55% of the global market share (NASSCOM data). Consequently, India’s IT services industry generates substantial **export revenues**. In the 2015 financial year, the value of India’s IT services exports amounted to \$55.4 billion (growing by 12.6% over 2014), contributing around 80% to the industry’s total revenue. India’s exports of BPO services are also substantial, reaching close to \$23 billion in the 2015 financial year and contributing around 23% to total ICT services exports. The combined value of software products, engineering services and R&D exports was \$20 billion in the 2015 financial year, accounting for just less than one fifth of the total value of India’s IT-enabled services exports in that year.

Compared with India, revenues from ICT service exports in Mauritius and Senegal are considerably smaller in value terms (see Table A18), although growth in export revenues has been especially strong in Mauritius (326.5% compared with 193.6% for India and 76.5% for Senegal) over the past decade (2005–11 for Senegal), albeit off a significantly smaller base. Average annual growth in the value of ICT service exports has been stronger in Mauritius and India (17.5% and 12.7%, respectively) compared with Senegal (9.9% over 2005–11). Since the early 2000s, the export-oriented ICT services sector – which includes BPO and IT-enabled services – has been among the fastest-growing industries in Mauritius. Between



2004 and 2009, annual growth in revenues from exports of ICT and BPO services averaged 25% (Mistry and Treebhoohun, 2009).

In contrast with Mauritius, both India's and Senegal's ICT services exports were adversely affected by the global financial and economic crises. In Senegal, the onset of the crises brought a halt to three years of steady growth in the value of ICT services exports. In the case of India, declining demand amid the crises resulted in a slowdown in growth rates in the offshoring components of the IT and IT-enabled services sectors. Growth rates prior to the financial crisis (2006–8) had exceeded 30% in both offshore IT services and BPO industries, but these growth rates dropped down to 16% and 17%, respectively, in the 2009 financial year (Gereffi and Fernandez-Stark, 2010).

**Table A18. Value of ICT service exports in India and Mauritius, 2005–14 (US\$ billions)**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>India</b>	35.1	47.4	59.0	73.5	61.6	75.0	85.7	95.9	99.2	103.0
<b>Mauritius</b>	0.3	0.2	0.4	0.5	0.7	0.9	1.0	1.2	1.3	1.3
<b>Senegal</b>	2.1	2.8	3.4	4.0	3.2	3.5	3.8	-	-	-

Note: No data available for Senegal for 2012–14.

Source: WDI.

India and Mauritius have increased their share of world ICT services exports in the past decade (Table A19). In 2013, India accounted for nearly 7% of global exports in the sector. In contrast, both Mauritius' and Senegal's shares remained negligible in global terms (although not so small given the relative sizes of their economies). Even so, while Senegal's share of world ICT services exports stagnated at around 0.03% in 2011, Mauritius has succeeded in doubling its share since 2005 (reaching close to 0.1%).

**Table A19. Share of world ICT services exports, 2005–13 (%)**

	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>India</b>	5.16	6.04	6.20	6.73	5.99	6.81	6.82	7.30	6.88
<b>Mauritius</b>	0.04	0.03	0.04	0.05	0.06	0.08	0.08	0.09	0.09
<b>Senegal</b>	0.03	0.04	0.04	0.04	0.03	0.03	0.03	-	-

Note: No data available for Senegal for 2012 or 2013.

Source: Own calculations using WDI data.

India has been successful in generating within-sector **productivity upgrading** and in moving towards higher-value IT consulting services. The use of innovative delivery models, standardisation and automation of business processes as well as process innovation have all played a key role in facilitating this shift up the IT value chain (Bhattacharjee and Chakrabarti, 2015). Competition within the Indian IT services sector has also been an important factor driving the shift to high-value services. High levels of competition – there are more than 15,000 firms in India's IT and IT-enabled services sectors – have contributed to a diversity of IT service offerings, with both large firms operating across the entire IT value chain and smaller firms specialising in niche services (ibid.).

The presence of numerous multinational corporations in India's IT services sector, especially within the country's IT hubs and software parks, has generated both knowledge spillovers and subcontracting R&D arrangements. For example, in the 1980s multinational corporations such as Texas Instruments had a strong influence on the business models employed by domestic IT firms in India. In addition, in recent years many multinational corporations have relocated R&D activities to India (there are more 230 multinationals with R&D operations in Bangalore alone, including prominent global players such as Intel and Cisco Systems) (ibid.). The presence of the Cyber City Technology Park in Mauritius is likely to have had similar effects, with a number of multinational firms – including Accenture, Infosys, TCS, Oracle and SAP – establishing a presence in Mauritius.

There is clear evidence that IT services can enhance productivity in other sectors such as tourism, manufacturing and financial services (especially banking) (Romão, 2015; Moshiri, 2016; Strobel, 2016).

This is backed by evidence on the recent development of the IT services and BPO sectors in Senegal, which has begun to produce positive spillover effects in other sectors. For instance, as Doumbouya et al. (2015) note, the emergence of these sectors has been central in underpinning the development of an automated customs clearance system (known as ORBUS) as well as mobile phone-based services. The introduction of the former has reportedly resulted in significant reductions in preclearance customs formalities (including the processing of applications for import/export permits and certificates, generating economy-wide efficiency gains); the latter have been useful, for example, in agriculture where farmers in remote parts of the country have used them to access information on prices for their products in wholesale markets (ibid.).

Employment in ICT services tends to be relatively skill-intensive. Even so, there is some potential to create jobs for lower-skilled workers in standardised, low-end tradable services reliant on ICT, such as IT-enabled services (the sizeable employment of workers in call centres in many developing countries is a clear example). Moreover, job opportunities for women in ICT services have expanded significantly and the sector is also a key employer of young, upwardly mobile college graduates, many of whom are new entrants to the labour market (Raja et al., 2013; Sunkara et al., 2015). In India, the offshoring of IT services to India has had a transformative impact on **employment** creation, proving a number of high-quality jobs, with young graduates often the beneficiaries (AT Kearney, 2016). According to India's Economics Survey 2014–15, the IT and IT-enabled services (including BPO) sector employs nearly 3.5 million people. A large proportion of this total (approximately 1.2 million people) are employed in the export-oriented component of the sector (NASSCOM data). Importantly, from a socioeconomic transformation perspective, the sector also employs a large number of women (more than 1.2 million); a large share of those employed in the sector are located in tier 2 and 3 cities and towns. This brings employment linkages, growth and infrastructure development to poorer regions and bridges economic and social inequalities (ibid.).

In keeping with the size of the respective economies, the number of people employed in the ICT sector in Mauritius is much smaller. Even so, the sector does account for 4.8% of the country's total labour force (Statistics Mauritius, 2014). Information on employment in the ICT sector in Senegal is limited, with the most recent survey data not disaggregating employment into the IT or BPO services sectors. The closest match, the transport and communication sector (in which a large share of the workers in Senegal's IT and BPO sectors are likely to operate), employs around 3% of the country's working population (Doumbouya et al., 2015).

Table A20 summarises the impacts of ICT services in India, Mauritius and Senegal on economic transformation using data on each country's sector's direct effects on employment, exports and GDP.

**Table A20. ICT services sector contributions to direct employment, exports and GDP**

Country	Direct employment	Exports (US\$) (2014)	Contribution to GDP (%)
India	0.7% of total employment	103 billion (67.5% of service exports, BOP)	9.5 (2015)
Mauritius	4.8% of total employment	1.3 billion (34.2% of service exports, BOP)	6.5 (2011)
Senegal	3% of working age population*	3.8 billion (2011) (32.3% of service exports, BOP)	

Note: \* Transport and communication sector.

Sources: Oolun et al. (2012); Doumbouya et al. (2015); NASSCOM data; WDI data.

