

# From Evidence to Policy: Supporting Nepal's Trade Integration Strategy

## Policy Note 3

### Diversifying Nepal's Economy through a Dynamic Services Sector

Assessment of trade potential in services

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## Executive Summary

**This note looks at the services sector and its dual role for Nepal: as a direct source of exports, and as a provider of key inputs for other sectors of the economy.** It identifies sources of potential for services exports, and key obstacles for improved efficiency in the sector. It also provides some policy recommendations to alleviate the observed obstacles, and presents examples of good practices from across the world in terms of services trade performance and reforms.

**First, services are a source of competitiveness as inputs into manufacturing and agriculture exports. Second, direct exports of services provide an opportunity for export diversification and can be used as an engine for economic growth.** Many developing countries have benefitted from the expanding opportunities offered by new technologies to become strong exporters of modern services activities. These experiences, supported by empirical evidence, show that while services as inputs into other economic activities will remain an important determinant of economic performance in developing countries, they can also join the club of services exporters and benefit from opening of the services market. Yet developing an efficient services sector, and becoming a competitive exporter of modern services, is dependent on a number of important factors. This includes an open regulatory environment, strong foreign direct investment, high-quality infrastructure, and a skilled workforce.

**Unlike trade in goods, trade in services is recorded at high levels of aggregation and often with different sectoral classifications across data sources.** This is particularly true for developing countries. This note uses the most recent data available for services trade from a variety of data sources, to present an inclusive depiction of Nepal's services export performance. However, data limitations exist. The data analysis results were further substantiated as best as possible by interviews with the public and private sector.

**Services are very important for Nepal's exports, and value added generated by services exports is high.** Measured in gross values, total services exports reached \$1.2 billion and represented 54% of Nepal's export basket in 2014. The services sector represented 44% of all domestic value added that was exported in Nepal in 2014. This includes both the value added that services exports directly create, as well as the domestic inputs that the services sector demands from other sectors for its exports. Most of these exports are driven by travel and telecommunications (80%), although there is a nascent but flourishing software sector with activities that remain largely informal.

**Nepal reveals a comparative advantage in tourism and travel exports but in low value-added niches, with limited diversification across destinations and activities.** Upgrading into higher value added tourism rests on the sector having access to better tourism infrastructure such as airports, roads and tourist facilities (which today are inadequate), higher quality inputs such as taxis and minibuses (which currently pay high tariffs), and a better business environment (which is characterized by lack of transparency in tourism investment policies). Moving into higher value added tourism activities could increase exports to high-income countries, but there is also evidence that Nepal attracts fewer tourists from China and India than its potential. These results may serve as a guide for promotional decisions to target the India and China markets. There is also scope for the Nepal Tourism Board and the Trade and Export Promotion Center to work together to promote new tourism products, and support the development of other domestic tourist destinations, such as Western Nepal or along the Indian border.

**Both IT services (software outsourcing) and ICT-enabled services (BPO) are promising sources of growth, but face challenges and bottlenecks that will require both general improvements in Nepal's business climate and some focused policy measures.** Today, BPO services in Nepal are limited to a few larger firms.

Instead, Nepal's software sector is made up of a range of players, including foreign-owned and private firms, as well as thousands of informal freelancers. The Government of Nepal should continue efforts to improve the business environment, as the larger number of informal software contractors may result from constraints to formally set up or grow a business in Nepal. Improving access to venture capital and supporting accelerators and incubators can also foster an effective start-up ecosystem. The quality of IT training programs in Nepal can be enhanced by linking the private sector with academia, to ensure students are acquiring skills relevant for the industry.

**Good quality, efficient and productive services inputs are also important for a firm's or sector's export competitiveness.** Yet the availability of services inputs – including transport, finance, electricity and water supply – are perceived as obstacles to the manufacturing and agriculture sectors' performance in Nepal. But these backbone services are important for exporters, and manufacturing is particularly dependent on services for value addition (in part because manufacturing creates little value added in Nepal's economy).

**The transport sector is extremely important for Nepal's international competitiveness.** The top export sectors for Nepal use transport services more intensely than other sectors. For example, almost 40% of services inputs provided to processed food exports are of transport, 30% for leather and 25% for beverages and tobacco exporters. In agriculture, 45% of services inputs are accounted for by transport. Thus, improvements in the competitiveness of the transport sector will have a direct and sizable bearing on the profitability, and competitiveness of these export sectors.

**The regulatory environment governing services providers affects both the quality of domestic services provision as well as the ability of countries to export services.** This includes the actual laws, as well as how those laws are implemented in practice within a country. Openness in the services sector is part and parcel of a comprehensive growth-enhancing trade policy. Lack of competition impacts the ability of other sectors to use services as inputs, because it creates a reliance on domestic services as inputs for manufacturing production. In India and Indonesia, for example, reforms in the services sectors improved services provision, as well as the performance of manufacturers that used those services.

**In particular, restrictions around trade in transport services are high.** Nepal, a landlocked country, imposes high restrictions in transport services trade, and the domestic sector is syndicated and highly anti-competitive, imposing large costs on its users that spend a large portion of their input bills in transport. Policies to manage and regulate the authority of trucks and to strengthen the Government's ability to control these practices should be put in place by the Department of Transportation.

**The largest hurdle for SMEs to access finance is lack of collateral, in part due to regulations of the Central Bank that are skewed towards fixed asset capital backed lending.** To date there is no secure transaction registry in Nepal for lending to happen against movable capital such as inventories. (The World Bank Group is currently in dialogue with the Government to support the secured lending reform initiatives.) A complementary approach is through a credit rating agency (a third party that rates a firm based on past performance). There is only one credit rating agency operating in Nepal, and potential new entrants faced regulatory hurdles, in particular licensing restrictions. Inadequate business skills and financial literacy also limit access to finance. Government-supported programs can strengthen the linkages between services providers such as bookkeepers and accountants and firms to build up these skills.

**Allowing a payments gateway for foreign payments into Nepal is crucial for e-Commerce.** E-commerce is a powerful tool for exporters of high-quality products at low-volumes. In this area Nepal has great potential. But lack of the necessary licensing of a payments gateway means firms in the handicraft sector, for example, cannot sell online to overseas customers because they cannot receive foreign currency

payments into Nepal. It is important that the Central Bank, through its recently set up 'Settlements Department' accelerates this process.

**Electricity shortages and power outages are also major hurdles for firms, yet there is immense potential in Nepal to overcome these hurdles by developing the hydropower sector.** Cheap, reliable and clean energy will provide consumer goods at affordable prices and improve competitiveness of Nepali enterprises. But constraints exist, in particular related to foreign investment. While this sector is discussed in more detail in other pillars of the project, earmarking remittances for investment in Nepal is one policy option that could help develop the hydropower sector.

## Introduction

**Three of the 12 sectors identified in Nepal's National Trade Integration Strategy 2015 (NTIS 2015) are services-related.** The NTIS 2015 (a follow-up to the NTIS 2010) charts a possible course for the development of the country's export sector over the next three to five years, together with possible capacity developing actions and selected short- to medium-term priorities that are supportive of inclusive growth. The NTIS 2015 has identified 12 sectors with potential to drive export growth in Nepal. Three are services sectors including: tourism (leisure, business, education and medicals), labor services (semi-skilled and skilled human resources), and information technology (IT) and business process outsourcing (BPO) services. The World Bank is providing support to the Government of Nepal to identify strategies for greater integration in the global marketplace as identified in the NTIS 2015, by identifying policy levers to enhance export competitiveness, with the ultimate goal of fostering growth and job creation.

**This note assesses Nepal's trade potential in services, and identifies actionable policy measures that are needed for Nepal to achieve this potential.** The framework used to assess Nepal's trade potential in services starts from the idea that services play a dual role for building export competitiveness in the Nepalese economy. First, services are a source of competitiveness as inputs into manufacturing and agriculture exports. Second, direct exports of services provide an opportunity for export diversification and can be used as an engine for economic growth. Many developing countries have benefitted from the expanding opportunities offered by new technologies to become strong exporters of modern services activities. These experiences, supported by empirical evidence, show that while services as inputs into other economic activities will remain an important determinant of economic performance in developing countries, they can also join the club of services exporters and benefit from opening of the services market. Yet developing an efficient services sector, and becoming a competitive exporter of modern services, is dependent on a number of important factors. This includes an open regulatory environment, strong foreign direct investment, high-quality infrastructure, and a skilled workforce.

**Unlike trade in goods, trade in services is recorded at high levels of aggregation and often with different sectoral classifications across data sources.** This is particularly true for developing countries. This note uses the most recent data available for services trade from a variety of data sources, to present an inclusive depiction of Nepal's services export performance. However, data limitations exist. The data analysis results were further substantiated as best as possible by interviews with the public and private sector.

**The remainder of this note proceeds as follows.** Section I analyzes the direct services export performance of Nepal's exports relative to comparator countries, when measuring exports in gross or value added terms.<sup>2</sup> It takes a detailed look at performance of Nepal's priority export potential services sectors. Section II analyzes the indirect services export performance, when services are used as inputs for other sectors' exports. It takes a perspective of services for cross-cutting export competitiveness. This analysis is undertaken in value-added terms. Section III details the policy implications that arise from this analysis, taking both a cross-cutting and sector-specific point of view.

### I. Assessing services export potential

**Section I of the report explores the importance of the services sector for Nepal from the first role that services play: as an avenue of export diversification and growth.**

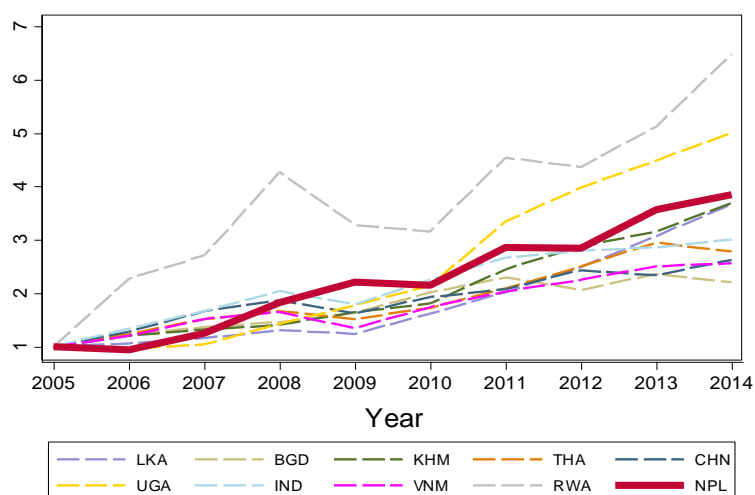
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<sup>2</sup> Annex A lists the comparators chosen to benchmark Nepal's services export performance.

### *Services export growth has been robust*

**Nepal's gross services exports have been extremely dynamic, exhibiting very strong growth.** Services are very important for Nepal's external trade. Measured in gross values, total services exports reached \$1.2 billion and represented 54% of Nepal's export basket in 2014.<sup>3</sup> The share of services exports in total exports is highest in Nepal, whereas other larger countries are more specialized towards goods exports, for example Vietnam, China and Bangladesh (with services shares less than 10%). Commercial services exports (a subset of total services exports) have averaged 17% annual growth since 2005, almost quadrupling in value by 2014 (Figure 1).<sup>4</sup> This growth surpassed almost all comparator countries, but fell short of two other landlocked countries of Uganda and Rwanda, whose export baskets are also specialized towards services (45% and 42%, respectively).

**Figure 1: Commercial services export growth, 2005-2014**



Source: Authors' calculations based on data from UNCTAD.

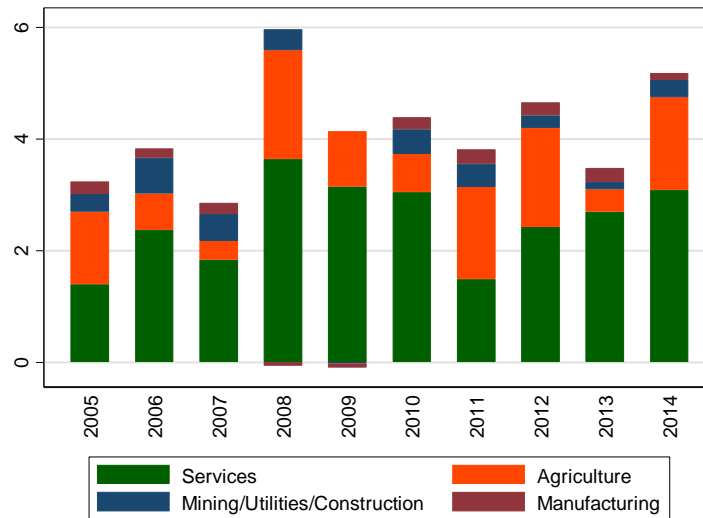
**Services exports have expanded alongside domestic production, and the aggregate services sector has contributed considerably to domestic growth.** In 2014, the services sector accounted for 51% of Nepal's GDP, up from 45% in 2005. Agriculture accounted for 35% and industry the remaining 16%. Industry comprises value added in mining, manufacturing, construction, electricity – including hydroelectricity, an important sector for Nepal – water, and gas. All sectors in Nepal's economy experienced positive growth since 2005, with the exception of zero growth in manufacturing in 2008 and 2009 (Figure 2). The leading sector, however, has been services, contributing more than half of total GDP growth in most years, followed by agriculture. The industrial sector – in particular manufacturing – has played a lesser role in growing the domestic economy.

<sup>3</sup> The analysis of gross services trade focuses on transactions reported in balance of payments statistics, including cross-border trade (foreign services providers providing services in Nepal) and consumption abroad (foreigners consuming services in Nepal). Services trade that takes place through FDI and temporary movement of people are not covered in these data. Annex B describes the different ways, or modes, in which services can be traded.

<sup>4</sup> Commercial services exports – defined as total services excluding government services – are used throughout this report (but note when only total services statistics are available). Commercial services are generally used to reflect the developments of the private services sector, as government services include embassies, consulates, military units, etc., as well as the transactions of international organizations. However, in some countries commercial services can be government/publically-owned, for example a national airline, and would thus be included in the report's statistics.



**Figure 2: Sectoral growth contribution, 2005-2014**



Source: Authors' calculations based on data from World Bank World Development Indicators.<sup>5</sup>

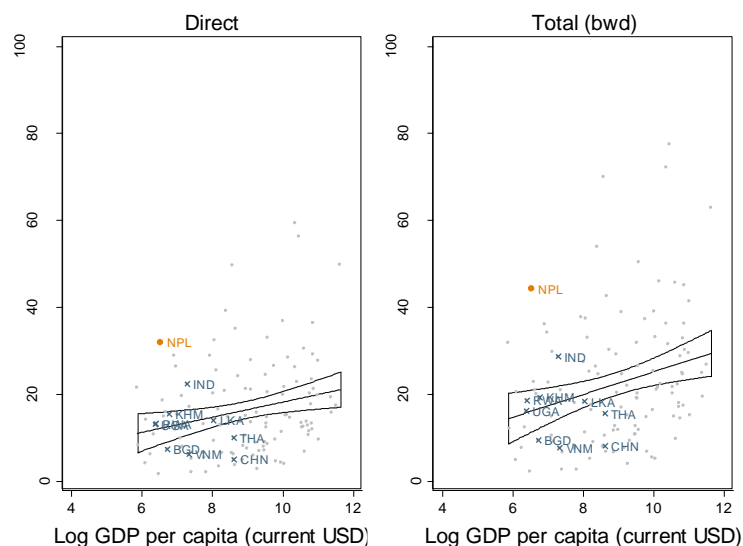
**Measuring exports by the domestic value addition they create continues to show a strong reliance of Nepal's economy on services exports.** A country's performance in gross services exports can distort the real contribution of a sector's exports to an economy due to domestic and imported input use.<sup>6</sup> When exports are measured by the domestic value added they create, it is possible to split the contribution of a sector into direct and indirect contributions.

