Services trade and growth*

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Introduction

One of the stylized facts of economic development is that the share of services in GDP and employment rises as per capita income increases. In the lowest-income countries, services generate some 35 percent of GDP. This rises to over 70 percent of national income and employment in OECD countries. The expansion in the services-intensity of economies is driven by a number of factors. Standard explanations revolve around both demand and supply side factors,[1] including income elasticities of demand for services that exceed one, limited scope for labor productivity improvements in the supply of consumer (final product) services, and the rise in demand for coordination and intermediation services associated with structural change (shift out of subsistence agriculture, urbanization, changes in business practices) and the expansion of the extent of the market, as well as incentives for firms and government bodies to spin off service activities to specialized providers (outsourcing).[2] Advances in information and communication technologies are increasingly permitting cross-border - disembodied - trade in labor-intensive services, accelerating the growth of services activities.

The competitiveness of firms in open economies is increasingly determined by access to low-cost and high-quality producer services – telecommunications, transport and distribution services, financial intermediation, etc. – as well as the efficiency and effectiveness of public governance and institutions. The widely remarked upon processes variously called global outsourcing, fragmentation, production sharing, and offshoring depend on access to, and the cost and quality of, services – public and private.

While the expanding importance of services in the economy has certainly been noticed, services do not figure prominently in research on economic growth and development. The same is true in the international trade literature, although a rapidly increasing amount of research has focused on the linkages between services trade, service-related policies and economic performance. The aim of this paper is to provide a

[1] See, e.g., Baumol (1967), Fuchs (1968, 1981), Kravis, Heston and Summers (1983), Inman (1985) and Francois and Reinert (1996).

[2] Such outsourcing is also very prevalent within services industries, but this does not affect the overall services share.

brief review of some of the recent literature on these subjects, focusing primarily on services that are inputs into production.

The plan of the paper is as follows. Section 1 briefly discusses the role of services in economic growth. Section 2 presents some stylized facts regarding global trends in trade and foreign direct investment (FDI) in services, and the policies affecting trade. Section 3 reviews a number of channels through which openness to trade in services may increase productivity of an economy and summarizes the findings of some of the empirical literature that focuses on these channels, at the level of the economy as a whole, industries and the firm. Section 4 discusses a number of the policy implications suggested by the extant research. Section 5 concludes.

1. Services and Growth

Economic theory postulates that aggregate growth is a function of increases in the quantity and productivity of capital and labor inputs, with long run (steady state) growth being driven by technological progress. Growth theory accords no special role to services activities, with the exception of financial services. The seminal work here is Goldsmith (1969), which stressed the role of financial services in channeling investment funds to their most productive uses, thereby promoting growth of output and incomes.[3] Subsequent work has shown that financial services can affect growth through enhanced capital accumulation and/or technical innovation. In a survey of the relevant literature, Levine (1997) identifies five major functions that financial systems perform in reducing transactions costs and improving the allocation of real resources: facilitating the trading of risk, allocating capital to productive uses, monitoring managers, mobilizing savings through the use of innovative financial instruments and easing the exchange of goods and services.[4]

Intuitively, other services activities also have a powerful influence on growth. Low cost and high quality telecommunications will generate economy-wide benefits, as the communications network is a transport mechanism for information services and other

[3] Goldsmith used the ratio of the value of financial intermediary assets to GNP to gauge financial performance, and found a "rough parallelism" between economic growth and financial development.
[4] Calderon and Liu (2003) confirm the direction of causation between financial development and economic growth, using data on 109 countries for 1960-1994.

products that can be digitized. Telecommunications are crucial to the dissemination and diffusion of knowledge—the spread of the Internet and the dynamism that that has lent to economies around the world is telling testimony to the importance of telecommunications services. Similarly, transport services affect the cost of shipping goods and movement of workers within and between countries. Business services such as accounting, engineering, consulting and legal services reduce transaction costs associated with the operation of financial markets and the enforcement of contracts, and are a channel through which business process innovations are transmitted across firms in an industry or across industries. Retail and wholesale distribution services are a vital link between producers and consumers, with the margins that apply in the provision of such services influencing the competitiveness of firms on both the local and international markets. Health and education services are key inputs into – and determinants of – the stock and growth of human capital.

Services are very heterogeneous, and span a wide range of economic activities. Conceptually, this diversity masks a fundamental function that many services perform in relation to overall economic growth: they are inputs into production. One dimension of this 'input function' is that services facilitate transactions through space (transport, telecommunications) or time (financial services) (Melvin, 1989). Another dimension is that services are frequently direct inputs into economic activities, and thus determinants of the productivity of the 'fundamental' factors of production – labor and capital – that generate knowledge, goods and other services. Education, R&D and health services are examples of inputs into the production of human capital.