## THE DEVELOPMENT OF ICT SERVICES IN INDIA, MAURITIUS AND SENEGAL

### Endowments and structural factors

Whereas Mauritius and Senegal have relatively small populations, India is the second most populous country in the world, and thus has the advantage of a massive domestic market. Yet the development of the ICT service sector in India indicates that the presence of large-scale domestic demand is not necessarily required. Indeed, India's ICT sector has developed and grown on the back of foreign demand. Even so, Indian IT firms are increasingly focusing on delivering services to the domestic market (in contrast with African countries such as Kenya) to complement growth in IT service exports and as a mechanism to counteract export market vulnerabilities. As a result, growth in IT adoption has been strong in both India's

domestic and export market segments, reaching 14.1% and 10.2%, respectively, in the 2013 financial year (Bhattacharjee and Chakrabarti, 2015).

Both India and Mauritius fare well on AT Kearney's global services location index (which is based on indicators of financial attractiveness, quality and quantity of human resources and quality of the business environment). The index identifies the countries boasting the greatest potential and most favourable structural conditions (based on underlying fundamentals) to deliver IT, BPO and voice services. India is ranked first overall (followed by China) out of 55 countries,<sup>51</sup> and also scores high on the financial attractiveness (cost structures)<sup>52</sup> and people skills and availability (human resources)<sup>53</sup> indices. Mauritius ranks 30th on the 2016 index, but third behind only Egypt and Ghana<sup>54</sup> among African countries. Senegal is further down in 45th position overall, but still ranked higher than several developed and emerging economies (South Africa, Singapore, Australia, New Zealand, Israel, Peru, Uruguay, Spain, Slovakia and Ireland). Senegal's position above these countries owes primarily to a strong score on the financial attractiveness sub-indicator, suggesting it is relatively competitive on costs associated with compensation and infrastructure as well as tax and regulatory costs relevant to the IT services sector.

### Domestic productive capabilities

The availability of well-trained, technically **skilled labour** is a critical input to the IT service sector. India enjoys a clear advantage over Mauritius and Senegal (and indeed many other countries with notable ICT sectors) in this regard. As early as 1959, India began investing in technical education through Indian institutes of technology, followed by a network of public and private engineering colleges, most demanding English proficiency as a graduation requirement. This has contributed to the creation of an abundant supply of relatively skilled labour. In 2012, India produced some 4.4 million employable graduates (Sheth and Singh, 2015). Importantly for the ICT sector, India now boasts the second highest number of engineering graduates in the world (after China), with some 600,000 engineers graduating annually. Key to this has been growth in private IT training colleges in India, which has helped expand the supply of labour to the IT services sector (Engman, 2010). In addition, the IT sector in India benefits from an extensive diaspora of IT professionals working in the US, who relay knowledge and best practices.

In contrast with India, Mauritius is not endowed with a large supply of low-cost labour or an underutilised labour force. Consequently, future growth of the ICT sector in Mauritius will be contingent on maintaining a small, but relatively skilled, labour pool and an emphasis on providing services in specialised niches and knowledge areas. Senegal lags far behind both India and Mauritius in this regard, with a lack of human capital (low literacy levels and poor-quality education) and few skilled ICT workers (particularly engineers) serving as a binding constraint to growth in the country's ICT sector.

From an **infrastructure** perspective, factors such as the accessibility, price and reliability of internet (including broadband) and telecommunications services are critically important in developing competitiveness for exporting IT and IT-enabled services. Both India and Mauritius have made strong strides in improving internet and telecommunications infrastructure and support services. In India, the establishment of software technology parks – which provide access to relatively low-cost, high-capacity broadband technology together with modern facilities and a reliable electricity supply – has helped develop these conditions and, at the same time, facilitate the clustering of IT services firms, enabling these to procure inputs more easily and allowing for economies of scale (Engman, 2010).

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<sup>51</sup> AT Kearney selected the 55 countries on the basis of corporate input, current remote services activity, and government initiatives to promote the sector.

<sup>52</sup> This measure is based on the following underlying metrics: compensation costs (average annual wages, average compensation costs for relevant positions); infrastructure costs (average cost of occupancy, electricity and telecommunications infrastructure, blended travel costs to major destinations); tax and regulatory costs (relative tax burden, costs of corruption, exchange rate movements).

<sup>53</sup> This comprises the following underlying metrics: cumulative services experience and skills (estimated size of IT and BPO sectors, quality and skills rating of relevant positions); labour force availability (population aged 15–39, tertiary education enrolment); educational skills (scores on standardised tests to assess student performance); language skills (scores on standardised education and language tests).

<sup>54</sup> In Ghana, the ICT services sector has recorded rapid growth in recent years (average annual rate of 26.5% over 2009–13) on the back of favourable government policies and investment in the sector, but ICT services exports from Ghana appear to be very limited.

The expansion of India's IT-enabled services sector beyond the country's main cities and into tier 2 and 3 cities (such as Nagpur and Ahmedabad) – backed by government initiatives to improve infrastructure, provide education programmes and establish special economic zones (SEZs) in these locations to improve their attractiveness – has also been important in maintaining the cost-competitiveness of the broader ICT sector. Wages and facilities costs are generally lower in the tier 2 and 3 cities, resulting in lower operating costs for the IT sector. For example, according to AT Kearney (2016), the cost of facilities is typically 25–30% lower in Nagpur and Ahmedabad compared with Kolkata and Dehli.

The Cyber City project in Mauritius – a flagship technology park developed in partnership with the government of India to host ICT/BPO companies in Port Louis – has had similar effects to the establishment of software technology parks in India and has played a prominent role in developing the Mauritian ICT sector. More generally, Mauritius is among the leading African countries in terms of availability and quality of ICT infrastructure, and has also moved past India on several indicators of internet access and the quality of internet-related infrastructure on the back of significant increases in fixed-line, mobile and internet penetration rates over the past two decades (see Table A21). Mauritius also compares well on these indicators relative to the low- and middle-income and Sub-Saharan African averages. Furthermore, Mauritius enjoys route diversity and sufficient capacity to meet international connectivity requirements (Oolun et al., 2012). This is an especially important driver of competitiveness for Mauritius given the island nation's relatively distant location from key centres of demand for ICT services (particularly European and US markets). International connectivity is also becoming increasingly affordable in Mauritius. The price of 2 MB of international private leased circuit capacity declined from \$12,600 in 2007 to \$3,500 in 2012 on the back of price determinations by the Mauritian ICT Regulatory Authority (ibid.).

In contrast with India, and to a lesser extent Mauritius, the ICT sector in Senegal has not benefited from the presence of data and software technology parks that provide ICT companies with ready-to-use infrastructure (Dombouya et al., 2015). Moreover, Senegal generally fares worse on the key indicators of internet access and infrastructure examined in Table A21 (although it does fare more positively along some indicators when compared with the Sub-Saharan African and low-income country averages). Nevertheless, there have been some important improvements in the infrastructure necessary to support the delivery of ICT services in Senegal since the early 2000s (ibid.).

**Table A21. Comparison of key indicators of internet access and infrastructure**

	Individuals using the Internet (% of population, 2014)	Fixed broadband internet subscriptions (per 100 people, 2014)	International internet bandwidth (bits per second per internet user, 2014)	Fixed broadband internet sub-basket (\$ per month, 2013)	Secure internet servers (per million people, 2015)
India	18.0	1.24	5,677	5	7
Mauritius	41.4	14.57	32,990	7	175
Senegal	17.7	0.71	8,349	36	5
Sub-Saharan African average	19.2	0.38	26,565*	41	10
Low income average	6.3	0.24	4,528	45	2
Lower middle income average	22.6	2.35	10,748	19	7
Upper middle income average	47.7	12.44	21,113	17	29
High income average	78.1	27.30	103,477	27	928

Note: \* This figure is low for most Sub-Saharan African countries, but the comparatively high Sub-Saharan African average is largely driven by a high value for South Africa (149,542).

Source: WDI – The Information Society.

### Regulatory and institutional framework

The governments in all three countries have instituted a number of reforms designed to ensure a more attractive environment for investment in core IT services industries. In India, government reforms were instrumental in reducing licensing requirements and making foreign technology and investment accessible to help the country's BPO industry (Sople, 2009). This has been backed by targeted sectoral support. For



example, the India BPO Promotional Scheme aims to incentivise investment in IT-BPO across India, particularly in digitally deficient areas, with a view to creating employment opportunities and generating balanced growth. It provides capped conditional capital and consulting services to support the establishment of IT-BPO firms in specific locations.