**Value added generated by total services exports is high, but non-services exports add more value per dollar of gross exports.** Direct services exports – that is, the value added that the services sector directly exports – represents 32% of all domestic value added that is exported in Nepal. This is significantly higher than other countries at a similar level of economic development, and all peer countries including India (Figure 3). (Direct *commercial* services exports represent 20% of all domestic value added that is exported in Nepal, below that of India, while direct non-services exports represent 29%.) Adding the domestic inputs that the services sector demands for its exports – that is, the backward linkages – the services sector now represents 44% of all domestic value added that is exported in Nepal. (Total *commercial* services exports represent 31%, higher than even India.) The total export value added share of services (44% of exports) is below the gross export share of services (54% of exports), suggesting that non-services exports add more value per dollar of gross exports.

<sup>5</sup> Services correspond to ISIC divisions 50-99, industry to ISIC divisions 10-45, and agriculture to ISIC divisions 10-5. Industry includes manufacturing, which corresponds to ISIC divisions 15-37.

<sup>6</sup> Exports are traditionally measured in gross terms (i.e. their transaction value, or the price paid for the goods or services). Alternatively, exports can be measured by the domestic value added that they create in an economy, based on economy-wide accounting flows between sectors, found in input-output tables. As Annex D explains, the analysis of trade in value added nets out imports, and considers that some domestic sectors are used as intermediate inputs to other activities' exports (if considering forward linkages) or that some domestic sectors use intermediate inputs from other activities for their exports (if considering backward linkages). Measuring exports on a value added basis thus provides a truer sense of the overall importance of a sector for a country's exports.

**Figure 3: Benchmarking direct and total services export shares, 2011**



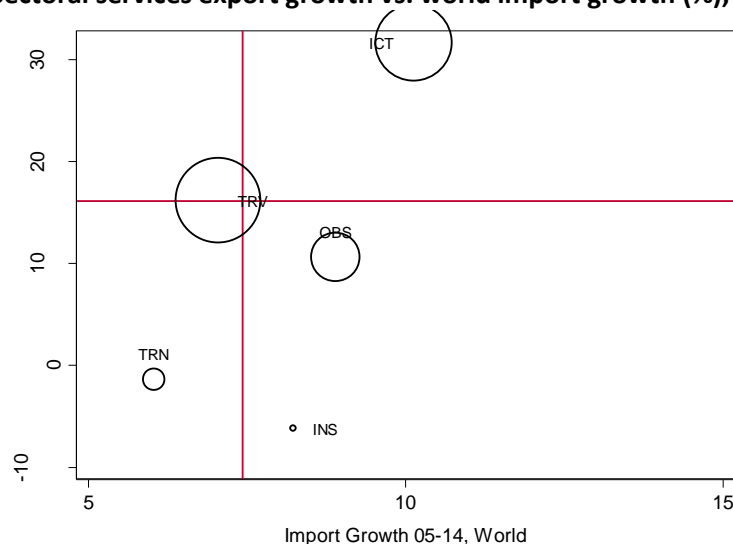
Source: Authors' calculations using data from World Bank Export of Value Added Database.

#### *Exports have become more concentrated*

**Services export growth was driven largely by the travel sector, as well as telecommunications, computer and information services and other business services, where Nepal has gained world market shares since 2005.** Figure 4 plots the growth rate of Nepal's exports against the growth rate of the world's imports of five services sectors: telecommunications, travel, other business services, transport and insurance.<sup>7</sup> The vertical line represents the average annualized growth rate of world commercial services imports, and the horizontal line the average annualized growth rate of Nepal's commercial services exports. Nepal's services exports have been most dynamic in two sectors: telecommunications (averaging 32% between 2005 and 2013) and travel (averaging 16%). Growth of Nepal's telecommunications exports was above both the world average and Nepal's average for commercial services, whereas the transport sector grew slightly below the average for Nepal and similar to the world average. Nevertheless, Nepal gained world market shares in each of these sectors.

<sup>7</sup> Annex C details the source of the data, and defines these services categories. The size of the circle represents the importance of the sector in Nepal's export basket. Circles above the 45-degree line indicate that Nepal's exports have grown stronger than world imports, and the country has gained world market share in the sector.

**Figure 4: Sectoral services export growth vs. world import growth (%), 2005-2013**



Source: Authors' calculations based on data from UNCTAD.<sup>8</sup>

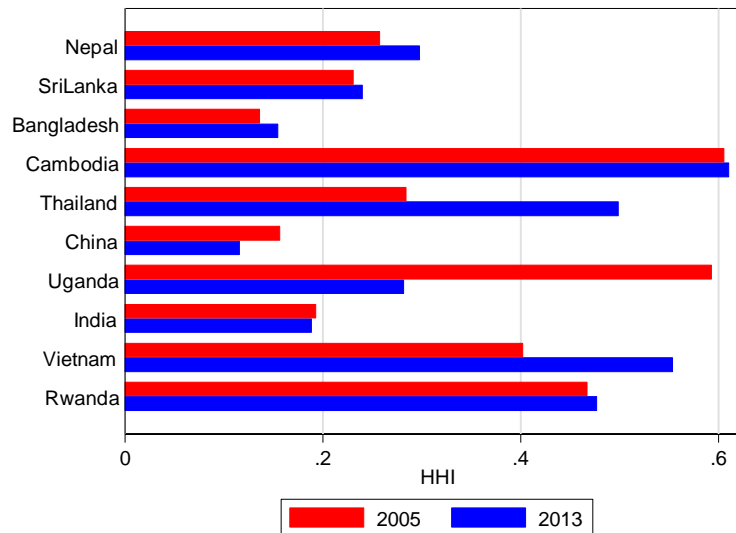
Note: COM = Communications; TRV = travel; OBS = other business services; TRN = transport; INS = insurance.

**These high-growth sectors are also the most important sectors for Nepal's services exports. As a result, the sectoral concentration of services exports has increased since 2005.** Export diversification is important because it prevents economies from being too dependent on one sector. Two sectors – travel (tourism) and telecommunications – account for more than 80% of Nepal's services exports. Travel services comprised almost half of Nepal's services exports in 2013 (45%), followed by telecommunications (37%) and other business services (15%). Figure 5 plots the Hirschman-Herfindahl indexes of export concentration for Nepal and comparators in 2005 and 2013.<sup>9</sup> China, Bangladesh and India have all achieved significantly more diversified services export baskets Cambodia, Thailand and Vietnam – countries that also rely on tourism receipts – had concentration ratios above Nepal's that also increased between 2005 and 2013.

<sup>8</sup> ICT refers to information and communications technologies; TRV to travel; OBS to other business services; TRN to transport; and INS to insurance.

<sup>9</sup> To assess diversification, it is necessary to measure its opposite, concentration, based on a standard measure, namely the Hirschman-Herfindahl index (HHI). Specifically, the HHI for country  $i$  is calculated as:  $HHI_i = \sum_j x_{i,j}^2 / X_i^2$  where  $x_{i,j}$  is exports from  $i$  in sector  $j$  and  $X_i$  is total exports of  $i$ . The normalized version of the index ranges from zero to one, with higher values indicating higher concentration of exports of services.

**Figure 5: Indexes of export concentration, 2005 and 2013**



Source: Authors' calculations based on data from UNCTAD.

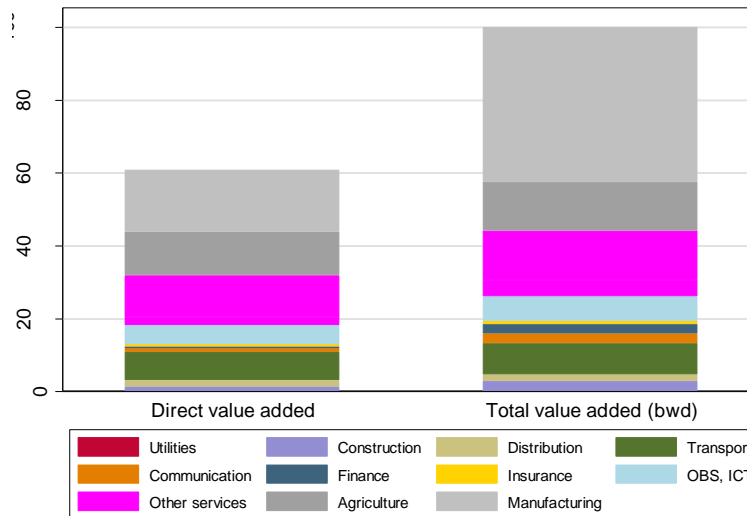
**Although growing robustly in recent years, the potential to sustain this growth – or accelerate it – warrants careful attention.** Focusing services export growth in tourism and telecommunications services will likely continue to increase this export concentration. While this is not problematic per se, it does increase vulnerabilities to sector-specific shocks. For example, the earthquake and the fuel crisis impacted Nepal's economy largely due to its impact on tourism. Scope to increase exports of other services may be limited without further action by the Government of Nepal. This discussion is taken up below.

**The real appreciation of Nepal's exchange rate also impacts export competitiveness of the services sector.** Linked to increasing remittances inflows, Nepal's real effective exchange rate has been appreciating, making exports more expensive and imports cheaper. While this is discussed further in other pillars of the report, real appreciation also impacts the international competitiveness of services exports. In addition, services exports tend to have a lower import content than goods exports, particularly those in global value chains. This implies a less dampening effect of continued exchange rate appreciation (whereby cheaper imported inputs helps offset the loss of competitiveness of exports).

**The most important services sectors that export value added directly include: other services, other business services and ICT, and transport services.** The importance of other services increases once considering the domestic inputs it uses to generate its exports. The same is true for finance and communications services, despite creating little value added directly.

**Manufacturing is more important than services and agriculture for creating backward linkages in Nepal's economy.** Over 60% of Nepal's domestic value added contained in its exports is created directly within export sectors – either services, agriculture or manufacturing (Figure 6). Instead, 40% of value added contained in Nepal's exports is generated via the indirect linkages with export sectors. Manufacturing exports create almost all the backward linkages with Nepal's domestic economy and agriculture almost none.

**Figure 6: Composition of Nepal's export basket, 2011**



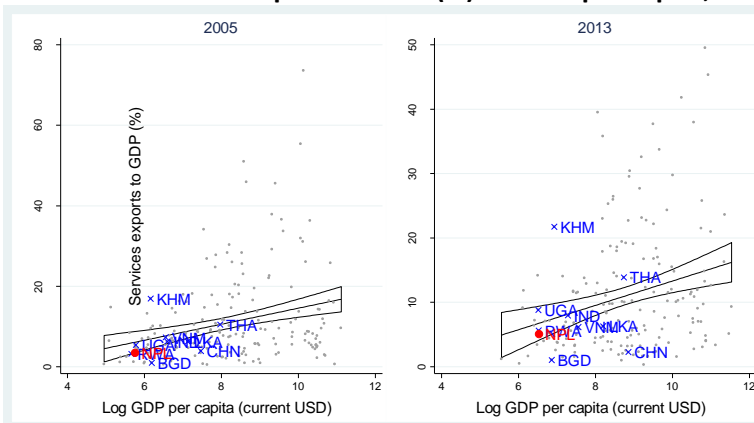
Source: Authors' calculations using data from World Bank Export of Value Added Database.

**Services are important *suppliers* of intermediate inputs, more so than they *pull* intermediate inputs from other sectors.** Services are embedded as inputs in exports of manufactured and agriculture goods, while the production of services exports does not necessarily involve significant input from the latter two. In fact, Nepal's services sector accounts for 57% of total value added that is exported, when measuring the services that are supplied to other sectors for exports. This analysis of forward linkages is presented in Part II of the report, when looking at the linkages between services and other export sectors.

*Potential to increase services exports exists*

**Looking at the size of gross exports relative to the economy's GDP, Nepal falls below other countries at a similar stage of economic development.** Gross services exports relative to GDP were 5% in 2013, and had increased since 2005, suggesting services exports have grown faster than GDP (Figure 7). This finding suggests scope for Nepal to increase gross services of exports.

**Figure 7: Commercial services exports to GDP (%) vs. GDP per capita, 2005 and 2013**



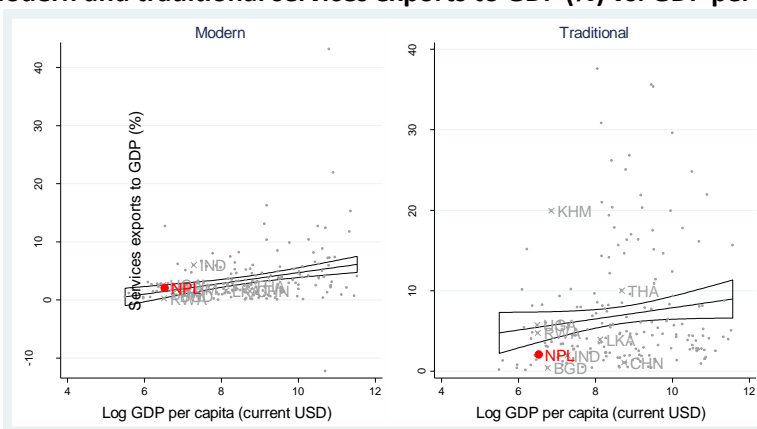
Source: Authors' calculations based on data from World Bank World Development Indicators.

**Unlike Nepal's export sector, the size of Nepal's domestic services sector remains above expected levels given Nepal's level of economic development.** This suggests a higher prevalence of informal, non-tradable services sectors or low-value added tradables in Nepal relative to peers.

**Nepal outperforms other peer countries in exports of modern services but not traditional services.**<sup>10</sup> This 'over-performance' is driven by telecommunications exports, which suggests scope to increase other modern services exports. Notably, modern services exports are not as constrained by distance or complex geography as other exports. Thus Nepal's landlocked-ness should not deter its export potential in modern services activities.

**Scope also exists to continue increasing exports in travel and transport services.** Specializing in traditional services does not imply lagging in dynamism or efficiency. Specializing in tourism can be an important development strategy for a country, and transport services are imperative to overcome connectivity challenges. For a landlocked country, transport services should play a more important role than for a country with a more central geographic location. In aviation alone, Nepal has tremendous scope for growth once considering that a country as under-developed and landlocked like Nepal, Ethiopia, has an airline that services international destinations with modern aircrafts (see Box 1). However, the share of traditional services in total services is quite low in Nepal, and is explained largely by travel services (Figure 8). Transportation's export share declined from 12% to 3% between 2005 and 2013.

**Figure 8: Modern and traditional services exports to GDP (%) vs. GDP per capita, 2013**



Source: Authors' calculations based on data from World Bank World Development Indicators.

#### **Box 1: Ethiopian Airlines – A success story**

**Ethiopian Airlines provides a successful example of a services sector that contributes jointly to export diversification, and an important input into manufacturing and agricultural exports.** The airlines sector in Ethiopia pushed the growth of the agricultural sector. The airline sector has driven Ethiopia's strong growth in direct exports of services, and helped link the landlocked country's agricultural sector with the world economy.

**Services exports are booming largely due to Ethiopian Airlines.** Ethiopia is among the few developing countries where services exports are as important as goods. Between 2005 and 2012, the services-to-goods export ratio hovered around one, implying that services exports were as large as goods exports. Services exports are

<sup>10</sup> 'Modern services' are services that can be traded across borders without the buyer and seller being in the same place. Delivery of these services is less dependent on physical infrastructure and more dependent on telecommunications and electric supply. Examples of such services include communication, banking, insurance, business, and remote access services; transcription of medical records; call centers; and education. 'Modern services' differ from 'traditional services', which demand face-to-face interaction. These include travel and transport services.

dominated by transport (63%), followed by construction (15%), other business (10%), travel (5%) and insurance (4%). The majority of services export is attributed to Ethiopian Airlines, which is Ethiopia's biggest export earner—three times as big as coffee. Ethiopian Airlines commenced operations in 1946, and is one of the fastest growing companies in the airline industry. Today, Ethiopian Airlines serves a network of 82 passenger destinations —19 of them domestic— and 23 freighter ones.