Francois (1990a) notes that the growth of intermediation services is an important determinant of overall economic growth and development because they allow specialization to occur.[5] As firm size increases and labor specializes, more activity needs to be devoted to coordinating and organizing the core businesses of companies. This additional activity is partly outsourced to external service providers. The "producer services" that are demanded and supplied as part of this process are not just differentiated inputs into production. They play an important distinct role in coordinating the

[5] See also Burgess and Venables (2004) on the importance of a variety of services "inputs" that support specialization, creation and diffusion of knowledge, and exchange.

production processes needed to generate ever more differentiated goods and to realize scale economies. The associated organizational innovations and expansion of "logistics" (network) services yields productivity gains that in turn should affect economy-wide growth performance.[6]

The greater the variety and quality of services and the larger the reduction in (real) prices associated with greater specialization in services (outsourcing), the greater the impact on productivity (welfare) of firms (households) that buy services. The productivity-enhancing role of services as inputs contrasts with a long-standing concern in the literature that a steadily expanding service sector may (must) be associated with a declining growth rate of the economy. These concerns have been driven by a presumption that limited potential for productivity improvements in services implies that over time the real costs of – and employment in – services must rise relative to other sectors, reducing the growth potential of the economy to that of the "stagnant" services sectors (Baumol, 1967). Once it is recognized that services are often inputs, an expansion of the service sector can increase growth. This may occur even if there is limited scope for productivity growth in the services concerned, as assumed by Baumol. Oulton (2001) has shown that an expansion in stagnant services inputs may increase overall growth, because greater outsourcing of services by (productive) firms in non-stagnant sectors entails a reallocation of factors that increase overall output and aggregate productivity.[7]

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

[7] In a related analysis, Fixler and Siegel (1999) argue that outsourcing of services by manufacturing firms may show up in short terms divergences in measured productivity growth of services vs. manufacturing sectors. Kox (2003) provides some empirical support for Oulton's argument, showing that business services in the Netherlands both expanded rapidly in the 1990s and displayed stagnating productivity growth. However, from an economy-wide perspective the sector is a mechanism for the transmission of knowledge spillovers, with the expansion of arms-length business service provision being associated with a change in the production process of client firms, as opposed to simple labor substitution.

Many service industries are not stagnant and have experienced significant labor and total factor productivity growth. The implication is that there is much less cause to be concerned about the implications of a rising service sector share of the economy as per capita income rises that is suggested by a reading of the early literature.[8] While there are serious measurement difficulties that afflict productivity measurement for many service industries (because it is often difficult to define the real output of a service sector), empirical analyses have documented that many services sectors have registered significant productivity growth. Triplett and Bosworth (2004), for example, calculate both labor and multifactor productivity for a range of US service industries and conclude that US productivity growth has been significant for a number of services sectors. Productivity growth in distribution and financial services fueled much of the post-1995 overall expansion in US productivity, with information technology and managerial innovations – such as outsourcing and specialization, as well as new concepts of retailing such as the "big box" store format – helping to transform and accelerate productivity in these sectors.

Productivity performance of service industries differs significantly across countries. Inklaar, Timmer and van Ark (2006) show that differences in aggregate productivity levels and growth rates in a sample of seven OECD countries can mainly be attributed to specific services sectors as opposed to goods producing industries. That is, productivity levels/growth rates of the latter are much more similar across countries than is the case for producer and business services. High services productivity growth in the post-1995 period for countries such as the US, Canada and the UK is only partially explained by ICT investment/use;[9] more important is total factor productivity (TFP) growth. This TFP growth is not observed for the Euro-land countries in their sample. A decomposition by industry suggests that much of the differential is due to variation in business services performance across countries.[10]

[8] That said, in the long run, if the growth rate of productivity is lower in final demand services than in manufacturing, the Baumol result still obtains. See Sasaki (2007) for an analysis of the question using a model of aggregate productivity growth that considers the role of services both as intermediate inputs and as final consumer products. Most of this literature does not consider the role of services in the "production function" for R&D and human capital formation. Pugno (2006) is an exception.

[9] They show that ICT capital deepening was similar across all the countries in their sample.

[10] More detailed cross-country, service sector specific productivity analyses obtain similar findings. See, e.g., Timmer and Inklaar (2005), Ypma (2007), Timmer and Ypma (2006).