The Indian government has also altered labour legislation to allow certain companies to operate evening and night shifts, thereby making it possible for Indian firms providing IT-enabled services to meet the demands of international clients in different time zones (Engman, 2010). The central government in India has also prioritised attracting FDI into the sector through the establishment of the aforementioned software technology parks and SEZs and by offering special tax holidays (Nagalakshmi, 2013). As a result, the BPO sector has attracted more than 10% of total FDI into India since 2000 (NASSCOM, nd). This has been complemented by significant government investment in the sector.

The early development of ICT in Mauritius gained momentum with the creation of a dedicated ministry in 1997 and the preparation of a National ICT Strategic Plan in 1998. Since then, the Mauritian government's policy agenda has maintained a strong focus on developing ICT services through the National Information & Communications Technologies Strategic Plan and its various iterations, the latest of which is for 2014. Among core government strategies is a focus on attracting inward FDI into the sector by creating an open and investor-friendly environment rather than through explicit tax incentives.

While ICT in Senegal is still young, the government has begun to take practical steps to boost competition and improve the sector's efficiency. These have included privatisation of the main telecommunications provider, Sonatel, in 1996, introduction of an independent regulator for the telecommunications sector and enactment of laws relating to data protection, cybercrime, electronic transactions and cryptography. Through the Investment Code (which includes 'teleservices' as an eligible sector), Senegal has been proactive in offering incentives to BPO and ICT firms. For instance, firms in the ICT and BPO sectors are accorded the status of 'free export enterprises'. In a similar move to India, amendments to the Labour Code have eliminated differences between rates for working during the day versus at night, thereby enabling call centres to provide services 24 hours a day (Doubouya et al., 2015). Finally, introduction of the Telecommunications Code in 2011 has enabled IT and BPO service providers to access telecommunications networks via interconnection with operators (previously only the operators themselves had enjoyed access to these) (ibid.).

### **Trade policy**

The ICT services sector is generally among the sectors most open to international trade, with few policy-induced barriers (Ganguly, 2005; Engman, 2007; Kirkegaard, 2008). However, exports of these services may be affected by mode 1 barriers, such as bans on the use of foreign call centres. Constraints on data transfer linked to data privacy laws (and the collection of personal data) can also impede ICT services exports (Meltzer, 2013). In addition, mode 4 trade in IT services may also be affected by immigration and labour market policies. For instance, quantitative restrictions on work permits or cumbersome processes to obtain permits can impede trade in IT services under mode 4 (Engman, 2010). Such issues have affected India in particular, as the country's IT services exports combine both cross-border supply (mode 1) and temporary movement of natural persons (mode 4) – with skilled IT professionals operating in India and collaborating onsite with foreign clients in the UK, US and elsewhere (ibid.). For example, applications for work permits by Indian professionals in some OECD countries can reportedly take between four and six months to process (ibid.).

In the past, India has been proactive in pre-empting potential barriers in cross-border supply of IT-enabled services. For example, some Indian IT and IT-enabled service suppliers have established subsidiaries in Singapore in order to provide the option of routing data in the event that future investment regulations act as a barrier to cross-border supply (Aron, 2005).

The recent growth of the ICT sector in Mauritius was spearheaded by full liberalisation of the sector in January 2003. This involved extensive liberalisation of telecommunications, opening up the sector to the entry of new players and facilitating more competitive connectivity rates – while also ending all monopolies and eradicating exclusive rights for domestic and international services.

Liberalisation has also featured prominently in the development of the sector in Senegal. A key move in this regard was the Senegalese government's decision to reduce tariffs on computer imports (from 26% to 5%) in 1999 (Doubouya et al., 2015). Also in the late 1990s, Senegal undertook pre-commitments on telecommunications services at the WTO under its GATS Protocol IV (ibid.) and adopted the WTO Reference Paper on Basic Telecoms. In concert with efforts to boost competition and improve efficiency in the ICT sector, the liberalisation policies adopted by the Senegalese government played an instrumental role in developing a foundation of telecommunications network operators and internet service providers to support the development of capacity to export ICT and BPO services (ibid.).

### **International demand**

The past decade has seen rapid growth in international demand for ICT services. Much of this has come from large multinational corporations looking to source IT services from developing economies, which offer competitive advantages in areas such as low-cost labour, technological skills, language proficiency, cultural proximity and time zones that are conducive to connections between countries.

A key driver of the growth in demand for ICT services has been competition, which has put pressure on companies to boost productivity and reduce costs associated with the use of IT. Intensifying competition has been a central motivation for offshoring IT services to achieve costs savings. This was reinforced by the global economic crisis, which prompted companies to look to offshore IT service to reduce costs and improve efficiencies (Gereffi and Fernandez-Stark, 2010). According to Engman (2010), demand has been especially strong for outsourcing remote management and maintenance of IT networks (e.g. through help desks, desktop support, data centre services, network operations) to low-cost countries.

External demand from developed countries has been central, for example, to the establishment of a new and rapidly expanding BPO industry in India (Kuruville and Ranganathan, 2010). Demand for Indian IT-services exports has also come from other emerging markets. For example, there is strong demand from Chinese companies (including phone handset manufacturers such as Huawei) to utilise Indian engineers for R&D.

India, Mauritius and Senegal have all leveraged language advantages to export IT services to large developed country markets. India has concentrated on the English-speaking US and UK markets. In the 2015 financial year, exports to the US (62%) and the UK (17%) accounted for nearly 80% of India's total IT and BPO services exports (NASSCOM data). Outside of these two countries, Continental Europe and the Asia-Pacific countries are also important centres of demand, accounting for 11% and 8% of India's total IT and BPO services exports, respectively (ibid.). Capitalising on the French-language connection, Mauritius' IT services are exported primarily to France, and Senegal has also looked to provide services in French-speaking markets. Mauritius has also increasingly looked to the regional market to export IT services. The country has become a key provider in the African market for disaster recovery services for computer systems (Engman, 2010).

### **Political economy**

In Mauritius, the government has sought to establish the ICT services sector as a key pillar of the economy and to position the country as Africa's premier ICT hub. The sector has thus received prioritisation in the government's policy discourse and strategic plans. A key focus in the government's approach to the development of the sector in Mauritius has been on establishing the building blocks – telecommunications infrastructure, an enabling environment for ICT firms and incentives for the private sector – to enable the sector to develop grow organically (Adam and Gillwald, 2013).

The ICT revolution in India has sparked considerable debate around the equity implications of the sector's rapid development. At the heart of this is a disconnect between India's advanced status in terms of ICT innovation on the global stage and the reality that many Indians live in slums surviving on meagre incomes. In the past, this has generated opposition to ICT in India stemming from the relative affluence of ICT entrepreneurs and professionals compared with, for example, agricultural or unskilled workers (Parayil, 2005). At the political level, this has even led in the past to a degree of disenchantment with political parties that explicitly supported ICT-based development efforts in India (Dutta and De, 2009). However, recent



government initiatives suggest a level of commitment among India's policy-makers to ensure ICT is more closely linked to development efforts in rural India. For example, the Digital India programme, launched by the government in July 2015, aims to ensure government services are available to Indian citizens electronically and to improve service delivery through digital mediums, while also planning to connect rural areas in India to high-speed internet networks (Kak and Gond, 2015).

#### *SUMMARY OF KEY LESSONS*

Our analysis suggests a number of basic factors need to be in place for a country to take part in exports of ICT services, including a skilled workforce and telecommunications infrastructure. The ICT sector is already an open sector, but active policy also plays a fundamental role. Mauritius, for example, has proactively developed a cyber city, attracted investment and helped upgrade the sector. The Indian government has developed software technology parks (which provide access to high-quality internet and facilities to support the competitive delivery of IT and IT-enabled services and have helped attract FDI), and the sector has expanded to tier 2 and 3 cities (where wages and facilities costs are lower) in order to remain competitive internationally. In Senegal the sector is markedly less developed, and much still needs to happen to develop the necessary ICT-related infrastructure and human capital required to drive its development. In the longer term, the potential of ICT to contribute to the economic transformation of the country depends on productivity spillovers and the sector's linkages with other sectors.