**Ethiopia's expansion of horticulture marks a spectacular export success of the past decade that grew alongside Ethiopian Airlines.** With the help of Ethiopian Airlines, an entire industry grew from one firm in 2000 to about 100 firms a decade later, contributing exports worth over US\$200 million and supporting the livelihoods of 250,000 people. Ethiopia's flower exports increased 28 times in value between 2004/05 and 2013/14. Indeed, a decisive factor in the exponential growth of the flower industry is the expansion of Ethiopian Airlines' cargo capacity and passenger flights. Flowers are cut and then flown overnight to foreign markets to be available the following day for sale. While over 80% of the flowers are destined for the Dutch auctions, there have been recent efforts to seek new markets. With a functioning air cargo system now in place, the experience of the flower industry could be relevant to developing new (diversified) export opportunities, which are in close "proximity" to flowers. New routes opened by Ethiopian Airlines, such as South Korea and Singapore often determine the direction of this search.

**Source:** World Bank (2014c).

#### *Growth may need to come from non-traditional partners*

**Diversifying exports to non-traditional markets can be a way to increase export potential.** Unlike goods exports, services exports are diversified away from India. Although the Government of Nepal only publishes bilateral services trade flows with India, in 2013/14 as reported in Nepal's balance of payments statistics, services exports to India represented only 10% of total services exports, and were largely concentrated in travel and communication services (85%). Here the note assesses scope to grow Nepal's services exports to other markets.

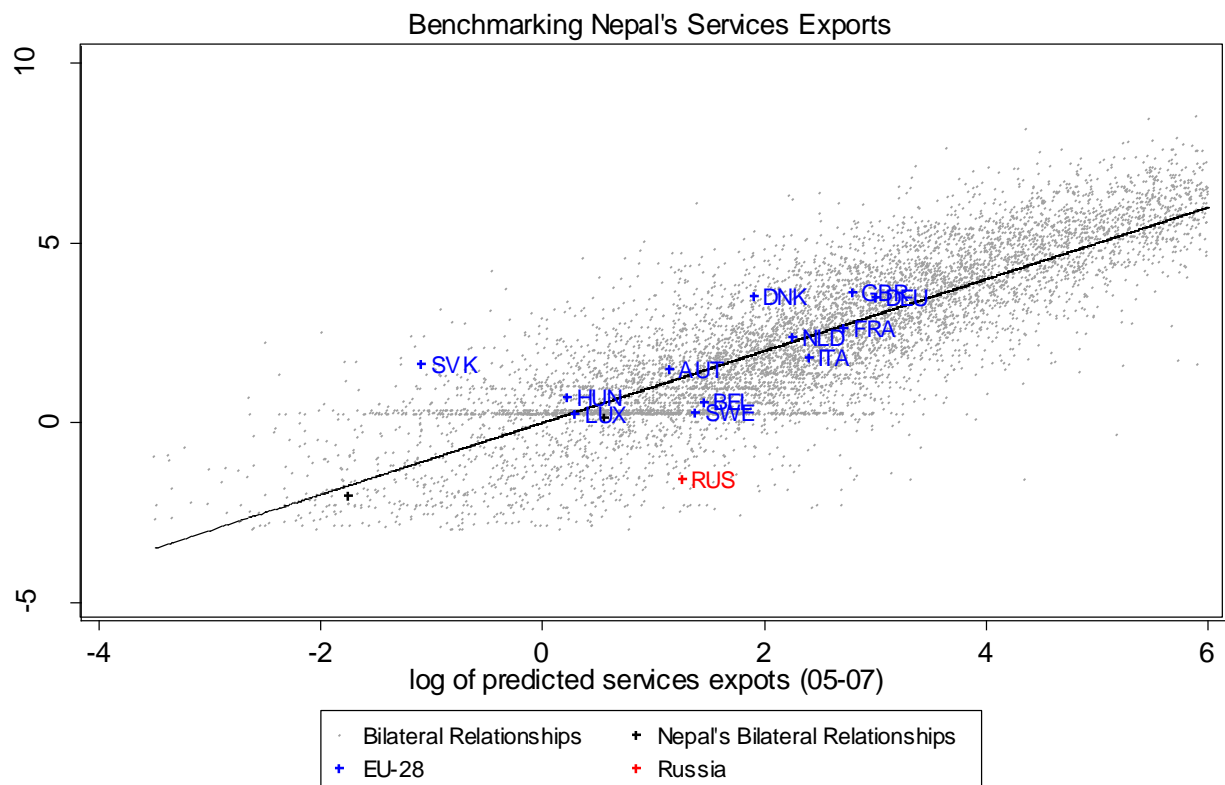
**Nepal may need to look to non-traditional markets to achieve this potential.** An analysis of export potentials using a gravity model of trade confirms the above findings.<sup>11</sup> **Error! Reference source not found.** plots potential export values against actual export values, with Nepal's bilateral export relationships represented by crosses. Countries that fall below the black 45-degree line are said to be under trading, since their potential export value is greater than their actual export value. For countries such as Denmark, Slovakia and Great Britain, Nepal's actual services exports are above the predicted potential. For other EU countries, Nepal's services exports are about average (indicated in blue in **Error! Reference source not found.**). This suggests there may be limited scope to increase services exports to EU markets. Rather, Nepal may need to look to non-traditional markets to grow its services exports. For example, Nepal is found to significantly under trade with Russia (indicated in red in **Error! Reference source not found.**).

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<sup>11</sup> The analysis of export potentials using a gravity model of trade relies on observed bilateral trade flows in services. Nepal only publishes bilateral trade flows in services with India, rendering the analysis constrained by data availability. Instead, the analysis uses the World Bank Trade in Services Database, which relies on mirror flows (deducing Nepal's exports by its partner countries' reported imports). However, bilateral services exports of Nepal are only available until 2007, and for a few countries, in particular those of the European Union (EU). The analysis compares actual services exports with potential services exports of Nepal and select partner countries. Potential services exports are predicted by GDP, distance between Nepal and partner countries, and whether two countries share a border or speak a common language. Annex E describes the bilateral services trade data and Annex F the gravity model in detail.

**Trade complementarity indices also suggest a declining potential to increase exports with major markets.** Computing a trade complementarity index can help identify markets with which a country has an export potential, even if that potential has not yet been realized. The trade complementarity index looks at whether a potential importer buys services that a country exports abroad by measuring how well the export structure of one country matches the import structure of another country. The development of the indices of trade complementarity of Nepal with major global markets suggests that the potential to increase services exports (in its current activates) has been declining since 2005. In contrast, for countries like Uganda and India, for example, trade potential in major markets has been increasing. As such, potential may be declining with major markets, given the declining complementarity of imports and exports.

**Figure 9: Gravity model of services exports, 2007**



Source: Authors' calculations based on data from World Bank World Development Indicators, World Bank Trade in Services Database, World Bank Services Trade Restrictions Database, and CEPII.<sup>12</sup>

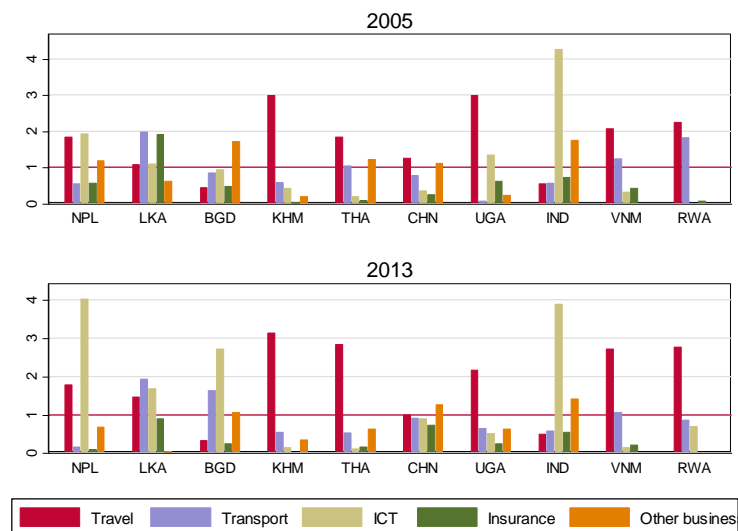
<sup>12</sup> Each panel presents the actual and predicted bilateral trade relationships for a country of interest in the dataset (given by a dyadic gravity equation that properly controls for unobservable country characteristics using country fixed effects). All bilateral trade relationships are plotted as light gray dots. Bilateral trade relationships with the country of interest are marked with the importing country's name. If an observation is above (below) the black 45-degree line, the average observed export relationship in the period 2007-2009 is more (less) than what the gravity model predicts – on the basis of countries' economic mass and unobserved country characteristics - and the exporter is said to be over-trading (under-trading) with its trading partner. If an observation is outside the gray lines, it is said to be significantly over- or under-trading, with these observations in red.



*Nepal is globally competitive in low market travel niches and telecommunication services*

**Nepal maintains revealed comparative advantages in travel and telecommunication services.**<sup>13</sup> Nepal maintains a comparative advantage in exports of travel services – as do all comparator countries with the exception of Bangladesh and India – but it lost its comparative advantage in other business services (consistent with a decline in the export share of other business services from 25% to 15% between 2005 and 2013) (**Error! Reference source not found.**). The data do not allow to distinguish between what types of travel services – but anecdotal evidence suggests it is low-value market niches. Similar to Sri Lanka, Bangladesh and India, Nepal exhibits a strong revealed comparative advantage in exports of telecommunications services. However, these are not necessarily the IT and BPO services that the country is targeting in the 2015 NTIS. Nepal exports substantial amounts of telecommunications services by providing calls and data to foreigners – a byproduct of the exports of tourism services and labor services. Indeed, these services include roaming charges of tourists visiting Nepal, and of incoming international calls from Nepalese residing abroad (when individuals residing outside of Nepal place a call to individuals residing in Nepal, the foreign communication agency uses the domestic services providers – NCEL is a gateway when the call is from a foreigner). Nevertheless, while it may not signal international competitiveness per se but rather policies favoring NCEL, it may reflect a strong domestic telecommunications network, which is significant because communication services, along with other modern business services, are critical components of promoting innovation and productivity in manufacturing, agriculture, and other sectors.

**Figure 10: Revealed comparative advantage, 2005 vs. 2013**



Source: Authors' calculations based on data from UNCTAD.

<sup>13</sup> Sectoral data enable us to identify sectors in which the country has a comparative edge by computing the revealed comparative advantage (RCA) measure. The RCA compares the share of exports of a country in world exports with the average share of exports of all countries in the world exports for a particular services sector. Specifically, the RCA for country  $i$  in services sector  $j$  is calculated as:  $RCA_{i,j} = \frac{x_{i,j}/X_i}{x_{w,j}/X_w}$  where  $x_{i,j}$  is exports from  $i$  in sector  $j$ ,  $X_i$  is total exports of  $i$ ,  $x_{w,j}$  is exports from the world in sector  $j$ , and  $X_w$  is total world exports. An RCA index above one therefore indicates that a country has a share of services exports in a particular services sector that is higher than the global share of exports in that same service sector, and is considered to have a revealed comparative advantage in that sector. The higher the ratio, the more competitive is the country in the given sector.

*Tourism is in low value added activities*

**Traditional services exports – including tourism – should not be overlooked as important opportunities for countries to diversify and drive growth.** Travel and tourism is an important economic activity in many countries around the world, and has been used as a tool for economic development.

**Exports of tourism are important for Nepal’s economy, but below other peers.** According to the World Travel and Tourism Council, the direct contribution of travel and tourism to Nepal’s GDP was 3.8% of GDP in 2014 (Table 1). However, in 2013, domestic travel spending generated 64.5% of the direct contribution compared to 35.5% for visitor exports (i.e. foreign visitor spending on international tourism receipts). As well as its direct economic impact, the industry has significant indirect impacts, and the total contribution was 7.7% of GDP -- lower than all peers excluding Bangladesh, Uganda and India. In 2014, travel and tourism directly supported 3.0% of total employment, and 6.6% after accounting for its indirect impact and induced contribution.

**Table 1: Tourism statistics, 2014**

	Direct GDP contribution (%)	Total GDP contribution (%)	Direct employment (%)	Total employment (%)
Nepal	3.8	7.7	3.0	6.6
Sri Lanka	4.3	10.1	3.9	9.2
Bangladesh	2.4	4.7	2.0	4.1
Cambodia	13.2	29.5	11.5	26.0
Thailand	8.0	18.1	5.4	13.2
China	2.1	8.0	2.9	8.3
Uganda	2.6	7.0	2.2	6.1
India	2.0	6.2	5.5	8.7
Vietnam	6.0	12.7	4.8	10.5
Rwanda	3.0	8.1	2.5	7.0

Source: World Travel and Tourism Council.

**Much of Nepal’s tourism exports are in low value added activities.** Tourism receipts as a share of the economy are lower in Nepal than they are in Haiti, and six times less than in Cambodia. This suggests that the sector is vastly under-exploited, but potential for higher-end tourism may be limited if the quality of tourism infrastructure is depressed. According to the United Nations World Tourism Organization, the average expenditure per day in 2012 was \$38. According to Nepal Tourism Strategic Plan from the Government of Nepal, the average expenditure per day in 2013 was \$42.8. The average length of stay for overnight tourists was 12.4 days in 2014, but would be lower if accounting for day excursionists into Nepal (which are non-trivial – particularly in the Lumbini circuit). In addition, group tours of the regional may only spend only a few nights in Nepal. This, in part, is due to little diversification of Nepal’s tourism spots.

