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Sophistication in Service Exports and Economic Growth

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Services can now be stored and traded digitally, and they are not subject to many of the trade barriers that physical exports have to overcome. Services are no longer exclusively an input for trade in goods, but have become a "final export" for direct consumption. It is important to note that services not only have become more tradable, but also can be increasingly unbundled: a single service activity in the global supply chain can now be fragmented and done separately at different geographic locations. This has led to a new channel of growth—what we call "service exports sophistication."

What drives growth has frequently been debated in the economic literature, and the recent growth of China and India has rekindled this debate. Those two countries have taken two different routes to achieve annual growth rates of nearly 7 percent. Whereas China has followed a more traditional manufacturing-led growth strategy, India's growth has been driven by expansion in the service sector. The Indian experience has led researchers to challenge the conventional notion that industrialization is the only plausible route to rapid economic development (Felipe et al. 2007; Ghani and Kharas 2010). In the last decade, services have grown as a share of the world's GDP, accounting for 70 percent of global GDP; and service exports in developing countries have almost tripled between 1997 and 2007.[1] Even though manufacturing continues to be a dominant driver of growth, recent developments suggest that we must include the service sector in the debate. Services are no longer exclusively an input for trade in goods; rather, they have become a final export for direct consumption. In view of these changes in the nature of services and their growing importance, we have examined whether growth in service exports and its sophistication can provide an additional route for rapid economic growth in developing countries. "Sophistication" has a multitude of interpretations, but it broadly aims to capture the productivity level associated with a country's production, empirically mirrored in exports data. We have developed a new index of service exports sophistication to examine its relationship to growth.

The growing importance of services and sophisticated service exports is reflected in such success stories as the Nigerian film industry; call centers in Kenya; business consulting and knowledge-processing offices in Singapore; accountancy services in Sri Lanka; human resources processing firms in Abu Dhabi; and the growing internationalization of innovation, research and development, design, and marketing. These are all different forms of the same phenomenon.

Why Sophistication in Service Exports?

As per capita income increases, most countries witness a rising share of services in their total output. The exact cause of this shift and its implications for future growth has not been very well researched. The neglect of services as drivers of growth in the policy and research debate stems from the notion that services are associated with low productivity and are merely inputs in the production of goods. However,

technology has been changing the very nature of the production frontier for services, leading to an increasing share of services in GDP growth and, particularly, to a rapid increase in service exports. The mid-1990s saw two seemingly separate but related developments: the revolution in information and communication technology; and rapid developments in those global forces often referred to as the 3Ts—technology, transportability, and tradability (Ghani et al. 2010). Those two developments had a profound impact on the nature, productivity, and tradability of services. They resulted in rapid growth of what can be called "modern impersonal progressive services," such as information technology, business-related services, medical records transcription, call center operations, education services, entertainment production services, and so forth. These services differ significantly from traditional personal services that demand face-to-face interaction. A rising number of services now can be stored and traded digitally; they have become similar to manufacturing goods in that they benefit from technological advancement and their costs depend on economies of scale, agglomeration, networks, and division of labor. More important, these sophisticated services mostly require digital labor mobility that provides an opportunity for relatively innovative, high-tech job creation in low- and middle-income economies.

A single service activity in the global supply chain can be fragmented and done separately at different geographic locations. Fragmentation in service exports activities has also provided prospects for specialization that did not exist previously.

What Is Sophistication in Service Exports?

There are two aspects of this new channel for growth—specialization within service exports and the sophistication of service exports. Whereas increasing trade volumes in niche products or services fuel growth, the more interesting question is whether growth can be achieved by improving the sophistication of service exports. This is in line with the existing literature on how sophistication of goods exports affects growth. Hausmann, Hwang, and Rodrik (2007) have shown that it is not the specialization alone, but the sophistication of goods exports that matters for growth. To examine this phenomenon for service exports, we create an index called "service exports sophistication."