#### *D4 TOURISM SERVICES EXPORTS IN MAURITIUS AND TANZANIA*

The tourism sector contributed some \$7.2 trillion to global GDP in 2015 (accounting for 9.8% of the world total) (WTTC, 2016a) and accounts for 30% of global trade in services (ITC and UNWTO, 2015). Tourism tends to be a key export sector in many LICs and is the principal export for one third of developing countries (ibid.). Moreover, it is one sector in which developed countries consistently enjoy a trade surplus over their developed counterparts (Mitchell and te Velde, 2008).

Exports of tourism services can generate substantial revenue and foreign exchange for developing countries. Activities within the sector tend to be labour-intensive and can absorb relatively low-skilled workers, as well as offering skilled jobs, thus also making it a key generator of employment, particularly in developing countries. The tourism sector also generally has strong and diverse linkages with the rest of the economy, especially with the transportation, agriculture, catering, construction services and light manufacturing sectors. Consequently, activity within the domestic economy generated by tourism services directly, and indirectly through the abovementioned linkages with other sectors, has strong multiplier effects on employment.

There are multiple different types of tourism services, some of which are more amenable to mass tourism (including beach tourism in warm locations) and others that relate more to niche offerings (such as cultural or heritage tourism, business tourism for conferences and business meetings or medical tourism). These various types of tourism have different impacts on economic transformation. With diverse landscapes, abundant wildlife and picturesque beaches, as well as relatively short flight times from Europe and Asia (for certain countries, particularly those in North Africa), the African continent boasts many of the fundamentals required to support a range of different tourism offerings. However, many prospective tourists remain deterred by issues of political instability, poor infrastructure and high travel costs on the continent.

This section examines the development of the tourism services sectors in two Sub-Saharan African countries: Mauritius and Tanzania. Mauritius is an established exporter of high-end tourism services. Tanzania's profile as a tourist destination is improving, and it already benefits from a significant number of arrivals to a diverse range of attractions. Both countries boast profitable and growing tourism sectors and have managed to overcome many of the challenges that typically restrict tourism in the region.

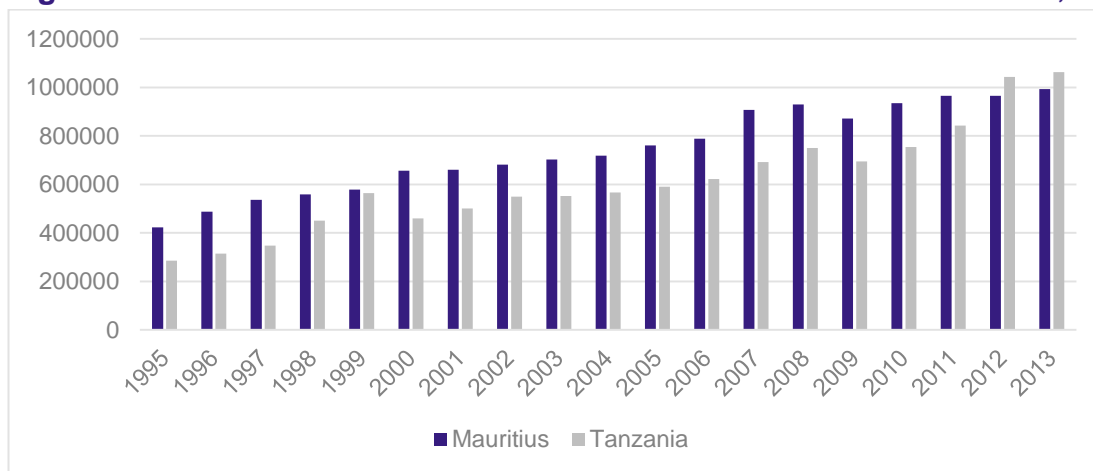
#### *IMPACT OF THE TOURISM SERVICES SECTOR ON ECONOMIC TRANSFORMATION, MAURITIUS AND TANZANIA*

Figure A19 shows both Mauritius and Tanzania have seen considerable growth in the number of international tourist arrivals over the past two decades. Mauritius has successfully established itself as a top-end luxury tourism destination, thereby enabling it to attract visitors who tend to spend relatively large

amounts within the country on a daily basis. Indeed, the average daily spend of international visitors to Mauritius was \$108 in 2013 (Ministry of Tourism, 2014).

The tourism sector is a large contributor to national GDP in both Mauritius and Tanzania, while also serving as a significant employment and revenue generator. According to Statistics Mauritius data, nearly 1.4 million tourists travelled to Mauritius in 2014 (this increased by 9.6% to more than 1.5 million in 2015), and the travel and tourism sector contributed around 7.2% to total national GDP. In comparison, Tanzania attracted a smaller number of tourists (1.25 million in 2015), and the contribution of tourism to GDP is smaller. Based on rebased GDP data, the direct contribution of the sector to Tanzania’s GDP is 3.4% (World Bank, 2015b). In both countries, when the wider impacts of the tourism sectors are considered, its total contribution is larger (WTTC, 2016b, 2016c).

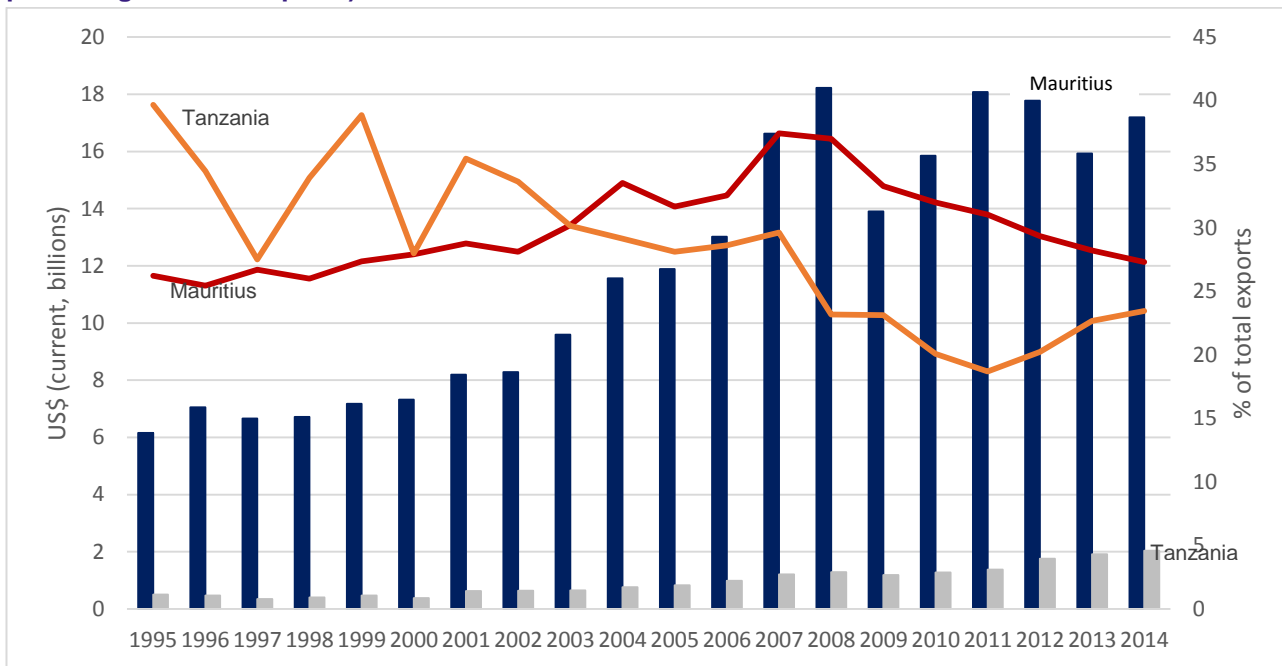
**Figure A19. Numbers of international tourism arrivals in Mauritius and Tanzania, 1995–2013**



Source: WDI.