**Five countries account for half of Nepal’s tourists, and there is little diversification across activities.** These figures reported from the Government of Nepal (2015) include only overnight tourists, and exclude same-day excursionists. Half of tourist visits (50%) were for holiday and pleasure in 2014. Three places visited in Nepal account for 92% of total tourists, including national parks and wildlife reserve, Pashupati and Lumbini. Trekking accounted only 12.3% of tourist arrivals. India (17.1%) and China (15.7%) are the most important countries for Nepal’s visitors, followed by the United States (6.3), Sri Lanka (4.8%) and Great Britain (4.7%).<sup>14</sup> Market segments from these destinations are also very different – adventure

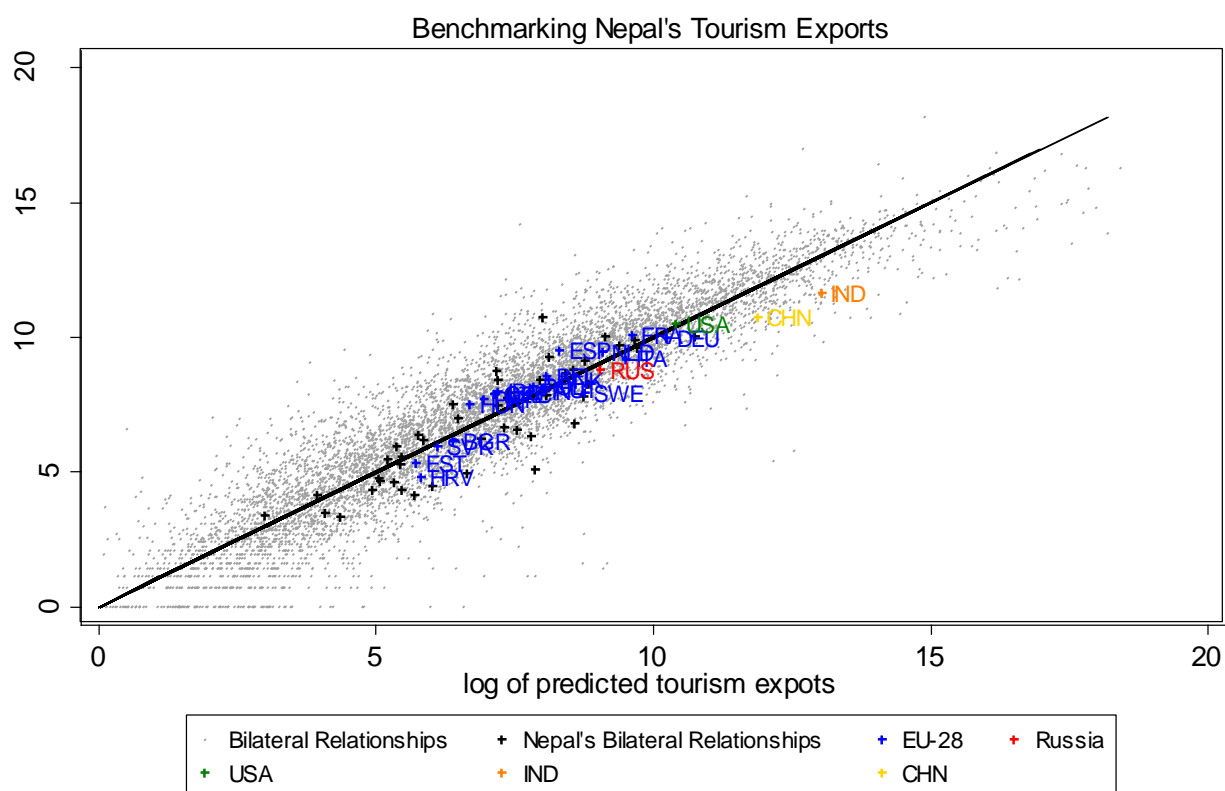
<sup>14</sup> India absorbed 15% of Nepal’s travel exports when measured in values (as opposed to arrivals) in 2013/14 according to Balance of Payments statistics, but less than 1% of Nepal’s transport services.

tourists tends to be from high-income countries versus leisure tourists from China and India. This suggests significant scope to increase the activities offered to tourists in Nepal, which may increase length of stay, create repeat tourists, and attract tourists from other countries thus diversifying in terms of markets.

**The results of the analysis suggest limited scope to increase the number of tourists from high-income countries in Nepal's current tourism offerings.** The same gravity model analysis as above is repeated to identify over and under trading, but for tourism exports. Rather than using total services, it uses the number of tourist arrivals (Figure 11). The number of tourists arriving from high income countries is above or at potential levels.

**Instead, Nepal is attracting fewer tourists from China and India than its potential.** These results may serve as a guide for promotional decisions to target the India and China markets, with the purpose of attracting a larger number of tourists from these destinations for current tourism offerings. At the same time, Nepal should also promote tourism marketing in the EU and the USA where high value can be captured. This would allow Nepal to continue expanding the trekking segment or move into other higher value added segments, with the objective to increase exports to high-income countries.

**Figure 11: Gravity Model of Tourism, 2012**



Source: Authors' calculations based on data from World Bank World Development Indicators, United Nations World Tourism Organization, World Bank Services Trade Restrictions Database, and CEPII.

**Despite immense potential, a number of constraints exist that may prevent this.** Despite being one of the most beautiful countries in the world, Nepal ranks 102 out of 141 countries on the World Economic Forum's Travel and Tourism Competitiveness Index (2015). Nepal ranks 110 in business environment, 113 in safety and security, 86 in health and hygiene, 96 in human resources and labor market, 126 in ICT readiness, 133 in environmental sustainability, 106 in air transport infrastructure, 119 in ground and port infrastructure, and 118 in tourist services infrastructure. Yet Nepal ranks 23 in price competitiveness and

25 in natural resources, suggesting significant potential for the sector. These findings are confirmed with firm-level interviews identifying constraints to growth in the tourism sector.

**The largest constraint to the tourism sector is inadequate infrastructure**, in particular airports and roads. Given that almost three quarter of tourists (74%) arrive by air, addressing this constraint may offer one of the largest potentials for growth. In fact, half of the world’s population is within six hours of flight, suggesting potential not only for Nepal’s tourism sector, but its aviation sector as well. It also highlights the importance of having great connectivity with the region as to increase trade. Today, domestic flights lack adequate regulations and aviation safety is a major concern, while roads still do not reach remote areas, limiting diversification away from the top tourism spots. Infrastructure maintenance and waste management is also not adequate. High duties on imports of taxis and minibuses reduces the possibility of replacing old units for newer and better quality units. There exists no tourist bus terminal in Kathmandu, so tourists cue in the streets when waiting for their bus, and adequate basic amenities are lacking in tourist destinations. Domestic flights are expensive and there are limited amenities at remote tourist destinations. The extent to which this is a demand-side or supply-side constraint is unclear, however. Regardless, addressing infrastructure issues would not only help develop the travel sector, but the economy as well.

**Inadequate tourism accommodation infrastructure is also a big constraint to growth.** Hotel capacity during the high tourism season is stretched. Although high-end hotel investment is rising, there are only 12 hotels with 4 or 5 star ratings, out of 730 hotels in total, which are also concentrated in the main tourism locations. A lack of high-end hotels limits Nepal’s ability to increase tourism expenditures per visit, and expand tourism beyond the beaten track.

**Other constraints pertain to general business environment.** In 2013 a World Bank mission found that markets along the tourism value chain are not fully competitive and efficient, stemming from a low level of enforcement of the legal framework, market failures, and non-best practices in the competition framework. For example, there are foreign investment restrictions on the provision of transportation services to tourists, and insurance services are an issue for air and ground transportation business. There are significant constraints to setting up and operating a hotel in Nepal as per the survey conducted by the World Bank in 2015. (See Box 2 for a list of the top 10 constraints identified.)

<b>Box 2: Top 10 legal and regulatory issues for hotel investment in Nepal</b>	
A World Bank tourism policy note (forthcoming) identifies a number of legal and regulatory constraints for investment in Nepal’s hotel industry. The top 10 constraints are:	
1.	<b>Foreign investment approval:</b> Requiring approval of all FDI is not in-line with best-practice. Ignoring this aspect and assessing the process on its own merits reveals a lack of transparency and a process without clear requirements.
2.	<b>Non-equity modes of investment – contract management:</b> Nepal is missing out on the benefits of NEMs for catalyzing hotel industry growth because of a dated regulatory regime and authorities’ intervention in private contracts setting royalties and fees.
3.	<b>Initial environment examination (IEE) and Environmental Impact Analysis (EIA):</b> Of concern is the lack of clarity around the requirements for an IEE versus that of a more detailed environmental impact assessment (EIA). Furthermore, there is a lack of transparency surrounding the approval criteria.
4.	<b>Industry regulation:</b> Fiscal policies designed to promote investment in the hotel sector are not effective because of underlying regulations and practices. Circular regulation prevents new hotel projects from taking advantage of import tariff incentives and conditions placed on the tariff relief erode the benefits. Also the definition of hotel for the house and land tax exemption is outdated for today’s larger hotels and resorts.

5. **Land ownership:** The current land ownership maximum is at odds with the Government's objective to welcome more FDI and larger investments in tourism. Specifically, the maximum and lengthy process to have access to greater amounts of land is a barrier to the diversification of hotel types and locations.
6. **Hotel building permits:** As in the IEE, the building permit process is also plagued by difficult to access information and a lack of transparency in the approval criteria
7. **Access to electricity:** Slow response times are driving hotels to bypass the Nepal Electricity Authority (NEA) and install poles and transmission lines and assume the costs out of pocket. Additionally, there are lengthy bureaucratic delays in receiving approval to connect, regardless of who constructed the lines.
8. **Hotel standard and classification:** The Department of Tourism relies on a highly subjective assessment in which the approval criteria is unclear. This has led to confusion regarding the process and criteria as well as created an opportunity for corruption.
9. **Hotel tax incentives – customs:** The tariff incentive structure is failing to entice current or existing investors in tourism sector. In large part this is due to circular regulation and conditions placed on the tariff relief that erodes the benefits.
10. **House and land tax exemptions:** Outdated tax code is at the root of this issue. The spirit of the law is to exempt hotels but the letter of the law exempts only certain areas of modern hotels. Friction between hotel owners and Municipalities has been created as a result of differing interpretations.

*Source: Ortega Sotes, C., P. Griffin and T. Ahad (2016).*

**A number of other sector-specific constraints exist.** They range from limited capacity of the National Tourism Board for promotional activities to safety. Food safety, for example, has been identified as an issue for the tourism sector, and asymmetry of information regarding hygiene standards at restaurants affects incentives for business to care about food safety. There is also little attention given safety regulations in general. This is a main constraint for adding tourism products with adventure activities, such as crayoning, paragliding, mounting biking, rafting, and other outdoor activities that can be pursued in Nepal, which are largely unregulated and operators are uncertified.

*IT and BPO have potential, but are currently traded informally*

**ICT is a multi-faceted sector.** The ICT sector can be difficult to define because it consists of a rapidly changing mix of electronic hardware and ICT-related services, from telecommunications to software to information technology (IT) services. In its broadest definition, the ICT sector includes information services such as news and web-based search and data archiving, as well as a growing set of 'ICT-enabled' services that now have the potential to be delivered electronically but are typically measured in other sectors, such as finance, legal, publishing, accounting, architectural services. Business process outsourcing (BPO) is a subset of outsourcing that involves the contracting of the operations and responsibilities of a specific business process to a third-party service provider.

**The sector offers immense direct export potential for developing countries.** Cost competitive wages have driven growth in industry segments like software outsourcing and BPO. Software outsourcing is generally less capital-intensive than hardware manufacturing, creating opportunities for domestic firms in developing countries to enter the market and grow quickly. Both IT services (software) and ICT-enabled services (BPO) are promising sources of growth and competitiveness for Nepal. Importantly, remoteness doesn't matter for exports of modern services, meaning that the cost of being landlocked is lower. There is also massive potential for youth – and females – to be involved in the sector, thus suppressing outward migration.

**Details and internationally comparable statistics on these ICT sub-sectors are not readily available.** There are no harmonized and internationally agreed definition of what constitutes ICT-enabled services, nor does the Nepal Rastra Bank collect systematic data on these segments of ICT. Most ICT exports are of telecommunications (telephone calls or information transit). (How to address these data gaps will be

discussed at greater length in the section on policy recommendations.) Nevertheless, anecdotal evidence from firm-level interviews are drawn upon to provide a qualitative discussion of Nepal's performance, which suggests a small but growing BPO and services software sector. However, due to the informal nature of the sector, it was difficult to get firm-level interviews. Nevertheless, the analysis focuses on these sub-sectors.

**Most of the large software outsourcing and BPO firms in Nepal are foreign firms serving foreign markets.** These firms are headquartered overseas and have set up services centers in Nepal, taking advantage of Nepal's low-cost labor supply. Although Nepal cannot compete with India in these sectors in quantity (scale), it can on quality and price. For example, one BPO firm based in Atlanta has an audit center in Kathmandu with a staff of about 135 accountants performing audits for international corporations. Orders are organized in the headquarters then doled out to the Nepal office. Payments are also made directly to headquarters, and money is transferred into Nepal to support the office. However, there seems to be only a handful of large BPO firms in operation, which are fully export-oriented. While there is substantial scope to increase these and similar activities, there is limited upgrading opportunities given the low complexity of the work and limited availability of skilled personnel necessary to shift into higher value added ICT-enabled services (sometimes referred to as knowledge process outsourcing or KPO).

**Nepal's software sector on the other hand includes a wide range of firms, and there are a number of small but growing entrepreneurial firms developing products for the local, regional and global markets.** Software firms have found success, and there is high activity in services software development in Nepal. Nepal is home to a set of dynamic entrepreneur software firms. It was estimated by one company that only about 1% of activities are BPO, and the remainder are software outsourcing. This includes larger, foreign-owned companies with headquarters located overseas, small domestic companies, and thousands of informal freelancers working from home. Many are serving foreign markets, but there is also some serving the domestic market.

**There are a number of constraints affecting the ICT sector from growing.** While this sector has potential to grow rapidly in the near future, it faces challenges and bottlenecks that will require both general improvements in Nepal's business climate and some focused policy measures. These include:

- **High turnover and brain drain:** Examples of software companies closing because of worker shortages were revealed during interviews. After receiving a basic set of skills, employees leave Nepal for post-graduate education or jobs overseas, given that Nepal cannot compete with the pay scale of other countries.
- **Financing:** Access to reliable capital through all growth phases is challenging. Given the nature of the industry, which relies little on hard capital such as machinery and buildings and instead of soft capital such as ideas, banks cannot get around collateral issue. Access to venture capital is imperative for the sector to grow, but this form of capital is not available in Nepal (unlike in India where ICT firms can get professional loans quickly).
- **Industry-specific barriers for start-ups:** Start-up companies face numerous industry-specific barriers in Nepal. For example, accelerator and incubator programs are limited without the assistance of business partners who understand both local and global markets.
- **Profit repatriation:** Foreign owned companies set up all contracts and payments overseas in the head office (transferring funds into Nepal for running costs), rather than allowing offices in Nepal to find clients. This is partly a result of issues of profit repatriation from Nepal.
- **Power outages:** The industry relies heavily on electricity to operate. Electricity shortages increase costs and make it harder for domestic companies to compete internationally, which must use loading or backup generators. There are also issues of shortages in diesel to run generators.

- **Internet:** While the cost of internet has gone down, it is still too expensive for employees to get bandwidth at home, which lowers their productivity. There are also outages and as a result, companies need to rely on more than one ISP for back up, though this was not cited as a major constraint.
- **Education and skills:** There are issues of low quality IT training in Nepal. The curriculum is set by the Government, which discussions from interviews suggested is not updated regularly enough to be current with skills demanded by the market (it's every 6-10 years). Training as part of education curriculum is not enough to prepare graduates for the job market. It is also difficult for students to get financing to enhance their training from banks because banks do not understand this type of skill, and for many students it is too expensive to go overseas (e.g. to Malaysia or India). As a result, companies provide their own on-the-job training, but also see high turnovers when employees go overseas or freelance after receiving basic skills.

## II. Services-Manufacturing Linkages

**Section II of the report explores the importance of the services sector for Nepal from the second role that services play: as a source of competitiveness as inputs into manufacturing and agriculture exports.**

*Services are imperative for competitiveness in goods exports*

**Good quality, efficient and productive inputs are important for a firm's or sector's export competitiveness.** Because of the value chain linkages between sectors of an economy, the competitiveness of an upstream sector that is used as inputs to production is important for the competitiveness of other downstream sectors. Intermediate inputs from the services sector could include, for example, a manufacturing firm hiring engineers for the design of its exports, the supply of utilities such as water and electricity for crop production in agriculture, or an agricultural producer hiring a trucking service to transport its crops to a market or port for export. If these inputs are supplied by domestic providers (as opposed to being imported), then these show up as domestically-produced value added inputs in manufacturing, agriculture, or services' exports (what the note refers to as value-added linkages). Services matter a great deal for quality – which is imperative for Nepal's goods exports to compete internationally. Thus, an efficient services market is essential to enhance a country's competitiveness, when used as inputs into the production of other sectors including manufacturing and agriculture.

**Yet the availability of services inputs – including transport, finance, electricity and water supply – are perceived as obstacles to manufacturing and agriculture sectors' performance in Nepal.** From interviews it was heard that the quality of agricultural goods diminishes rapidly by the time it reaches the border to export, after being trucked through the mountains of Nepal. And this is substantiated in the data analysis (below).