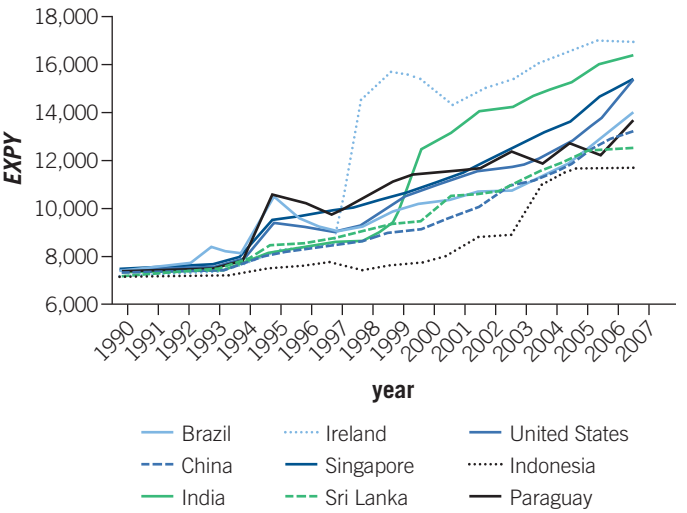
We first construct an index named *PRODY* that was previously created for each category of goods exports, reflecting the income/productivity level associated with each good; and we do the same for each category of services present in the International Monetary Fund balance of payments. *PRODY* becomes the weighted average of per capita GDP, where the weights represent the revealed comparative advantage in service *j* for each country.[2] *PRODY*s are constructed for each service category in each year for which there are available data. Service *EXPY* (*sEXPY*) is then the weighted income value of services exported by a country, computed as the sum of *PRODY*s weighted by the share of the particular service in the country's total service exports basket. Service *EXPY*s are constructed for each country and for each year of available data. Table 1 shows the average *PRODY*s for different service exports categories. To look at the evolution of service exports sophistication over time, we plot selected countries' *sEXPY* in figure 1. In figure 2, we plot the average-level correlation for 2007. One can see the relative position of each country. Interestingly enough, the mean and variance of this measure is increasing over time.

Table 1. Global *PRODY* by subservices for the world

	1990–95	1996–99	2000–07	Mean	SD
Transportation	8,161	10,464	10,798	10,189	1,870
Travel	7,433	8,033	8,106	8,222	846
Communication	6,261	6,713	6,871	6,862	1,172
Construction	14,510	10,015	9,808	11,828	2,541
Insurance	8,167	12,031	12,321	11,292	2,885
Financial	18,590	23,206	23,263	22,763	3,925
Computer and information	14,916	17,950	17,093	17,791	2,770
Royalties and license fees	10,263	13,342	13,361	12,912	3,047
Other business services	7,883	11,172	11,865	10,575	2,784
Personal, cultural, and recreational services	12,185	13,367	13,484	13,550	2,792

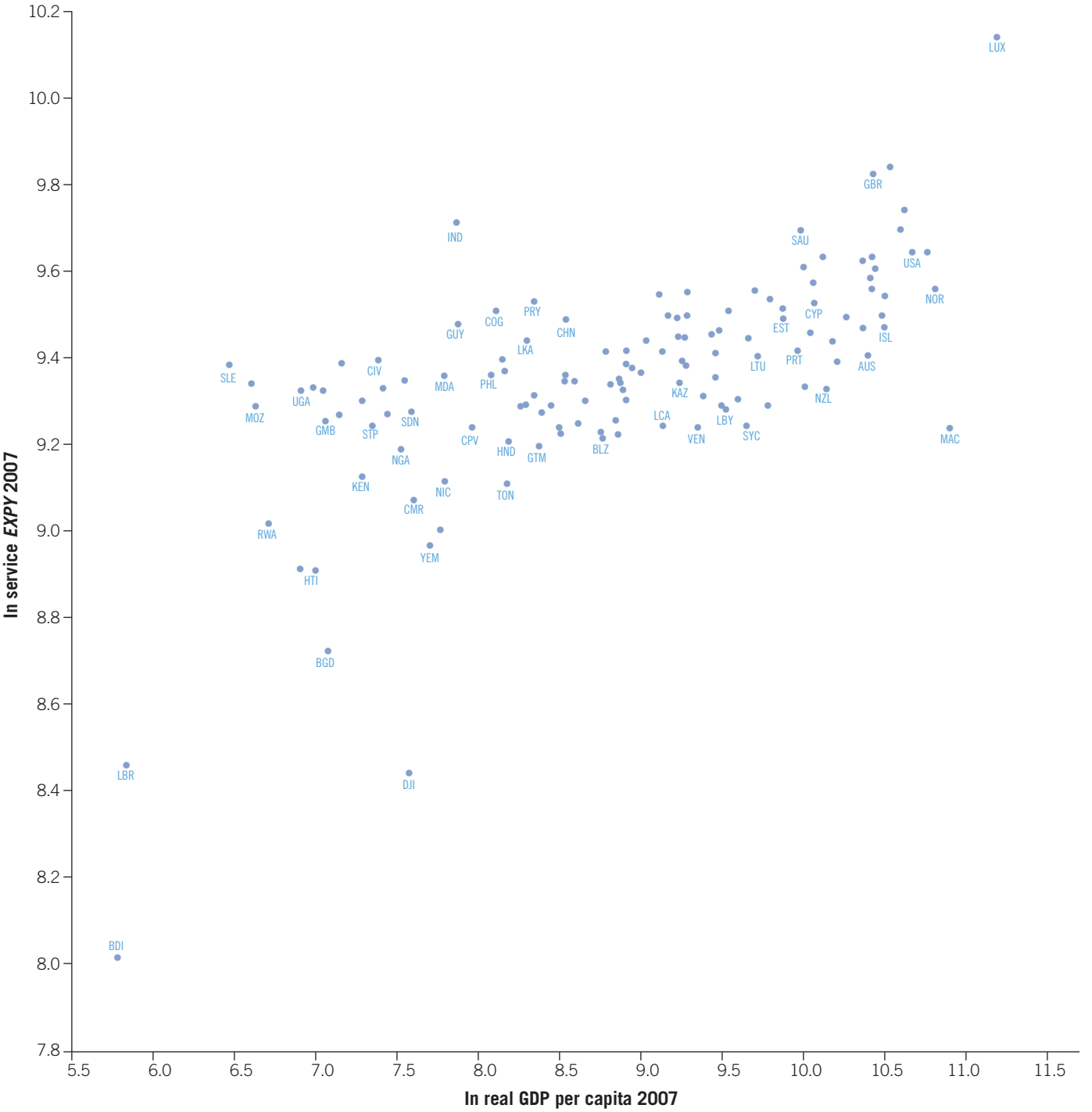
Source: Authors' calculations.
Note: SD = standard deviation.