Both countries have registered encouraging growth in the value of **export revenues** through international tourist receipts since 1995, although this growth has been stronger in Tanzania (growth of 307% over 2005–14 versus 179% in Mauritius), albeit from a significantly smaller base (see Figure A20). Even so, Tanzania’s share of international tourism receipts in total exports has fallen significantly since 2005 (from 39.7% to 23.4% in 2014), with a substantial decline between 2007 and 2011. This points to a declining relative influence of tourism revenues in Tanzania’s total exports. The equivalent share for Mauritius grew steadily up to 2007, but was followed by a precipitous decline in the share thereafter. The latter coincided with strong growth in ICT services exports in Mauritius (see Section D3), which affected the relative share of the tourism sector in total exports.

**Figure A20. International tourism receipts for Mauritius and Tanzania, 1995–2014 (current US\$ value and percentage of total exports)**



Source: WDI.

Tourism services can potentially generate substantial employment, including for women and youth. Activities in the sector tend to be labour-intensive, and generate jobs for low- to medium-skilled workers (e.g. direct client services, cleaning services) as well as some higher-skilled jobs (e.g. professional hotel and restaurant staff, business support staff). Jobs are created directly in the sector as well as indirectly through linkages in the tourism supply chain, with the latter mostly involving employment of lower-skilled workers in backward-linked industries (e.g. by creating jobs in suppliers in sectors such as agriculture, transport and catering). In relative terms, the tourism sector is a larger contributor to total **employment** in Mauritius than in Tanzania. If we consider only the direct contributions of the sector, tourism generates around 11% of total employment in Mauritius, compared with marginally more than 3% in Tanzania.

In both countries, travel and tourism is expected to generate new jobs over the next decade. The World Travel and Tourism Council (WTTC) estimates that the number of direct jobs generated in Tanzania will increase to 490,000 by 2026, with the total (including those indirectly supported) reaching more than 1.5 million. In Mauritius, the direct employment contribution of the sector is expected to reach 67,000 jobs by 2026, with a total of 145,000 jobs supported either directly or indirectly. The job-generating potential is significant from an economic transformation perspective (especially for Tanzania), particularly given the sector’s ability to absorb relatively low-skilled workers (less important for Mauritius) and to contribute to creating employment opportunities for traditionally disadvantaged groups such as women and youths.

The tourism sectors in Mauritius and Tanzania have the potential to create multiple backward and forward linkages with other sectors and activities. In general, these linkages are most evident in transportation, agriculture (both through food and beverage supply chains and agro-tourism), catering, construction services and light manufacturing (furniture, traditional handicrafts), meaning many local businesses potentially benefit through the growth of tourism services. In Tanzania, however, there is a need to boost the level of integration between tourism operators and local businesses through stronger inter-sectoral linkages (especially local supply chain linkages) and skills development and training for local workers, in order for these impacts to be enhanced. There are also concerns about revenue leakages associated with foreign investment in the sector, as much of the profit earned by foreign-owned tourism enterprises is repatriated out of the country and does not benefit the local communities in which these enterprises operate. The latter is clear in the local communities surrounding the Serengeti National Park in Tanzania, which remains one of the poorest regions in Tanzania and has not benefited substantially from the tourist activity in the area (World Bank, 2015b).

There is also scope to boost local linkages in Mauritius. In both countries, improvements to the production capabilities and capacities of local firms and industries, and better platforms and infrastructure to facilitate the efficient distribution of goods and services, will help strengthen inter-sectoral linkages with tourism. In addition, diversification into other types of tourism services would boost the transformative impacts of the sector. Mauritius has already made strong progress in developing an internationally competitive medical tourism industry and is, increasingly, looking to the meetings, incentives, conferences and events market for conference and business-related tourism. The latter is also a potential route for diversifying the tourism services sector in Tanzania.

Beyond this diversification, the impact and reach of the tourism services sector in Tanzania could be boosted through the development of tourism services in new destinations within the country (Semberya, 2015). Currently, tourist activities are concentrated around Zanzibar, the Serengeti, Mount Kilimanjaro and the Ngorongoro Crater, with other potentially attractive destinations – such as Tanzania’s vast coastline – remaining largely underdeveloped. There is also scope to develop joint infrastructure with other sectors (such as mining and agriculture) to support the tourism sector and address the current deficiencies in tourist-related infrastructure in Tanzania. In addition, there may be possibilities to develop joint use of air transport services with other sectors – for example in a similar way to the manner in which air transport supports the cut flowers industries in Ethiopia and Kenya (see Section D5).

Table A22 presents summary data on the direct effects of the tourism sector in Mauritius and Tanzania on employment, exports and GDP in each country.

**Table A22. Tourism services sector contributions to direct employment, exports and GDP**

Country	Direct employment (2015)	Exports (US\$) (2014)	Contribution to GDP (%) (2015)
<b>Mauritius</b>	58,500 (11.1% of total employment)	17.2 billion (27.3% of total exports)	7.2
<b>Tanzania</b>	386,500 (3.4% of total employment)	2 billion (23.4% of total exports)	3.4

Sources: World Bank (2015a, 2015b); WTTC (2016b, 2016c); Statistics Mauritius data; WDI data.

## THE DEVELOPMENT OF TOURISM SERVICES IN MAURITIUS AND TANZANIA

### Endowments and structural factors

Success in tourism services is pre-eminently based on the creation of advantages through policies that promote, for example, the development of good tourism infrastructure. This is important to harness natural endowments (e.g. climate, wildlife or geographical features) that are attractive to tourists. Tanzania boasts numerous and varied natural endowments – including the wildlife of the Serengeti and the Ngorongoro Crater, Mount Kilimanjaro, the tallest mountain in Africa and the picture postcard beaches of Zanzibar – which can form the basis for creating tourist destinations. Mauritius has less diverse tourist attractions, but nevertheless has positioned itself as a top-end luxury tourist destination.

### Domestic productive capabilities

On balance, Mauritius has considerably better infrastructure compared with many Sub-Saharan African countries. Mauritius registered a score of 4.9 for overall infrastructure on the World Economic Forum’s (WEF’s) most recent Global Competitiveness Index (GCI),<sup>55</sup> placing it in 37th position out of 140 countries. Good infrastructure has also enabled Mauritius to develop a more diversified tourism offering by, for example, providing a platform from which to establish the country as a destination for medical tourism. The number of foreign patients receiving medical treatment in Mauritius increased from 1,000 in 2005 to 15,000 in 2011 (USITC, 2015), and Mauritius aims to treat 100,000 foreign patients by 2020, in the process contributing up to \$1 billion to the economy. The relatively new venture into medical tourism requires a much higher skill set and better infrastructure compared with traditional tourism. Mauritius is well placed in this regard. The country’s Apollo Bramwell Hospital, for example, is geared to provide a wide range of speciality treatments and specialised surgery at a similar level to that available in developed countries.

<sup>55</sup> Countries are given a score between 1 (worst) and 7 (best) on the overall infrastructure index. The 2015–16 median score was 3.54.

Moreover, the expansion of clinics and private hospitals in Mauritius has created a number of other facilities that offer high-quality treatment opportunities to foreign patients. Even so, in order for patients in developed countries to access these treatment services, regulatory changes in public and private medical insurance programmes in those countries may be required.

Tanzania lags far behind Mauritius in terms of the overall quality of infrastructure and the standard of accommodation available to tourists. On the most recent GCI, Tanzania scored just 2.4 on the overall infrastructure indicator, placing it in 127th. Results from the Tanzania Tourism Sector Survey (NBS, 2014) show many tourists identify poor infrastructure and poor service quality as areas of concern. The poor-quality infrastructure has a detrimental impact on demand for tourism services in Tanzania.