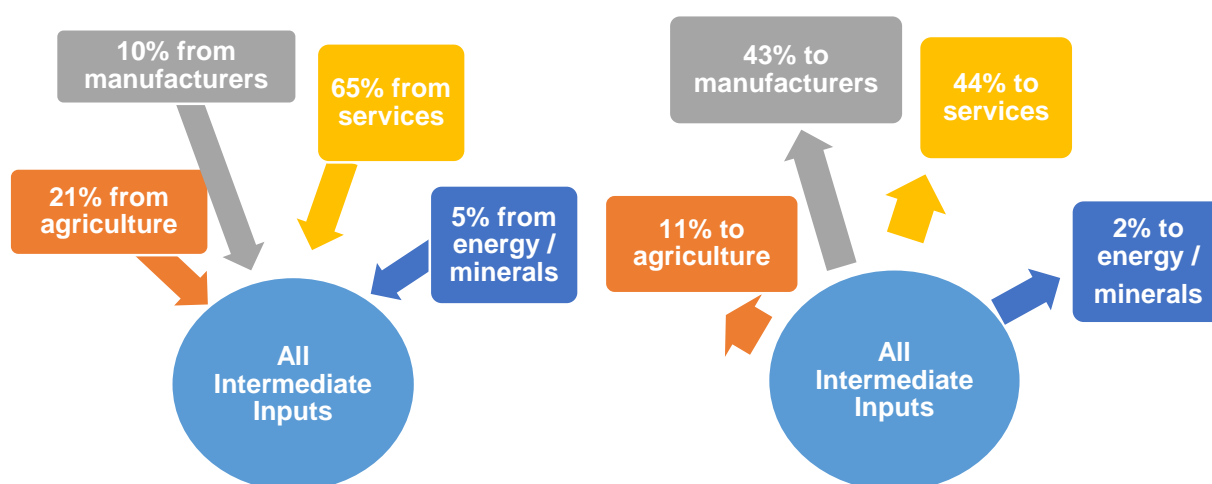
*Services support other sectors immensely*

**The importance of services for Nepal's exports increases, once accounting for the inputs that domestic services supply to other sectors' exports.** A country's performance in gross services exports undervalues the services sector's real contribution to exports. This is because services support other sectors' exports, when they act as inputs to production. Services are embedded as inputs in exports of manufactured and agriculture goods, while the production of services exports does not necessarily involve significant input from the latter two. This means that the sector will contribute more to a country's exported value added than gross export values can account for. When measuring exports in terms of their domestic value addition, 25% of Nepal's domestic value added that is exported is from the forward linkages that services provide to other sectors' exports.

**Services are important suppliers of inputs for Nepal's exports.** First, the analysis looks at which domestic sectors supply inputs to Nepal's exports, and where those inputs are supplied to. It finds that services account for 65% of all domestically produced inputs, compared to 10% for manufacturing, 21 for agriculture, and 5% for energy and minerals.<sup>15</sup> The reliance of Nepal's exports on services inputs is greater than all other comparator countries, with the exception of Rwanda. For example, only 40% of domestically supplied inputs embedded in China's exports are of services.

**Most services inputs are directed to Nepal's services sector.** Services exports absorb 44% of all domestically supplied inputs, compared to 43% for manufacturing, and 11% for agriculture, and 2% for energy and minerals.<sup>16</sup> The services sector's reliance on domestically produced inputs is larger than all countries – by a large margin. In most countries it's less than 20%, in India it's a bit higher at under 30% (Figure 12). This shows that the services sector's exports create strong backward linkages with the rest of the economy (supporting the analysis in Section I above).

**Figure 12: Inputs from (left) and into (right) exports in Nepal, 2011**



Source: Authors' calculations using the World Bank Export of Value Added Database.

#### *Manufacturing exports rely on value added from services*

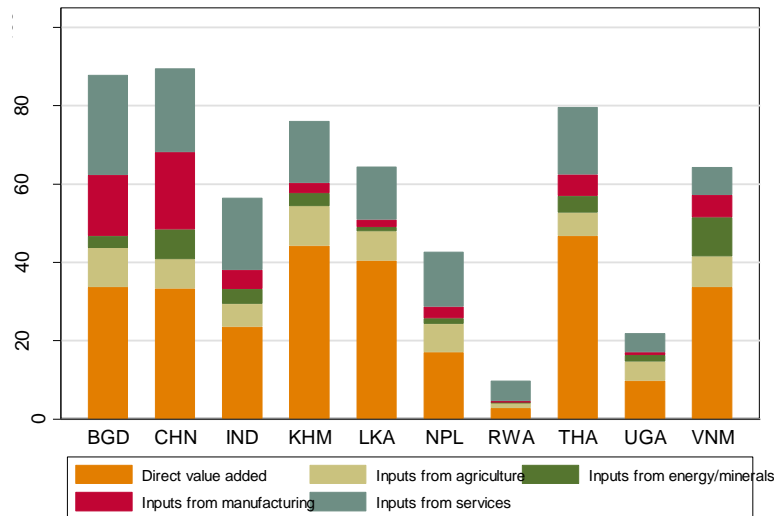
**Manufacturing exports are dependent on services for value added, in part because the manufacturing sector itself creates little value added in Nepal's economy.** The analysis looks in more detail at the composition of manufacturing value added. Figure 13 shows how much value added manufacturing exports generate. What stands out is how little manufacturing contributes to Nepal's economy, when benchmarked against comparator countries: only 41% of total exported value added. In most other comparator countries (with the exception of Uganda and Rwanda), this number is closer to 80%. Second, it shows how much the manufacturing sector embeds the value added of other sectors. A significant part of the value added within manufacturing comes from services inputs – about one third. Proportionally, in Nepal, manufacturing utilizes about the same share of services as peer countries.

<sup>15</sup> Looking at total domestic production (not just exports), services account for 70% of all domestically produced inputs in the economy, compared to 22% for agriculture, energy and minerals, and 8% for manufacturing.

<sup>16</sup> Looking at total domestic production (not just exports), services absorb 67% of all domestically supplied inputs, compared to 25% for manufacturing, and 8% for agriculture, energy and minerals.



**Figure 13: Composition of manufacturing value added (backward linkages), 2011**

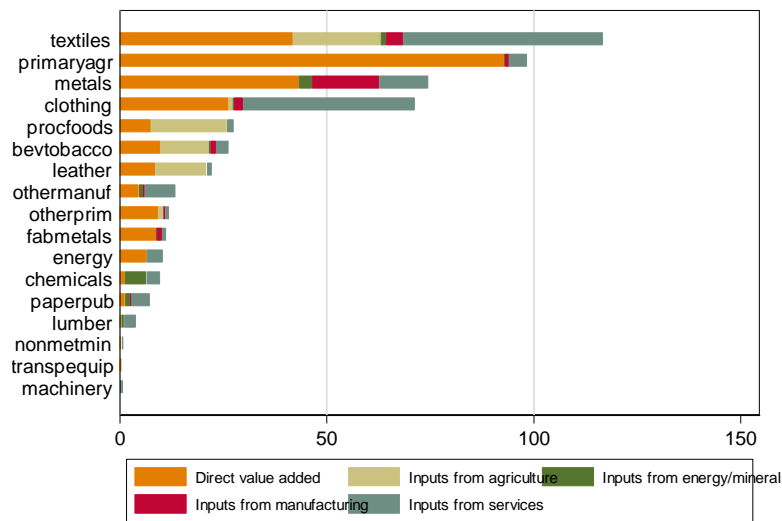


Source: Authors' calculations using the World Bank Export of Value Added Database.

**Select manufacturing exports have been successful at generating domestic value added in Nepal, either directly or indirectly through their input demand.** Only a few manufacturing sectors contribute significantly to exports, notably textiles and clothing but to a lesser extent processed foods, beverages and tobacco and leather (Figure 14). This is unlike comparator countries including Thailand and Vietnam, which have a more diversified manufacturing base. Primary agriculture and metals also contribute significantly to exported value added in Nepal.

**In primary agriculture, most of the value added is generated directly within the sector; in manufacturing, most of the value added is generated through services inputs.** Across manufacturing sectors, little direct value additions takes place. In textiles and apparel and clothing, a significant part of the value added within these sectors comes from services inputs. Other sectors, such as processed foods, beverages and tobacco, and leather products, demand much of their inputs from primary agriculture.

**Figure 14: Composition of manufacturing value added (backward linkages), 2011**

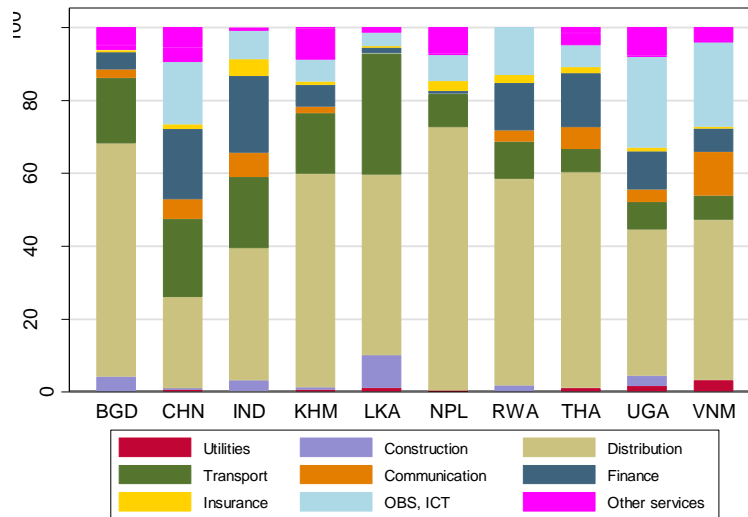


Source: Authors' calculations using the World Bank Export of Value Added Database.

*Services can also be constraining higher value-added manufacturing*

**Evidence suggests that the structure of the domestic services sector in Nepal may be a constraining factor for higher value-added manufacturing.** Looking at the composition of domestic services inputs into manufacturing exports, 78% are of distribution and transport (Figure 15). In China and India, this is less than 40%. Domestically supplied transport services, communication services, finance and business services / ICT play a lesser role as inputs for manufacturing export activities.

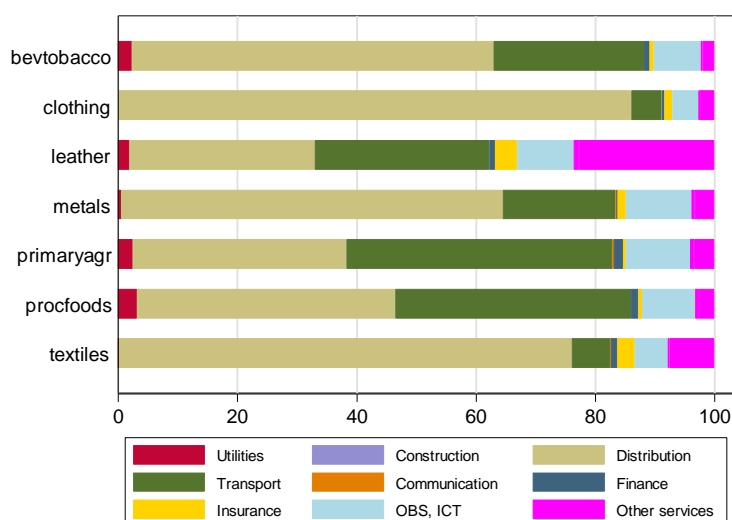
**Figure 15: Composition of domestic services inputs into manufacturing exports, 2011**



Source: Authors' calculations using the World Bank Export of Value Added Database.

**The top export sectors for Nepal appear to use more transport services than other manufacturing sectors** (Figure 16). For example, 39% of the services inputs provided to processed foods exports are transport, 30% for leather, and 25% for beverages and tobacco. In contrast, it is 9% for total manufacturing. Exports of primary agriculture also rely heavily on the domestic transport sector – 45% of services input is transport. This highlights the importance of an efficient transport sector for Nepal's international competitiveness in its top export sectors.

**Figure 16: Composition of domestic services inputs into manufacturing exports, 2011**



Source: Authors' calculations using the World Bank Export of Value Added Database.

**Access to modern services activities is necessary for manufacturing to thrive.** Communication services, along with other modern business services, are critical components of promoting innovation and productivity in manufacturing, agriculture, and other sectors. For example, upgrading in the textile and apparel sector requires access to finance to purchase higher quality inputs, or design services to differentiate products on the international market. And in addition, services are where most of the value added is captured in the production of a good. Speaking with pashmina producers, it was heard that most designs come from the international buyer, or are being done in-house. However, an internship program has been implemented with the Nepal Design Institute. This suggests a sort of professionalism in design taking place in Nepal, and could lead to higher domestic value addition. It is crucial, however, that design follows worldwide demand trends and that can be adapted swiftly, following current trends in fast-fashion. Box 3 provides an example of how Sri Lanka's and Turkey's textile and apparel sector used the services sector to increase value addition.

**Box 3: Capturing value along the value chain through branding in Sri Lanka and Turkey**

Faced with constant pressure on their margins, many apparel manufacturers have moved into becoming brand manufacturers and brand retailers to capture the greater associated margins. Sri Lanka and Turkey offer policy lessons for Nepal as to capture more value along the chain through branding.

Typically known as a supplier of high quality products to European premium brands, Turkey has seen the emergence of apparel firms that moved from being sole suppliers to being retail buyers themselves, now procuring both from domestic, as well as low cost producers in South Asia and North Africa. Turkey's growing domestic market provided a boisterous consumer base to test and grow sales. This learning in the home market has been an important launch-pad for branded exports, too. In Nepal, a similar effect could come from the tourism market, given the complementarities between tourism and Nepal's textile and apparel sector (including carpets and pashminas). Strengthening these linkages would be important. In the context of the strong economic growth at large, the development of shopping malls and the greater use of credit cards also fueled this sector in Turkey. The Turkey-EU Customs Union has also helped sustain access to the European markets, highlighting the importance of trade agreements for market access in the sector, which Nepal should look towards.

Sri Lanka, also well-known as a producer of high quality niche products like Nepal, has also ventured into branding. Given the small size of the population (22 million) in this island nation, the brand pioneers have focused on penetrating its large, high-growing, youthful market of India. In particular, they have tapped the growing

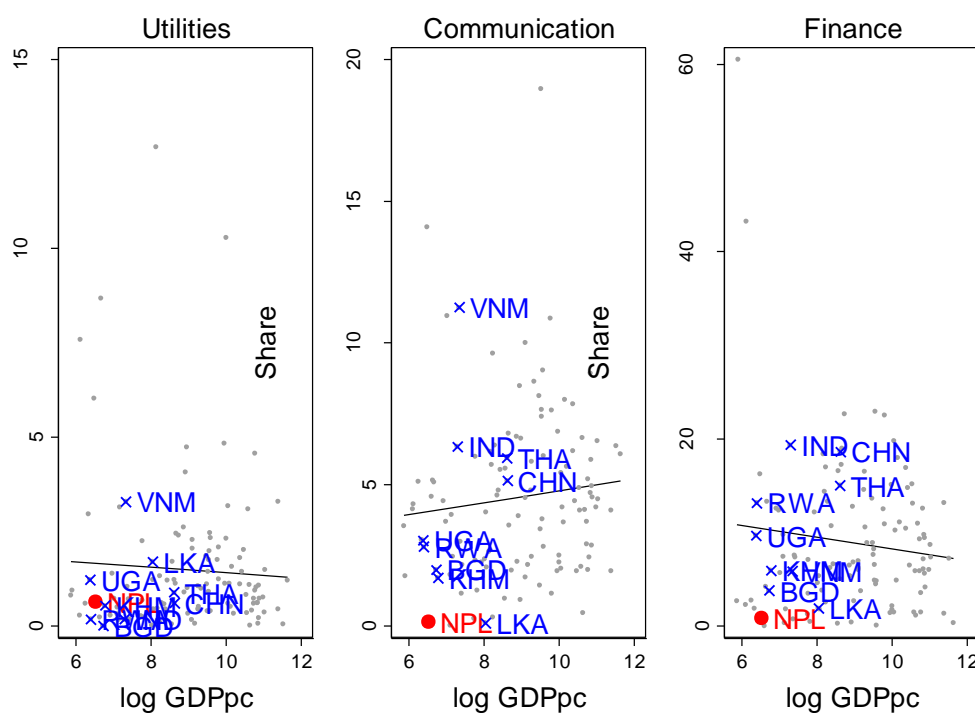
purchasing power and demand of Indian women who are increasingly entering the workforce. For example, by creating a lingerie line that specifically caters to the body type of the South Asian woman through market research.