Figure 1. Service *EXPY* for selected countries



Source: Authors' calculations.

Figure 2. Service *EXPY* against GDP per capita, 2007



Source: Authors' calculations.

Relationship to Growth

We conducted empirical growth regression analysis to test whether *sEXPY* is positively associated with growth (see Mishra, Lundstrom, and Anand [2011]). The results indicate that exports' "quality" in services is positively associated with growth performance. The results hold even after controlling for income per capita, skills, the size of the domestic service sector, goods sophistication, financial development, rule of law, and country time-invariant factors. The results hold dropping advanced countries and India from the sample. Our global results suggest that this phenomenon is growing in importance over time. Service exports and an increase in their sophistication may be an additional channel for sustained high growth.

We highlight a need to refocus policy debate on the drivers of growth. Learning from this phenomenon in development policy practice will depend on country-specific factors and is an area of our future work.

Countries may benefit by adopting policies that increase the value added by service exports, improve productivity, eliminate obstacles to increasing sophistication in niche service activities, and promote export performance. Neither the manufacturing-led growth strategy of China nor India's information technology–enabled service exports growth can be a universal standard for growth and economic development, but there are lessons to be learned from their experiences.

Concluding Remarks and Policy Considerations

The major contributions of this work are to bring the service exports channel of growth forward in the discussion of growth drivers and to show that the channel may be an alternate route for developing countries. Another contribution is to develop a dynamic index of service exports sophistication that can be used to explore these questions in detail and to understand more country-specific growth patterns.

The distinctiveness of increasing service exports sophistication and growth is twofold: (1) traditional service activities gain in productivity from technology, transportability, and tradability; and (2) there is a host of new service activities that have emerged (as a result of unbundling and technological innovation).

Increasing sophistication in service exports has important implications for countries that are stuck in a "middle-income trap" (such as Malaysia and Vietnam) and for countries that wish to sustain their rapid growth (such as India and Sri Lanka). Furthermore, reigniting growth in the United States and in the G-20 economies will partially rely on the innovation and competitiveness of sophisticated service–exporting firms. It also offers a prospective route for growth in Africa. In the global rebalancing, service exports might be an imperative channel through the lens of India-China, South-South trade, advanced-emerging trade clusters, or possible new trade networks.

The Indian experience shows that even with a very small share of the population (about 1 percent) engaged in high-productivity service exports, the sector can make a significant contribution to overall growth. Various factors may promote competitiveness among countries exporting services, thus driving specialization and sophistication in service exports. Countries should continue to build on specialization, but also extend this idea to sophistication in service activities as a potential route to economic growth.

Notes

1. The global value of cross-border services exports in 2007 was $3.3 trillion (20 percent of total world trade). However, the share of services rises to almost 50 percent if transactions are measured in terms of direct and indirect value-added content—that is, if measured in terms of processing of imported components into final products for export (Escaith 2008). If we add the sales of services by foreign affiliates of multinational firms, then the value of trade in services rises further. Data for 15 Organisation for Economic Cooperation and Development countries put the value of such sales at some $1.5 trillion in 2007 (WTO 2009; François and Hoekman 2010).

2. See Mishra, Lundstrom, and Anand (2011) for details on construction of the *sEXPY* measure:

$$PRODY_j = \sum_i \frac{x_{ij}/X_i}{\sum_i x_{ij}/X_i} Y_i \; EXPY_i = \sum_j \frac{x_{ij}}{X_i} PRODY_j$$

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