By its very nature, tourism is a globally competitive industry and, hence, a strong skills base is essential to providing accommodation, transport and activity-related services that reach international standards. Mauritius, which is now a middle-income country, fares comparatively well on several important general indicators of the accessibility and quality of education, which has contributed to the development of a labour force with the necessary skills to support tourism services. The gross enrolment ratio (GER)<sup>56</sup> for secondary school in Mauritius was 96% in 2012, with 41% for tertiary education in 2013 (WDI). A number of well-known universities have established campuses in Mauritius, including Amity University, Middlesex University, Rushmore Business School and the University of Geneva (USITC, 2015) – with this representing a services export in its own right. Dedicated training is also available to workers in the tourism sector in Mauritius (Cattaneo, 2006).

In contrast, enrolment ratios in secondary and tertiary education are markedly lower in Tanzania – the GER is 33% for secondary education and 4% for tertiary education, implying a relative scarcity of skilled local workers. Moreover, linkages between vocational training programmes and the tourism sector are not well developed (Semberya, 2015). A lack of training and skills has affected service standards within Tanzania's tourism sector, with weaknesses evident in business skills, customer services and communication (*ibid.*). Historically, Tanzania has relied on the employment of foreign workers to offset skills shortages in sectors such as mining, agriculture and construction. However, the Tanzanian government's enactment of the Non-Citizens Employment Regulation Bill (in July 2015) has introduced stringent new employment regulations that are designed to curtail the number of foreign workers in the country, and this may service as a barrier to trade in tourism services.

### **Regulatory and institutional framework**

The rapid growth of the tourism sector in Tanzania is owed, at least in part, to the liberalisation of the sector, a process articulated in the Integrated Tourism Master Plan in 1996, the revised National Tourism Policy in 1999, the Tourism Master Plan of 2002 and the Tourism Act of 2008. All of these contributed to the sector's liberalisation, which involved the privatisation of government-owned hotels and, more generally, the opening-up of the tourism services market to private sector investment (Salazar, 2009). Currently, tourism is one of the most liberalised sectors in the Tanzanian economy. Tanzania also launched a five-year International Tourism Marketing Strategy in 2012, the implementation of which has helped raise the country's profile as a tourist destination on the global stage through advertisements aired across the world.

However, there are still a number of pervasive regulatory issues, particularly related to taxation, that dampen growth in the sector. The World Bank (2015b) reports that the Tanzanian tourism sector is subject to an 'unpredictable and complex tax system', which has deterred investment, as well as opaque redistribution mechanisms that make it difficult to track how revenues are used. Tourism services enterprises also face a large number of nuisance taxes. For example, local tour operators are subjected to as many as 32 different taxes, including business registration, regulatory licence fees, entry fees, income taxes and annual duties for individual vehicles (Ihucha, 2015). There are a number of 'quick wins'

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<sup>56</sup> This is defined in the WDI as 'Total enrolment in secondary education, regardless of age, expressed as a percentage of the total population of official secondary education age. GER can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late school entrance and grade repetition.'



that could be attained through the elimination of nuisance taxes specifically affecting the tourism services sector in Tanzania.

The Mauritian government has been more successful in creating a conducive environment for operating tourism services enterprises. Mauritius is the highest-ranking country in Sub-Saharan Africa on the Index of Economic Freedom, the World Bank's Ease of Doing Business Schedule and the WEF's GCI. This stable and reliable business environment makes Mauritius a very attractive location for investors (including investors in the tourism sector), particularly compared with other countries in the region.

Despite the generally welcoming investment climate in Mauritius, restrictions do exist on the level of foreign ownership permitted within the tourism sector. Specifically, foreign firms are permitted full ownership of a hotel only if it has more than 100 rooms; smaller hotels must have at least 51% local ownership. In Tanzania, however, foreign investors are generally treated equally to nationals, although there are restrictions on foreigners running some tourist activities, such as mountain guiding, travel agencies and car rental services (US Department of State, 2013). This relatively open investment regime has encouraged a substantial amount of FDI in the tourism sector in recent years, a major contributory factor towards the growth of the sector.

### **Trade policy**

One aspect of international trade policy that is particularly relevant for tourism sector is the liberalisation of the skies. Tanzania has made important strides in this regard, marking it as an easily accessible tourist destination with good air transport connectivity between domestic locations. Tanzania has the greatest number of private airlines of any country in Sub-Saharan Africa and a much higher level of domestic competition than most African countries, with more than one provider on all of its 17 domestic routes (Bofinger, 2009). This means internal flights are generally very affordable – flights between Dar es Salaam and Zanzibar can cost as little as \$50. The relatively new arrival of FastJet, Africa's first budget airline, has also made Tanzania much more accessible to those visiting from within the region.

In comparison, Mauritius still has fairly stringent protectionist policies over its skies. The positive effects of the liberalisation of air access policies already undertaken are clear. Mitchell and te Velde (2008) show that annual tourist arrivals increased markedly following the adoption of a new air access policy in 2005, which allows for gradual liberalisation of bilateral air services agreements to key countries in Europe, Africa and Asia. This facilitated the opening up of selected routes and provision of opportunities for third carriers (such as British Airways, France's Corsair and South Africa's ComAir) to compete with Air Mauritius. Further progress on this front is especially important as some of Mauritius' competitors in the high-end tourism market, such as the Caribbean and Asian countries, enjoy advantages in terms of their geographic proximity to certain key tourism markets (the US market in the case of the Caribbean and Thailand, for example, for Europe). Indeed, the World Bank (2015a) estimates greater liberalisation of the air travel sector in Mauritius could increase passenger flows by between 20% and 30%.

### **International demand**

Europe and the US have traditionally been, and remain, the largest tourist markets for exports of tourism services from both Mauritius and Tanzania, but demand from Asia is growing more rapidly. For instance, the greatest proportion of Tanzania's tourist arrivals (42%) in 2012 were from the US, Italy and the UK, although visitor numbers from Asia and the Pacific and the Middle East grew year-on-year by 117.2% and 39.7%, respectively. While the number of arrivals from other African countries remains small as a share of total tourist arrivals, Uganda, Burundi and Rwanda all appeared for the first time in the top 15 source markets for Tanzania in 2012, highlighting Sub-Saharan Africa's growing importance as a target market for Tanzania's tourism services exports (NBS, 2014).

In the high-end tourism market, Mauritius competes directly with Asian and Caribbean countries. Europe is also the biggest source market for tourism services exports from Mauritius, accounting for 54.9% of all tourist arrivals in 2014 (down marginally from 55.1% in 2013) (Ministry of Tourism, 2014). As with Tanzania, Mauritius is increasingly becoming an attractive tourist destination for Asian visitors (15.2% of all tourist arrivals came from Asia in 2014, up from 13.3% in 2013). There is strong potential for both



Mauritius and Tanzania to expand tourism services exports to both Africa and Asia, although markets in the US and Europe should not be ignored as they still contribute the majority of overall arrivals.

### **Political economy**

The tourism sector in Tanzania has benefited from prioritisation in the Tanzanian government's policy agenda. The country's leadership recognises it as an important source of foreign exchange earnings, backed by the fact that in 2012 tourism overtook gold mining as the largest source of foreign exchange earnings for the country (Booth et al., 2014). Moreover, the sector in Tanzania has benefited in the past from the country's reputation as relatively stable and peaceful, particularly compared with its regional neighbours, which has boosted its popularity among tourists. More recently, however, this relative stability has been increasingly threatened, particularly in Zanzibar, where the October 2015 elections were annulled, against the advice of most international observers. New elections were held in March 2016, although the opposition boycotted the presidential and legislative vote. In the aftermath, the UK Foreign and Commonwealth Office has warned of a risk of heightened tension and unrest in Zanzibar, which may discourage tourists (Issa and Altinay, 2006, Yap and Saha, 2013, and Saha and Yap, 2014 have shown that demand in the tourism sector is highly sensitive to political instability). Another concern is the government's propensity to change taxation rules with little notice, disrupting long-term planning by businesses and discouraging further investment (World Bank, 2015b).

In contrast to recent events in Zanzibar, Mauritius has a reputation for being peaceful and for political stability, and it also scores very well on indices of corruption and governance, ranking among the top four Sub-Saharan African countries on Transparency International's Corruption Perceptions Index for 2015 and first on the Mo Ibrahim 2015 Index of African Governance. The high level of political stability is a contributory factor in marking it as an attractive destination for tourists (Seetanah et al., 2011).