Another important step in this direction has been the development of design capabilities within the firm, nurtured by close collaborative relationships with the US and EU buyers on design and product development. The set of skills required for successful branding and retailing is significantly different, and many firms have had to learn and develop expertise in image building and retailing. The Government of Nepal could support design institutes for entrepreneurs wishing to learn these skills, and encourage design and marketing courses as vocational training. The combination of design capability along with marketing skills have led to the launch of many brands, though as the business develops most firms tend to separate their retail operations from the manufacturing side of the mother company.

Source: World Bank.

**In particular, Nepal's manufacturing sector uses very little financial and communication services, as well as utilities such as electricity and water.** Looking at all countries in the world, the share of financial and communication services used by the manufacturing sector is very low, even compared to other countries at a similar development level (Figure 17).

**Figure 17: Share of domestic services inputs into manufacturing exports, 2011**



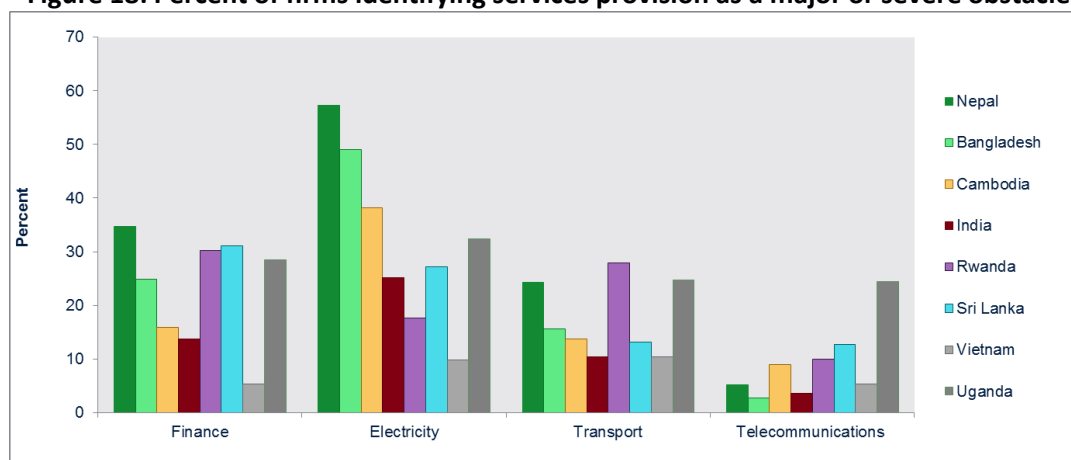
Source: Authors' calculations using the World Bank Export of Value Added Database and World Development Indicators.

#### *Firms cite services provision as a constraint*

**Firms in Nepal identify the provision of finance, electricity and transport as major or severe obstacles.** This result, that services may be a constraining factor for manufacturing, is consistent with firm-level evidence (Figure 18). The World Bank Enterprise Survey asked firms whether access to finance or electricity are severe or major obstacles to production, and the highest share of firms in Nepal answered

yes. In all landlocked countries, including Nepal, Rwanda and Uganda, transport services were reported to also be major constraints. Rather, transport services should be operating more efficiently in such countries, to compensate for their landlocked-ness.

**Figure 18: Percent of firms identifying services provision as a major or severe obstacle**



Source: World Bank staff calculations using World Bank Enterprise Survey data.

**In Nepal, the transport sector is syndicated and highly anti-competitive.** While a number of other constraints exist within Nepal's transport sector that impact the provision of transport services, particularly at the border, the most important issue for domestic transport is organized regional cartels. There are at least 39 local trucking entrepreneur's associations (TEA) in Nepal who dictate the rule of trucking operation for about 30,000 trucks along 429 recognized routes, despite the fact that they don't have any legal authority. Three reasons primarily explain the popularity of TEAs among truck owners: (a) rise in mass based justice system due to the breakdown of enforcement ability of local government (b) small size of truck owners and hence their inability to absorb economic shocks and (c) nationwide attraction to unionization in Nepal in the last several decades (Poudel 2016).

**TEAs are able to attract membership primarily because of they offer quasi-insurance services to truck owners, but they also engage in anti-competitive practices that distort the market.** After registering at the government's transportation bureau, truck owners also need to take membership in a local TEA. These associations are often the major organizations that negotiate on behalf of these truck owners with the government and insurance companies. Most of the dominant TEAs offer quasi-insurance services to fulfill the void in financial services offered by existing insurance companies.<sup>17</sup> But they also set the price of the routes under their jurisdiction, and restrict nonmembers from operating at the route where they are influential. Bribery is a common feature in all aspects of trucking industry operations: it is paid to get the route permits from government and the TEAs; it is also paid to the operatives of different agencies which stop trucks on their way to their destinations. In particular, these cartels restrict who has control to road access. Though the Government is the authority on issuing route permits, these associations tend to have a say over who gets such a permit in most, if not all, of the routes. Sometimes TEAs restrict supply in the

<sup>17</sup> Members who are fully insured are taken fully care of by TEAs in case of an accident. TEAs help negotiate with the aggrieved party, but also help the truck owners get insurance policy, pay all the agreed upon compensation to the victims including medical costs and free the impounded truck from the government's administrative offices. Such services are highly valued by the truck operators. These days, most of the truck operators take minimum mandated insurance (Rs 500K for third party death, and Rs 800K for third party damage) and then take TEA membership. The process of claiming insurance money from the insurance companies is often considered very difficult by the truck operators and hence this service is highly prized by them.

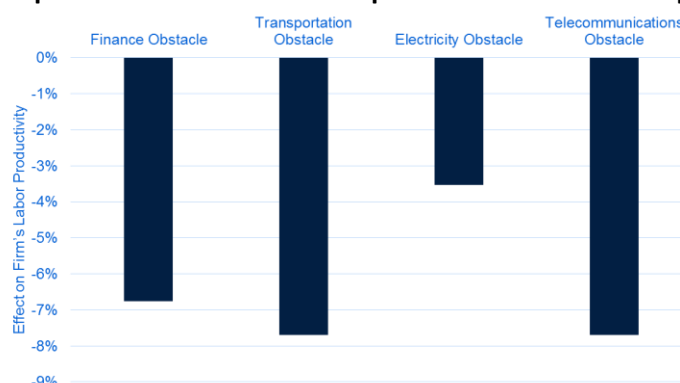
market. A World Bank survey reveals that such group formation manifests itself in the form of delayed permit issuance by TEAs in many routes (Poudel 2016).

**The TEAs impose costs on the overall economy in the form of deadweight loss.** Poudel (2016) calculated the cost to be \$27.5575 million per year. Furthermore, the study estimated that in 2014, out of the 9.1% inflation rate of Kathmandu valley, 11% was due to the syndicates (i.e. in the absence of syndicate, the inflation rate should have been 8%). This also matters for trade, given that Nepal's top export sectors appear to use more transport services than other manufacturing sectors.

**The government has not yet actively moved against these associations.** The Government of Nepal is the sole regulatory agency to guide the evolution of trucking industry. It builds highways, issues permits to operate trucks, and sets the regulatory frameworks governing various issues such as access to credit, insurance premiums and route permits. Policy should be put in place for the department of transportation to manage and regulate the authority of trucks, and to strengthen their ability to control these practice.

**Inefficient supply of services inputs acts as a tax on production of goods that use these services, negatively impacting productivity.** Cross-country evidence including Nepal shows that in countries where firms face obstacles to accessing finance, electricity, transport and telecommunications, these countries exhibit significantly lower firm-level productivity (Figure 19).<sup>18</sup> Given the dependence of manufacturing exports on services for value added in Nepal as well as other countries worldwide, it is not surprising that insufficient services provision has a large impact on productivity and competitiveness. Yet high productivity levels are necessary for firms to be competitive, to export, and to integrate into external markets.

**Figure 19: Impact of insufficient services provision on firms' labor productivity**



Source: World Bank staff calculations using World Bank Enterprise Survey data.

Note: The effect of services provision on firms' labor productivity is based on a cross-country sample that includes Nepal.

Services exports can drive growth, enhance domestic competitiveness, and diversify Nepal's export basket. Yet there exist horizontal and sector-specific barriers to greater services trade integration with the world, and there may be only limited scope for further trade integration unless policy reforms are implemented. Thus **under-trading in services may suggest the existence of untapped potential to increase exports via the removal of trade-related obstacles.** This includes both horizontal and sector-specific policies.

<sup>18</sup> The methodology follows Hollweg et al. (2015). Annex G details the methodology used to measure the impact of services provision on firm-level productivity.

### III. Policy Implications

**Section III of the report discusses the factors and supporting policies needed for Nepal to reach its potential in services export growth.**

*The policy environment matters for exporting services...*

**The regulatory environment governing services providers affects both the quality of domestic services provision as well as the ability of countries to export services.** This includes the actual laws, as well as how those laws are implemented in practice within a country. Maintaining a liberal regime for trade and investment is important for competitiveness. Openness in the services sector is part and parcel of a comprehensive growth-enhancing trade policy. Lack of competition impacts the ability of other sectors to use services as inputs because it creates a reliance on domestic services as inputs for manufacturing production. In India and Indonesia, for example, reforms in the services sectors improved services provision, as well as the performance of manufacturers that used those services.

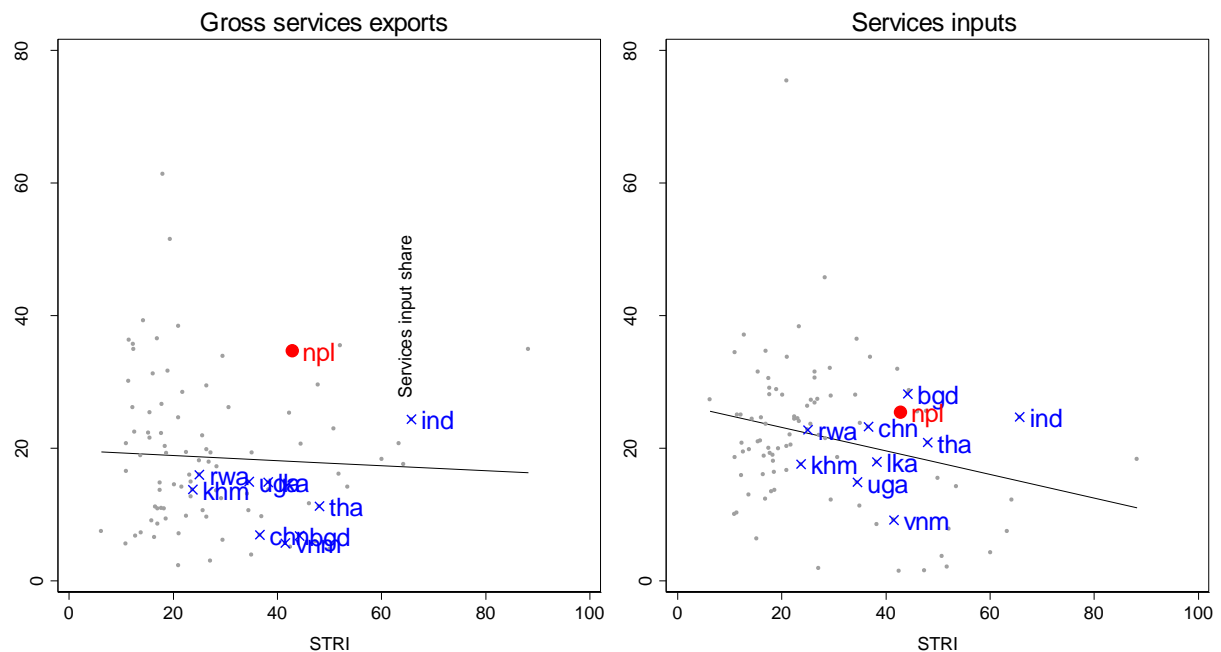
**Countries with higher regulatory restrictions against foreign services providers actually export fewer services.** There is some weak evidence that countries with burdensome regulations towards foreign services providers also tend to export fewer services. High regulatory restrictiveness is associated with a lower gross (and direct value added) contribution of services to an economy's exports, though the magnitude of the negative correlation is not large (Figure 20/Figure 20).

**This stylized fact is linked to countries' policies towards foreign direct investment.** While policies towards FDI in Nepal is discussed in other pillars of the project, openness towards FDI is particularly relevant for Nepal's services sector. Developing countries – including Nepal – often cannot grow their domestic services sector by virtue of local investment alone. FDI can thus catalyze growth by developing the domestic services sector and transferring new technologies and quality standards to domestic firms, helping firms to becoming internationally competitiveness. Related is the role of non-equity modes of investment (NEMs). NEMs are particularly important for promoting growth in services through, for example, licensing, franchising, and contract management. This mobilizes local investment with foreign know-how and technology transfer. Underuse of NEMs in Nepal because of lack of sophistication of the legal regime and lack of capacity of the administrator could contribute to limiting the growth of the services sector. There is a lot of liquidity in the local economy that could be unlocked through NEMs with foreign partners, and tourism and IT services could benefit greatly.

**Burdensome regulations also matter for the services-manufacturing linkages, where fewer services are used as inputs to production by the manufacturing sector in countries with more burdensome regulations.** The regulatory environment towards foreign services providers also matters for the quality of domestically available services inputs. Regulatory restrictiveness reduces the scope for competition in the sector, which in turn reduces the scope for the introduction of cheaper, new, or better quality services inputs. Once considering the use of services as inputs by other sectors, including manufacturing, the relationship with the regulatory environment becomes significantly negative; fewer services are used as inputs to production by sectors in countries with burdensome regulations in services. Nevertheless, the intensity with which services are used as inputs in Nepal is high, even when considering the country's level of restrictiveness.

**This significant and negative relationship between regulatory restrictiveness and services input use holds in particular for modern services,** including communications and other business and ICT services, but also for water and utilities. In fact, regulatory restrictiveness is not correlated with distribution services or transport services.

**Figure 20: Services trade restrictiveness index vs. gross services exports (left) and services inputs (right), 2007**



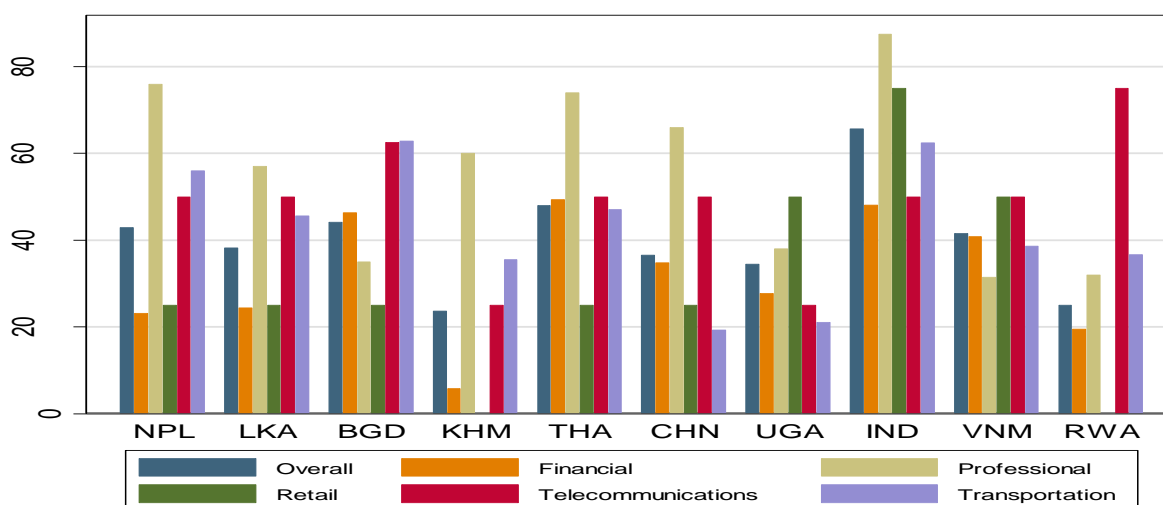
Source: Authors' calculations using data from World Bank Services Trade Restrictions Database and Export of Value Added Database.