### **SUMMARY OF KEY LESSONS**

Tourism contributes significantly to GDP and employment in Mauritius and Tanzania, but both the share of tourism in GDP and that in total employment are larger in Mauritius. Tanzania has enjoyed higher absolute growth in tourism export revenues, albeit off a much smaller base. Mauritius has made more progress in diversifying into other types of tourism services, principally through growing medical tourism and business tourism subsectors. Tourism in Mauritius also benefits from relatively good-quality tourist-related infrastructure and a comparatively skilled labour force to support tourism services. In contrast, demand for the Tanzania's tourism services exports is adversely affected by deficiencies in the availability and quality of tourist-related infrastructure and a shortage of relevant skills in the domestic economy. In both countries, developing the sector further depends on appropriate skills development, finding new markets, using open skies policy with liberalised bilateral agreements (particularly in the case of Mauritius) and building better linkages between foreign companies and local firms.

### **D5 TRADE IN AIR TRANSPORT SERVICES IN ETHIOPIA AND KENYA**

Air transport services play a key role in connecting businesses and people to markets (both domestically and internationally) and supporting trade in other sectors (especially goods trade). They are thus important in providing the connectivity necessary to support transformative processes. In this case study, we look at air transport services in Ethiopia and Kenya. Both countries have major airlines, the national carrier Ethiopian Airlines (EA) and a privatised company Kenya Airways (KQ). EA has undergone considerable expansion since 2010 as part of its Vision 2025 and is highly profitable. The airline recorded a net profit of \$148 million in the year ending June 2015, more than the profit of all other African airlines combined (which totals roughly \$100 million according to the International Air Transport Association (IATA)) (Aglionby, 2016). KQ followed suit with an expansion programme two years later in 2012, but this has been less successful and the airline recently suffered heavy financial losses. In 2015, KQ was operating at a loss and took a loan of \$42 million from the Kenyan government. KQ is now implementing a restructuring project in an attempt to stem further losses, which includes restructuring its debt and selling off aircraft.

We examine some of the factors that led to the contrasting experiences (success in the case of EA and major financial issues in the case of KQ) of the two East African airlines. We also look at how the aviation industry contributes to economic transformation and existing opportunities for further strengthening these linkages.

**IMPACT OF THE AIR TRANSPORT SERVICES SECTOR ON ECONOMIC TRANSFORMATION, ETHIOPIA AND KENYA**

EA transported roughly 200,000 tonnes of cargo in 2015; KQ transported 73,693 tonnes in the same year (EA, 2015; KQ, 2015). High cargo capacity is important for economic transformation as it enables exports to be shipped quickly and cheaply. Cargo capacity has been beneficial for both Ethiopia and Kenya's cut flowers industries, which are among the countries' largest exports to Europe. EA, in particular, is positioning itself to further expand its provision of logistical services to the region's cut flowers industry. The airline is currently building a new cargo terminal, which should be complete by end-2016 and will have an annual capacity for both dry and perishable goods of 1.2 million tonnes. EA also recently renewed its partnership with Liege Airport, its main European cargo hub for flower exports.

EA's expansion plan (which has involved substantial increases to the airline's fleet, destination routes and passengers served) is very promising in terms of economic transformation because it focuses on a diversified range of services, targeting domestic and regional markets, international passenger markets and the cargo market and, increasingly, providing MRO services. This allows for strong linkages across the rest of the economy as well as greater opportunities to boost exports, particularly in services.

The financial performance figures presented in Table A23 indicate that both airlines are large revenue generators, although EA's operating revenue in the 2015 financial year was more than double that of KQ, reflecting the significantly larger number of passengers it carries on an annual basis. EA is also highly profitable, whereas KQ registered a large loss in the 2015 – EA registered a total profit of \$148 million in the 2015 financial year, higher than all other African airlines combined. KQ recorded a substantial loss, of \$259 million, in that year. KQ's revenues were also affected by falling international demand following the terrorist attacks in Nairobi and the loss of a significant amount of money (\$58 million) on fuel hedging (KQ, 2015).

**Table A23. Comparison of EA and KQ key cost, employment and revenue performance indicators, 2015**

	EA (year ending 30 June 2015)*	KQ (year ending 31 March 2015)**
Annual passengers	6.4 million	3.7 million
Employees	8,678	3,986
Total staff costs	\$181 million	\$109 million
Average cost per employee	\$20,863	\$27,563
Operating revenue	\$2.36 billion	\$1.05 billion
Net profit/(loss)	\$168.8 million	-\$258.7 million

Notes: \* Using, where appropriate, the 2015-year average ETB to USD exchange rate: 1 ETB = 0.04781 USD. \*\* Using, where appropriate, the 2015-year average KES to USD exchange rate: 1 KES = 0.01005 USD.

Sources: [www.static.skyteam.com](http://www.static.skyteam.com); [www.staralliance.com](http://www.staralliance.com); [www.ethiopianairlines.com](http://www.ethiopianairlines.com); [www.kenya-airways.com](http://www.kenya-airways.com)

The air transport services sector is generally less employment-intensive than other services sectors such as tourism. Nevertheless, the sector does provide a range of direct employment opportunities through the airlines themselves (e.g. flight and cabin crews, executives, ground services) as well as through handling agents, airport operators and employment at airports (e.g. onsite work at government agencies such as customs or in retail outlets, hotels and restaurants). Both airlines considered in this case study create significant numbers of jobs directly, particularly in the case of EA, which employs more than twice the number of people as KQ (see Table A23). Employment costs are, however, higher for KQ: staff costs exceed those faced by EA by, on average, \$7,000 per employee. Jobs are also supported indirectly in industries that supply the air transport services sector (e.g. fuel suppliers, construction and maintenance of airport facilities, business support services). Furthermore, the positive externalities created by air transport services for other sectors – for instance by facilitating tourist travel or enabling trade by transporting merchandise – also contribute to employment creation.

*THE DEVELOPMENT OF AIR TRANSPORT SERVICES IN ETHIOPIA AND KENYA***Endowments and structural factors**

EA and KQ are the sole carriers for a large number of routes. According to Gwilliam (2011), EA makes up the greatest share (45%) of the monopoly market in Africa, defined as routes served only by one carrier. KQ is second, making up 22% of the monopoly market. Recent trends suggest EA's monopoly market share may now be even larger on the back of significant expansion over the past five years. EA operates 89 routes internationally (and a further 19 routes domestically), compared with 69 in 2011 (Aglionby, 2016). In comparison, KQ flies to 58 international destinations and four domestic destinations (see Table A24).

Being the sole carrier on many routes in Africa allows the airlines to make above-normal profit on those routes. Moreover, competition on other more common routes ensures a level of efficiency so the airlines remain competitive. It is this mix of both opportunities for above-normal profit and outside pressures to be competitive that ensures long-term viability. In contrast, many flag carriers in African countries, which are often the sole provider on the majority of their routes, do not face the same competitive pressures and so suffer from prohibitively high running costs.

**Domestic productive capabilities**

EA has expanded its fleet significantly over the past five years, alongside considerable growth in the number of destinations and countries served and the number of passengers carried. This has seen the number of aircraft in the EA fleet more than double from just 34 in the 2009 financial year, while the number of passengers carried has also doubled since then. At present, EA has the largest fleet in Africa, comprising 80 aircraft, compared with KA's fleet of 43 aircraft in the 2015 financial year. Aside from EA, only three airlines in Africa have fleets of over 50 planes (Royal Air Maroc, South African Airways and EgyptAir). EA's major hub is in Addis Ababa. It has a second hub in Lomé, Togo, both for its access links to West Africa and as a fuelling stop (it takes more fuel to take off from Addis Ababa because it is at high altitude, meaning a need to refuel on long distance flights). EA also has a European hub in Dublin and a cargo hub in Liege. KQ's only major hub is located in Nairobi.