**Relative to peers, Nepal maintains moderate limitations to foreign services providers.** The World Bank Services Trade Restrictions Database collects and makes publicly available information on services trade policy assembled in a comparable manner across 103 countries, five sectors (telecommunications, finance, transportation, retail and professional services) and the key modes of service supply. The restrictiveness of the policy measures are scored and quantified into a Services Trade Restrictiveness Index (STRI). A country is considered completely closed if the STRI is 100, and completely open if the STRI is 0. However, it is often as much the regulatory restrictions themselves as the implementation of the restrictions that matters. The Services Trade Restrictions Database shows that Nepal exhibits average levels of restrictiveness against foreign services providers (Figure 21), similar to Sri Lanka, Bangladesh, Thailand and Vietnam.

**According to the STRIs, restrictive regulations are placed on foreign services providers in the transport and professional services sectors in Nepal.** It is important to note, however, that these data are collected from surveys conducted in 2007, and the policy environment towards transport services has changed in recent years (discussed more below). Nevertheless, in a landlocked country, an efficient transport sector is imperative. Yet the three landlocked countries, including Nepal, Rwanda and Uganda, impose the highest restrictions in transport services trade. And professional services such as engineering, law and marketing, are necessary to upgrading into higher value added activities.



**Figure 21: Services trade restrictiveness index by services sector, 2007**



Source: World Bank Services Trade Restrictions Database.

*...as do other enabling factors*

**Other than an open regulatory environment, there are a number of enabling factors for a country to become a competitive exporter of modern services.** International evidence suggests a number of other enabling factors, including human capital, physical infrastructure, ICT infrastructure, rule of law, and foreign investment in the services sector (Saez et al. 2015). In human capital, Nepal may have a comparative advantage in the medium term if it stimulates brain circulation. Nepal's workers abroad have been trained in many services sectors, and may return as soon as economic opportunities arise. Nevertheless, these factors present themselves as constraints for Nepal reaching its potential in services exports, as discussed next.

*Policies aimed at the tourism sector*

**Government policy can play an important role in the development of a country's tourism sector, but also how the sector contributes to the economy at large.** Cape Verde is one country example that offers lessons in developing a tourism sector as a key driver of growth and poverty alleviation. In less than two decades, Cape Verde has overcome significant environmental and geographic barriers and transformed its economy, as discussed in Box 4.

**Box 4: Supporting growth in the tourism sector in Cape Verde**

**Cape Verde experienced significant and rapid transformation through its tourism sector.** It changed from a little-known, small island country into a mass tourism destination. Tourist arrivals increased from 67,042 in 1999 to 285,141 in 2008, an average annual growth rate of 14%. Tourist receipts have grown twice as fast, at a staggering 28% per year, resulting in high revenues per tourist, and are equivalent to a 44.5% in GDP (direct, indirect and induced). Largely as a result of its extraordinary growth in tourism, Cape Verde has achieved an average 6.5% GDP annual growth rate over the last decade.

**Such a complex transition that usually takes time was aided by government policies, including:**

- Cape Verde's government provided strong public leadership for tourism and developed a positive investment climate. Attracted by a stable economy, foreign investment in tourism has boomed.
- Cape Verde aggressively pursued tourism investment. The Government acquired land, and investment incentives and a stable economy led to fast tourism growth.
- High-quality airports, good aircraft maintenance facilities, and supportive air policies were crucial to increasing arrivals. The country has an airport classified as Category I by the U.S. government.

**The tourism growth occurred quickly, and also led to a challenge for Cape Verde's authorities.** The fast growth of tourism resulted in gaps in conservation, infrastructure and linkages to the local population. Currently, the government must address uneven development and high leakage, by deepening the connectedness and inclusiveness of tourism.

**To sustain growth over the long term also requires a professional private sector, high-quality suppliers, and a large number of "destination services."** These include utilities, a skilled labor force, food and materials, garbage collection, sanitation, environmental conservation, and transportation. Seeking growth in foreign investment, Cape Verde overlooked the importance of these services, leaving gaps in the sequencing of development. As a result, the sector is not well integrated with the rest of the economy and is not doing as well as it could in terms of poverty alleviation. In addition, to fully benefit from tourism, the labor market must be properly prepared for tourism opportunities.

**Source:** Christie et al. (2013).

**The priorities identified to increase exports in the tourism sector include moving into higher value added activities, diversifying destinations, and connecting to other sectors.** Today, there exist a variety of bottlenecks that impact growth and upgrading in Nepal's tourism sector. Nevertheless, there are a number of policy actions the government can take to help this transformation unfold.

**Upgrading into higher value added tourism activities will depend on the tourism sector having access to higher quality inputs.** Although trade-related taxes are important for government revenue, large import taxes on taxis and minibuses has negative effects on the tourism sector given their importance as inputs. Enforcement of food safety standards needs to be strengthened, and there is interest in the tourism community to develop a restaurant rating system that will discourage bad food safety practices. In addition, inspections conducted by national or local institutions should be published. A system could be designed based on experienced in other countries, including for example the United Kingdom, Washington DC and Las Angeles. Hotel classification can also be improved to provide more accurate information for tourists. In certain countries like Greece, Portugal and South Africa, hotel ratings are mandatory and administered by government bodies. In other cases industry associations set the standards. The implementation of standards compliant with those applicable in Europe can help to increase comparability across countries.

**Upgrading Nepal's tourism would be aided by greater foreign investment in the sector, but to date, there is lack of transparency in tourism investment policies.** This would increase competition in the sector, which would be expected to have positive impacts on price and quality. As heard during interviews with the private sector, there are de facto limitations to foreign investment in hotels and restaurants and tour operations (as in other sectors of the economy). Investment in tourism sector needs to meet specific requirements dictated by the government, despite tourism being in the WTO commitments on investment. There is a gap between Nepal's WTO commitments in the sector, and the implementation of those commitments, which the Government should close.

**A major bottleneck to the quality of tourism in Nepal is inadequate investment in infrastructure.** While not a direct mandate of the Nepal Tourism Board, the Board could emphasize the importance of infrastructure for the sector. During interviews it was heard that the Government thinks of tourism and infrastructure in isolation, yet there are linked in important ways. This includes not only upgrading and maintaining airports and roads, but also auxiliary services. For example, in Kathmandu, the Government could support a tourist bus terminal. Facilities need to be improved at major tourist destinations including bathrooms and benches and rest stops along highways. In addition, the tourism sector should be given greater priority during fuel crisis periods.

**Steps could also be taken to increase the number of tourists from alternative destinations and the number of tourism offerings.** Today, a large share of overseas promotional events are targeted at China and India, and diversifying promotional activities is important. In addition, many activities are done through tourism fairs, in part due to financing restrictions of the Board. Other forms of tourism promotion can be beneficial. The Nepal Tourism Board can work through public private partnerships to help promote new products, such as conducting seminars for tour operators to target additional destinations via their own marketing techniques. Supporting the development of other domestic tourist destinations, in particular in Western Nepal or along the Indian border, would also incentivize tour operators to sell longer stays within Nepal. Niche markets can be developed for tourism exports in Nepal. For example, upgrading tourism would be aided by expanding the products to natural parks and linking this to high-value ecotourism and conservation. Market surveys in other countries (including India and China) would provide a better understanding of what other products there is demand for – such as a tax free shopping hub, family vacations, business events if convention centers were available in Kathmandu and other tourist locations, or alternative adventure tourism such as zip lining and skydiving (beyond trekking) – ensuring top quality infrastructure and safety standards. New Zealand is one country that has immense natural potential like Nepal, and has developed a strong offering of tourist products. Enhancing the capacity of the National Tourism Board would be important for this process to unfold.

**Tourism can grow exports of other sectors, helping to diversify the Nepalese economy.** This is already unfolding for Nepal's handicraft sector, for example the Tibetan refugee rug factory, which has grown with the assistance of the country's tourism. Policies can be put in place to better link tourism with export promotion, for example with the Ministry of Tourism and the trade promotion body collaborating at fairs. But this starts by seeing the links between tourism and trade at a high level (Box 5). Other policy options include branding Nepalese products, such as in the Pashmina industry but could also extend to other sectors such as agriculture. While the Nepal Tourism Board is currently carrying Nepalese products to promotional fairs, this is not enough. The agriculture sectors itself can become a tourism product while simultaneously supporting its exports and branding. In Malaysia, for example, a major tourist destination is the tea highlands a few hours outside of Kuala Lumpur, which also directly promotes exports of Malaysia's tea.

**Box 5: Tourism to encourage better export performance and diversification**

**Entering and successfully surviving in export markets is a costly process for firms.** Key steps for success include learning about the existence of foreign demand, determining the production costs of exportable goods, building a high-quality reputation, succeeding in product branding to reduce competitive pressures, constant upgrading of quality standards to better serve demanding international clients, and remaining competitive with other players in the global marketplace. Drawing on the findings of recent research (Reis and Varela 2015), tourism can help alleviate some of these costs by providing a relatively inexpensive platform for cost discovery and acting as a low-cost in-house trade fair, accessible to all domestic producers. Combining product-level data on the world's and Nepal's exports (for goods that are both related and unrelated to tourism) with Nepalese data on tourist inflows and expenditures and macro indicators on relative prices results in a positive association between tourist inflows from given destinations and their expenditures with future merchandise exports of tourist-related products to those destinations. For goods previously unrelated to tourism, data reveal no connection between tourism flows and their future exports. The spillovers from tourism into merchandise export performance and diversification imply that there are gains to be had from cooperation between tourism and export promotion activities.

Source: Reis and Varela (2015).

**Linkages also exist between migration and trade in services, where overseas diaspora networks can become a vehicle to increase services exports.** Other countries such as India have benefitted from their

diaspora to improve services trade links, most notably in IT services (see Box 6). A returning diaspora community to Nepal could also impact domestic services provision, given that many Nepali migrants work in services sectors overseas. Mobilizing diaspora capital in the form of private investment in services could also serve to spur economic growth and job creation.

Box 6: Diaspora networks to encourage trade in services
<p><b>There exists a sizeable literature documenting the importance of diaspora networks for promoting international trade integration</b> (see, for example, Rauch and Trindade 2002). Studies are continuing to find diasporas important not just for trade flows but for foreign investments and knowledge diffusion. Benefits that diaspora networks offer include stronger access to information, matching and referral services that link firms together, language skills and cultural sensitivity that improve interactions, and repeated relationships that are important for creating business and trade opportunities (Ghani et al. 2013). These benefits also extend to services trade. Countries like India have taken advantage of migrants to improve exports of IT services. Ghani et al. (2014) find that overseas ethnic Indians are more likely to outsource to India than non-ethnic Indians for business process outsourcing, at least for employers' initial contract placement. These initial contracts are vital because the location choices of outsourced work for company contacts are very persistent. Javorcik et al. 2006 show that US FDI abroad is positively correlated with the presence of migrants from the host country, and that the existence of ethnic networks may positively affect FDI by promoting information flows across international borders and by serving as a contract enforcement mechanism.</p>

#### *Policies aimed at IT and BPO*

**Digital information and communications technologies are having a profound effect on nearly every sector, blurring the boundaries between traditional industries and changing the nature of production, consumption, distribution and work.** Uruguay, a relatively more developed country, used ICT services to diversify its export basket away from natural resource intensive products to higher value-added activities. By doing so, it also created the opportunity for services to be used as inputs to the production of its goods exports.

**Nepal's ICT sector faces challenges and bottlenecks to sustainable growth that require both general improvement in Nepal's infrastructure and business climate and some sector-specific policy measures.** Nepal needs to generate an ecosystem to support domestic software and ICT-enabled service firms if its sector is to be an engine for further integration of Nepal into the global market. This will involve a range of activities including targeted capacity building, provision of risk capital, expansion of partnering assistance through incubators and accelerators, and establishing greater business freedom. Recommendations for the software and ICT-enabled services sectors fall into two broad categories: 1) horizontal (general, economy-wide problems that need to be addressed for the ICT sector to progress) and 2) vertical (recommendations specific to the ICT sector).

**The Government of Nepal should continue efforts to improve the business environment.** These constraints are well documented such as licensing requirements, lack of transparency, corruption, etc. The larger number of informal services software contractors may stem from constraints to formally set up or grow a business in Nepal.

**Policies can also limit barriers to an effective start-up ecosystem.** This includes improving access to venture capital and supporting accelerators and incubators. It is common for venture capitals to hold competitions where the winners will be incubated.

**Capacity building should be enhanced through better linkages of industry and schools and universities.** This includes foreign language skills (where Nepal currently has a comparative advantage over other emerging markets such as Vietnam), managerial skills, and the quality of technical training programs. The

education system is poorly suited to the modern international business environment, and should mainstreaming soft business skills into the education system. Links between universities and the private sector are currently not maximized in a way that fosters product development. This may also involve supporting foreign investment of foreign universities in Nepal. In Vietnam, for example, a young entrepreneur started a subsidiary of Houston College of Technology, a 2-year associate's degree program. It teaches skills relevant to the industry. Improving the quality of domestic ICT programs would mitigate students traveling overseas for education and not returning. In the short term, the Government could offer scholarships for higher education conditional on workers returning to Nepal for a certain number of years, as is done in Thailand and Mexico, for example.

**The Government not having a clear policy for ICT was cited as a constraint**, although an ICT policy has been drafted. To date there is no association that encompasses software firms. The Government could look at establishing a body like it does for other industries on the software side, creating more public-private partners, and a platform for the government to interaction on constraints with software companies.

**The Government should support IT infrastructure.** This includes power supply and transport, but also auxiliary services such as systems integration<sup>19</sup>. IT infrastructure in network and computing is very poor due to issues with IT backbone. This limits IT companies to provide services to vendors, including cloud-based services. It also creates difficult to export these services (from cloud services providers) due to infrastructure in the network. Although the Government-owned Nepal Telecommunications have a good ICT backbone, it was heard that they do not provide these services outside of Kathmandu. Although fibers have been laid all over, it is only for telecomm and internet, and is not accessible to other providers. In Nepal, there are currently 10-12 ISPs with licenses, all trying to do the same thing which is not efficient and the quality of the service is diminished. While there are licenses for ISPs, there are no licenses for setting up a network. The Government should look for a clear policy to have 2-3 backbone services providers.

#### *Policies aimed at expanding access to finance*

**There exists a 'missing middle' for access to finance within SMEs, resulting from many factors.** Micro-firms and large corporations are not credit constrained, and it was heard that there is no problem with access to finance for firms that want to export (which also tend to be large firms), except in rural markets. On the other hand, SMEs face large borrowing constraints in Nepal.

**The largest hurdle for SMEs to access finance is lack of collateral.** This is in part due to banking regulations of the Central Bank that are skewed towards fixed asset capital backed lending. Most SMEs are trading companies (few manufacturing firms are present in Nepal) that by the nature of their business do not have fixed asset collateral, but they do maintain large inventories. Yet to date there is no secure transaction registry in Nepal where lending could happen against these inventories. The Secured Transactions Act was approved by the Parliament in 2006 but is yet to be implemented, owing to lack of a collateral registry. Reforming the moving collateral framework thus enables businesses to leverage the

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<sup>19</sup> System integration is a very challenging task in engineering solution delivery. In engineering system integration is the bringing together of the components subsystems into one system and ensuring that the subsystems function together as a complete one system. System integration is also a process of linking together different computing systems and software applications physically or functionally to work as the consolidated system and output desired services to customers.

greater part of their assets and obtain credit for growth. The World Bank Group is currently in dialogue with the Government of Nepal to support the collateral registry reform initiatives.

**A complementary approach is through credit rating agencies.** A credit rating agency is a third party that rates a firm based on past performance. Yet there is only one credit rating agency operating in Nepal that is an Indian company (ICRA Nepal). Attempts to establish a second credit rating agency in Nepal faced regulatory hurdles, in particular licensing restrictions. Credit scoring should also be tailored to SMEs, and Nepal could learn of regional best practices from India and Bangladesh.

**For small entrepreneurs, inadequate business skills and financial literacy limit access to finance on the demand side.** Firms also claim they cannot secure loans because they do not have their books/balance sheets in order. These are basic business practices that are not implemented in the firm, and as a result banks see them as 'non-bankable'. To date, there is no formal project in Nepal to overcome this hurdle. In Lao PDR for example, a matching grant scheme funded by Donors works with manufacturing firms to identify constraints to growing their business. Some of the services offered are matching these manufacturing firms with accountants to help with bookkeeping. If such policies are introduced in Nepal, they should also be subject to impact evaluation analysis.

#### *Policies aimed at e-commerce*

**Lack of international payments infrastructure are also preventing firms from exporting goods overseas through e-commerce.** For example, the Central Bank or the private sector with the approval from the Central Bank has to establish the payment gateway that allows for foreign payments into Nepal. Regulations need to allow payments to be received online through the gateway. This affects the handicraft sector in particular. Firms cannot sell online to overseas customers because they cannot receive foreign currency income for their goods. This is due to lack of a payments gateway that allows for foreign payments in Nepal. The Central Bank needs to establish one or encourage a private company to do so. To date, the only international switching is for ATMs and Merchant Payments. Regulation needs to allow for payments to be received online through the gateway, which could increase exports of Nepal's manufacturing products via e-commerce.

**There are also issues with financial infrastructure.** The payment system in Nepal is not yet fully interoperable and hence there is a lack of a common platform that allows for direct payment transfers between people or firms with accounts in different banks. Companies or individuals cannot transfer funds between accounts in Nepal online (only payments can be made by check or cash), which has resulted in domestic supply chains being more costly. This could be overcome if the Central Bank regulated a common transaction platform in Banks.

#### *Policies aimed at electricity supply*

**Electricity shortages and power outages are major hurdles for firms, yet there is immense potential in Nepal to overcome these hurdles by developing its hydropower sector.** Nepal has the potential to meet energy needs through clean hydropower. Over the next two years Nepal is posed to more than double its current hydropower generating capacity, followed by a pipeline of large projects over the next decade (Government of Nepal 2015). This will eliminate severe power cuts that have hurt consumer welfare, stunted private sector competitiveness, aggravated trade deficit and contributed to severe air pollution. Cheap, reliable and clean energy will provide consumer goods at affordable prices and improve competitiveness of Nepali enterprises. But inadequate electricity supply is in particular related to foreign investment restrictions and surrounding issues such as profit repatriation. While this is discussed in more

detail in other pillars of the project, earmarking remittances for investment in Nepal is one policy option that could help develop the hydropower sector.

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## Annexes

### A. Comparators of Nepal

Nine countries were chosen as comparators for Nepal. These include regional peers of China, India, Sri Lanka and Bangladesh. Uganda and Rwanda have been included as other land-locked countries. Three Asia-Pacific economies were selected including Cambodia, Thailand and Vietnam. Based on economic size (GDP and population) and level of economic development (GDP per capita), Nepal is closest to Cambodia, Uganda and Rwanda (Table A1).

All comparators have achieved a higher level of economic development than Nepal, with the exception of Uganda and Rwanda (with GDP per capita in line with Nepal's). China, Thailand and Sri Lanka have achieved the highest level of economic development of all comparators. Nepal also faces one of the smallest economies in terms of GDP, above only Cambodia and Rwanda, and population, above Rwanda, Cambodia and Sri Lanka. China and India boast the largest economies in terms of GDP and population.

**Table A1: Comparator country demographics, 2014**

	GDP (billion USD)	GDP per capita (USD)	Population (millions)
Nepal	20	702	28
Sri Lanka	79	3,819	21
Bangladesh	173	1,087	159
Cambodia	17	1,095	15
Thailand	405	5,977	68
China	10,355	7,590	1364
Uganda	27	715	38
India	2,049	1,582	1295
Vietnam	186	2,052	91
Rwanda	8	696	11

Source: World Bank World Development Indicators.

### B. Four modes of services supply

Services have unique characteristics that greatly affect their tradability, including intangibility and non-storability, but they also typically require differentiation and joint production. In order to capture these aspects, the World Trade Organization defines trade in services to span four modes of supply:

- **Mode 1**, or cross-border trade, are services supplied from the territory of one country into the territory of another (for example, consultancies, market research, graphic design services).
- **Mode 2**, or consumption abroad, are services supplied in the territory of a nation to the consumers of another (for example, tourism, education, health services).
- **Mode 3**, or commercial presence, are services supplied through any type of business or professional establishment of one country in the territory of another, for example, foreign direct investment (FDI)
- **Mode 4**, or presence of natural persons, are services supplied by nationals of a country in the territory of another (for example, a consultant or a health worker supplying their services in the importing country).

Due to these characteristics, at-the-border duties cannot be applied to services, having resulted in much weaker measurement and accounting practices with considerable less accuracy. Thus services statistics have ample space for improvement in terms of measurement. In particular, with respect to modes 3 and 4, measurement is to date difficult and incomplete. Ongoing revisions and refinements of the Balance of Payments classification work towards solving these issues.

Gross services trade data that are used throughout this report capture cross-border trade (Mode 1) and consumption abroad (Mode 2). Services trade that takes place through FDI (Mode 3) and temporary movement of people (Mode 4) are not covered in these data.

### C. Sectoral services classifications

Services trade data used in this report are sourced from a variety of sources. Services exports with the world at a disaggregated sectoral level are from UNCTAD. Data are measured according to countries' Balance of Payments statistics, and are identified in the report according to their BOP manual 6 services activity.

Services are classified into following four main categories: Goods-related services, transport, travel and other services. Goods-related services are further disaggregated into: manufacturing services on physical inputs owned by others and maintenance and repair services n.i.e. Other services are further disaggregated into: construction, insurance and pension services, financial services, charges for the use of intellectual property n.i.e., telecommunications, computer and information services, other business services, personal, cultural and recreational services, government goods and services n.i.e., and services not allocated.

- **Transport:** Includes all transport services involving the carriage of people and objects from one location to another as well as related supporting and auxiliary services. Also included are postal and courier services.
- **Travel:** Travel credits cover goods and services for own use or to give away acquired from an economy by non-residents during visits to that economy. Travel debits cover goods and services for own use or to give away acquired from other economies by residents during visits to these other economies.
- **Insurance and pension services:** Include services of providing life insurance and annuities, nonlife insurance, reinsurance, freight insurance, pensions, standardized guarantees, and auxiliary services to insurance, pension schemes, and standardized guarantee schemes.
- **Telecommunications, computer, and information services:** (1) Telecommunications services encompass the broadcast or transmission of sound, images, data, or other information by telephone, telex, telegram, radio and television cable transmission, radio and television satellite, electronic mail, facsimile, and so forth, including business network services, teleconferencing, and support services. They do not include the value of the information transported. Also included are mobile telecommunications services, Internet backbone services, and online access services, including provision of access to the Internet. Excluded are installation services for telephone network equipment (included in construction) and database services (included in information services). (2) Computer services consist of hardware- and software-related services and data-processing services. Exclude noncustomized packaged software (systems and applications), and video and audio recordings, on physical media; computer-training courses not designed for a specific user; and leasing of computers without an operator. (3) Information services include news agency services, such as the provision of news, photographs, and feature articles to the media. Other information provision services include database services, direct non-bulk subscriptions to newspapers and periodicals, other online content provision services, and library and archive services.
- **Other business services:** Cover research and development, professional and management consulting and technical, trade-related and other business services.

### D. Measuring trade on a value-added basis

A country's performance in gross services exports can distort the real contribution of a sector's exports to an economy. This occurs for a variety of reasons. For example, some sectors are more intensive in the use of foreign inputs, and thus their exports may contain little domestic value added. Some sectors may use

few inputs, and are better able to create domestic value added directly within the sector but create few linkages. Alternatively, some sectors demand inputs from other domestic sectors, and growing exports would have spillovers through domestic value chains. Or some domestic sectors support other sectors' exports (even if they do not export themselves), when they act as inputs to production.

When exports are measured by the value added they create in an economy, it is possible to split the contribution of a sector into its direct and indirect contributions. An analysis of the indirect value-added contribution of individual sectors to exports can be undertaken in two ways that yield complementary insights: forward and backward linkages. This section considers the direct and indirect value-added contribution of services to Nepal's exports considering backward linkages.

- The direct contribution is the value added a sector generates to produce its own exports directly.
- If measuring *backward linkages*, the indirect contribution is the value added a sector pulls from intermediate-input sectors to produce its own exports. For example, the exports of the machinery sector would comprise the direct value-added in machinery production, as well as the value-added of intermediate inputs that the domestic plastics industry might have provided to the exported machinery items. Thus, machinery exports "pull" value added from the plastics sector.
- If measuring *forward linkages*, the indirect contribution is the value added a sector generates by supplying intermediate inputs to the production of other sectors' exports. For example, exports of food may have been produced using machinery of domestic origin. Thus, machinery "supplies" (part of) the value added in exports of food and beverages.

The analysis on services' contribution to Nepal's exports on a value-added basis relies on the World Bank's Export of Value Added Database. The database contains information on gross exports of services, direct value-added exports of services, and indirect value-added exports of services. The database was developed using social accounting matrices (SAM) from the 9th round of the Global Trade Analysis Project (GTAP), which reflects data up until 2011. The input-output table underpinning the SAM for Nepal in GTAP is from 2001, though the model is re-calibrated every round and the parameters re-defined as to reflect the updated dataset.

Value added services export data continue to capture cross-border trade (Mode 1) and consumption abroad (Mode 2). Services trade that takes place through FDI and temporary movement of people are not covered in these data. However, production from inward/outward FDI and movement of natural persons would show up as GDP and be included in the statistics as domestic production (not exports).

## E. Quality of bilateral services trade data

The *Trade in Services Database* developed by Francois et al. (2013) covers bilateral services flows for 248 countries across a multitude of services sectors, although the quality of data coverage varies substantially for the countries. The database is constructed using multiple sources of bilateral services trade data, including the OECD, Eurostat, UN, and IMF, based on Balance of Payments statistics that are based on a new classification following UN guidelines. Many countries in the world have not yet adopted this new classification, resulting in many non-Working Papered bilateral services trade flows. The dataset overcomes this deficiency by constructing mirror flows (deducing a country's export values from its partner's import values). However, only data on cross-border trade (mode 1) and consumption abroad (mode 2) can be collected in the dataset as these are Working Papered in the Balance of Payments statistics of countries' national accounts. One should be aware that FDI (commercial presence or mode 3) remains an important channel for foreign providers to supply services. The *Trade in Services Database* should be seen in this light as the best currently available approximation to a comprehensive picture of global trade flows in services. It is important to acknowledge, however, that this is still only a partial picture of the world.

## F. The gravity model of trade

The gravity model of trade relates countries' bilateral trade flows to structural determinants of GDP, geographic distance, and other factors that affect trade barriers. The bilateral flows are identified from the World Bank Trade in Services Database, averaged over the period 2005 and 2007 to maximize the number of observations. The structural determinants of each pair of countries together with the estimated regression coefficients are used to compute the bilateral trade potentials. It is possible to then compare the level of bilateral trade between a pair of countries relative to their trade potential to categorize bilateral exports as over-traded or under-traded, depending on the comparison between realized bilateral export values and the model's predictions. In addition, the regression includes a country's services trade restrictions index of the World Bank Services Trade Restrictions Database to assess if these are important determinants in explaining the level of bilateral services trade between countries.

## G. Estimating the Impact of Services Inputs Quality on Firms' Productivity

How do access to quality services inputs affect firms' performance? Answering this question requires access to a dataset that contains comparable measures of quality services input provision and of firms' performance. Then, it is necessary to test whether a systematic relationship exists between the two. The approach follows that of Arnold et al. (2008).

The dataset comes from the World Bank Enterprise Surveys. Data from these surveys are available for a cross-section of firms from 188 country-year combinations (127 countries are surveyed, with some countries being surveyed in more than one year). The surveys were undertaken between 2006 and 2013.

The measure of firms' performance chosen is productivity. Three alternative measures are used: (i) labor productivity (the ratio of output to total labor costs), (ii) total factor productivity (TFP) estimated in two as a residual of a Cobb-Douglas production function, with output as a function of the capital stock, labor and intermediate inputs; and (iii) TFP estimated as a residual from a translog specification in which output is expressed as a function of the capital stock, labor, intermediate inputs and their squared terms, and their cross-products.

The performance of services sectors is also obtained from the Enterprise Surveys. Subjective measures of local services performance are used, which are firms' valuations as to how much of a constraint they consider electricity, telecommunications, transport, and access to finance for their businesses. Firms are asked to select, on a scale from 0 to 4, whether they consider each of these dimensions to be not an obstacle for their operations (0), a minor obstacle (1), a moderate obstacle (2), major obstacle (3) and severe obstacle (4).

The empirical strategy consists in regressing the measure of productivity on measures of the performance of services, controlling for factors that are typically identified in the literature as relevant for firms' performance, which include firm's export status, firm's size, and firm's age. In addition, the methodology controls for country-year fixed effects, to eliminate the potential of distortions due to changes in the relative values of the different currencies in which output, wages, intermediates and capital stock are expressed and to eliminate the effect of country-year unobservables that may affect both productivity and the perception of services' quality, as well as sector fixed effects to control for time-invariant and sector-specific unobservables.

Concerns about endogeneity arise because it is possible that poor performance affects firms' perceptions about the obstacles that services input provision represent. This would imply a bias upwards in the

coefficient linking services performance with productivity. This makes a specification that links firm-level perceptions of services quality with firm-level productivity inappropriate. The strategy, following Arnold et al. (2008) consists in aggregating the individual firm's responses to the services-related questions on the right hand side at the regional level, within each country. This reduces the influence that an individual firm's performance has on the regressor. In addition, it is likely to better summarize the quality provision of services in a given region.

The chosen specification is as follows:

$$\mu_i = \alpha_{ct} + \gamma_s + \beta \text{Serv Performance}_r + \pi X_i + \varepsilon_i$$

where  $\mu$  is the indicator of productivity (labor productivity, residual from Cobb Douglas or residual from translog),  $\alpha$  is a country-year fixed effect,  $\gamma$  is a sector fixed effect,  $\text{ServPerformance}$  is a vector of perception based indicators of obstacles represented by access to finance, electricity, transport, and telecommunications, that vary at the regional level,  $X$  is a vector of controls varying at the firm level, and  $\varepsilon$  is an error term assumed orthogonal to the regressors.

To focus on the impact on domestic firms, all regressions are estimated on a sample of domestic-owned firms or firms with less than 10% of foreign ownership.