EA recently invested \$100 million in its aviation academy, designed to attract an international student base as well as promoting strong skills transfer. KQ also has a training programme although it does not include pilot training, instead focusing on training for in-flight services. The airline also recently partnered with the Kenya International Convention Centre in a bid to improve linkages between the aviation and tourism industries, particularly tourism for business. This type of tourism benefits from higher profit margins as well as creating business opportunities within the host country.

**Table A24. EA and KQ destination routes and aircraft capacity, 2015**

	EA (year ending 30 June 2015)*	KQ (year ending 31 March 2015)*
International destinations	89	58
Domestic destinations	19	4
Countries served	63	48
Daily departures	190	154
Aircraft	80	43

Sources: [www.static.skyteam.com](http://www.static.skyteam.com); [www.staralliance.com](http://www.staralliance.com); [www.ethiopianairlines.com](http://www.ethiopianairlines.com); [www.kenya-airways.com](http://www.kenya-airways.com)

**Regulatory and institutional framework**

The labour market in Ethiopia is notably less regulated than that in Kenya. In Ethiopia, there is no minimum wage legislation (except for public servants), and, while workers are allowed to join unions, employees of 'essential services', including air transport, are prohibited from striking. In contrast, in Kenya the minimum wage for skilled workers is \$153.15 per month and workers in the aviation industry have the right to strike (US Bureau of Democracy, Human Rights and Labor, 2014).

These disparities are evident in the differing responses to proposed cost-cutting measures in the aviation industry in the two countries. While EA's workforce accepted a pay cut in 2012, KQ spent two years fighting the unions in court over the dismissal of 447 workers in 2012, although it eventually won the case (Mungai, 2015).

In Kenya, there is a 16% VAT charge on ticket sales and spare parts imports, as well as a 2.25% import fee for jet fuel (Mungai, 2015). In Ethiopia, a stabilisation fund levy and excise tax on jet fuel increase airline operating costs. IATA (2013) estimates that, if Ethiopia were to remove the stabilisation fund levy and excise tax on jet fuel, its operating costs for international passengers would fall by 5.5%. In both countries, these taxes and levies affect the competitiveness of the airlines and the travel and tourism sector more generally.

### Trade policy

Protectionist trade policy remains a strong feature of the African aviation industry. The Yamoussoukro Decision, in which 44 African countries signed an agreement to allow fifth sky freedoms<sup>57</sup> between all member countries in 1999, is yet to be implemented. However, a key factor behind EA's ability to price competitively is its great number of bilateral agreements with other countries, allowing it to expand its network and hence be more competitive. For example, Rwanda and Ethiopia signed an aviation deal in 2016 that will grant their respective national carriers fifth freedom rights, in effect meaning EA will be able to operate unhindered in Rwandan airspace (and vice versa) (Mwiti, 2016). These sorts of strategic partnerships (EA has other partnerships with Malawi Airlines and Togo's ASKY) have helped EA confront strong competition from Middle East carriers such as Etihad, Qatar and Emirates in the African market (EA reportedly beat off competition from Etihad to formalise the partnership with RwandAir). Partnerships with established Asian airlines, including Singapore Airlines and ANA (the largest Japanese carrier) have also helped EA expand into the Asian market (Barlow, 2016).<sup>58</sup> These partnerships have been complemented by significant investment in capital and resources, which have also helped EA compete with the financial muscle of the Middle East carriers (Sanchez, 2015). InterVISTAS (2014) estimates that EA benefits from 10–21% lower fares and 35–38% greater frequencies on its intra-African routes owing to liberal bilateral agreements compared with more restricted intra-African routes.

EA also has two strategic partnerships within Africa: a 40% stake in ASKY, based at its second hub in Lomé, as well as a 49% stake in Malawian Airlines, giving it greater access to the Western, Central and Southern African markets. Moreover, EA joined Star Alliance in 2011 and has partnerships with a number of other Star Alliance member airlines. KQ is 26.7% owned by AirFrance-KLM and also has partnerships and code-sharing agreements with a number of other airlines.

### International demand

International demand for passenger travel on African airlines has been reduced in recent years by challenges such as the Ebola breakout. Terrorist incidents have also stemmed the flow of tourists, particularly in Kenya, following the attacks in June 2014. Intra-African demand has also fallen, partly because of fiscal crises in African oil-exporting countries following the fall in the price of oil (EA, 2015).

At the same time, the high growth rates that have prevailed in many Asian countries over the past decade have led to an explosion in demand for air travel. EA has been much more successful than KQ in maximising the opportunities offered by the burgeoning Asian market. As of 2015, EA offered nine destinations in Asia compared with KQ's four. Moreover, while EA more than tripled annual capacity for routes to China between 2007 and 2015, now offering more than 350,000 seats per year, KQ has achieved only modest growth, roughly doubling capacity to just under 100,000 annual seats in 2015 from under 50,000 seats in 2007 (Centre for Aviation, 2015).

Overall, in 2014 African airlines experienced the slowest annual demand growth globally, an increase of 0.9% compared with 2013. In comparison, Asia-Pacific airlines experienced growth of 5.8% over the same

<sup>57</sup> Fifth sky freedoms can be defined as the right to fly between two foreign countries on a flight originating or ending in one's own country.

<sup>58</sup> It is important to note, however, that while beneficial for individual carriers, such partnerships are trade diverting and may raise prices relative to open skies policies.

period. The Ebola crisis, falling oil revenues and weaknesses in the South African economy all contributed to this low figure.

With both based in East Africa, a common feature of the two airlines is their advantageous location for Asia–Africa flows. Both companies are well located to take advantage of the opportunities that the growing Asian market has to offer. They are also well placed as a transit hub for travel between Asia and Latin America, which are currently EA’s biggest target markets (Centre for Aviation, 2015).

### **Political economy**

KQ and EA have very different ownership structures. EA is entirely state-owned, whereas KQ was privatised in 1996, although the government retains a 29.8% share in the company (KLM-AirFrance owns 26.7% and the rest is distributed among various shareholders). EA has managed to avoid the pitfalls often associated with government-owned enterprises – namely, inefficiency and corruption.

EA has sought to establish a clear divide between ownership and management. Recruitment is done on a meritocratic basis rather than for political favours and politicians and civil servants do not receive benefits, such as free airline tickets (Norbrook, 2014). While all of EA’s profit is reinvested, the airline does not receive government subsidies. In contrast, KQ, although privatised, is still heavily reliant on government funds. For example, KQ received a loan of KSh 4.2 billion (equivalent to \$42.2 million) from the Kenyan government in 2015 following heavy financial losses. Questions have been raised about the investment and operational decisions of KQ’s management, especially those related to the airline’s controversial fuel hedging strategy and its decisions around routing arrangements and strategic partnerships, as well as its human resource policies and practices, which have been the source of considerable industrial unrest (Ngugi, 2015).

### **SUMMARY OF KEY LESSONS**

Both airlines have been successful in attracting tourists and developing other sectors such as flower exports, which are crucial for economic transformation. In particular, EA’s diversified growth model facilitates strong linkages between the company and the rest of the economy, bringing greater opportunities for economic transformation. Our findings indicate that the main factors behind the success of EA’s large expansion plan include its aggressive targeting of the Asian market, its numerous bilateral agreements, its successful governance structure and its unregulated labour market, which have helped keep costs low relative to competitors (including strong competition from the large Middle East airlines in the African market). Recent estimates suggest EA’s fares on its intra-African routes are 10–21% lower thanks to restrictive bilateral agreements that exclude other competing airlines. In comparison, KQ has not been as successful in capitalising on growth in air travel in the Asian market, nor has it managed to expand its regional network as successfully. Furthermore, higher operating costs mean KQ has struggled to engage in competitive pricing. This meant it was unable to bounce back from the negative shocks of the losses incurred from fuel price hedging, the reduction in international visitors following the 2014 terrorist attacks in Nairobi and the fall in regional demand following the fiscal crises in oil-exporting countries. KQ remains heavily reliant on government funds, and the investment and operational decisions made by the airline’s leadership in recent years, along with its human resource policies and practices, have been heavily criticised.