The obvious question raised by this finding is what explains the divergence in performance (i.e., what determines services productivity), and to what extent policy variables such as regulation, limits on entry into or scaling up of business services, investment restrictions, etc. affect services performance. More specifically, a question this paper focuses on is how trade and thus trade policy affects services performance. For example, insofar as all of the OECD countries in the Inklaar et al. sample are similar as regards openness to foreign competition, domestic regulatory policies that segment markets may be the major determinant of diverging productivity performance (Nicoletti; 2001; Nicoletti and Scarpetta, 2003). But if there are sectors where there is very little international competition, trade policy may also play a significant role.

The focus of this paper is on the broad question of what is known about the effects of policies that restrict international competition. Entry by foreign firms is in principle a powerful potential channel for technology diffusion as well as competitive pressure that will reduce prices and/or raise quality of services. Often such entry will (have to) take the form of FDI. What is the effect on the overall economy's growth performance of greater international competition? What are the channels for this growth at the industry and firm level? Before turning to these questions, we first briefly review trends in the pattern and composition of global trade and investment in services.

2. Global Trade Trends

Services have unique characteristics that affect their tradability. Typical characteristics include: (i) intangibility – so that international transactions in services are often difficult to monitor, measure and tax; (ii) nonstorability – so that production and consumption often must occur at the same place and time; (iii) differentiation – services are often tailored to the needs of customers; and (iv) joint production, with customers having to participate in the production process.

For a number of services, trade can be conducted in a similar manner as trade in goods, in that the service is produced in one country and supplied cross-border to a consumer in another country. But for many services, from local phone calls to transportation, nonstorability implies a need for proximity between the consumer and producer and hence it is necessary for the factors of production (capital and labor) to

move to the location of the consumer (or vice versa). As the conventional definition of trade – where a product crosses the frontier – would miss out on the latter type of international transactions, the WTO has defined trade to span four modes of supply:

- *Mode 1 – Cross-border*: services supplied from the territory of one country into the territory of another.
- *Mode 2 – Consumption abroad*: services supplied in the territory of a country to the consumers of another.
- *Mode 3 – Commercial presence*: services supplied through any type of business or professional establishment of one country in the territory of another (i.e., FDI).
- *Mode 4 – Presence of natural persons*: services supplied by nationals of a country in the territory of another.
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Data on services trade are notoriously weak. The primary source is the balance of payments, where measured flows correspond mainly to modes 1 and 2. IMF data reveal that service imports roughly tripled over the decade from 1994 to 2004.[11] For the 178 countries for which the IMF reports data the median value of imports of services in 1994 was some US$550 million. As of 2004, this had increased to US$1.5 billion. For the world's largest services trader, the US, total reported imports rose from almost US$200 billion to US$340 billion.

Notwithstanding this growth in the absolute value of services trade, world service imports as a percentage of GDP rose slightly from 11 percent in 1994 to 12 percent of GDP in 2004 (Table 1). This masks declines in the services share in developing countries. The rising importance of service imports in the aggregate stems mainly from increases within the most developed countries (from 8 percent to 12.7 percent), driven by strong growth in producer and business services imports (whose ratio to GDP rose from 3.3 percent to 6.7 percent).

In parallel with the declining share of imports of non-travel, non-transport services in lower-income countries, there has been a structural shift away from travel (tourism) and transport services towards producer and business services (Figure 1). While the overall structure of trade has been relatively stable, some notable differences between countries at different stages of development can be observed. Travel was the

most important service import for high-income countries in 1994; as of 2004 other business services had become the largest category. Imports of financial, insurance, computer, and communication services, and royalties and license fees all increased substantially, although with the exception of financial services they represent only a small fraction of total service imports.

Table 1: Service imports as a share of GDP, 1994 and 2004

	Total services	
	1994	**2004**
All countries (n=178)	11.0	12.0
High income	8.0	12.7
Upper middle income	11.4	12.8
Middle income	10.3	11.6
Lower middle income	13.6	11.4
Low income	11.7	11.2
	Other services (non-transport, non-travel)	
	1994	**2004**
All countries (n=178)	4.6	5.1
High income	3.3	6.7
Upper middle income	4.5	5.3
Middle income	4.2	4.6
Lower middle income	6.5	4.9
Low income	4.4	3.8

Source: IMF BOP Statistics

For developing countries, transport services are traditionally the most important single service import category. Between 1994 and 2004, this share has declined somewhat. In contrast to high-income countries, a strong increase in producer related services imports is observed in only a few developing countries. However, financial services imports have generally become more important, with the median observation for all developing countries rising from around 0.1% of GDP to roughly 1% of GDP (Francois, Hoekman and Wörz, 2007).

[11] Our discussion of global trends in cross-border services trade uses import data as these are presumably of better quality than export data. In principle aggregate imports for the world should equal aggregate exports.

Figure 1a: Service imports as percent of GDP by income groups, 1994

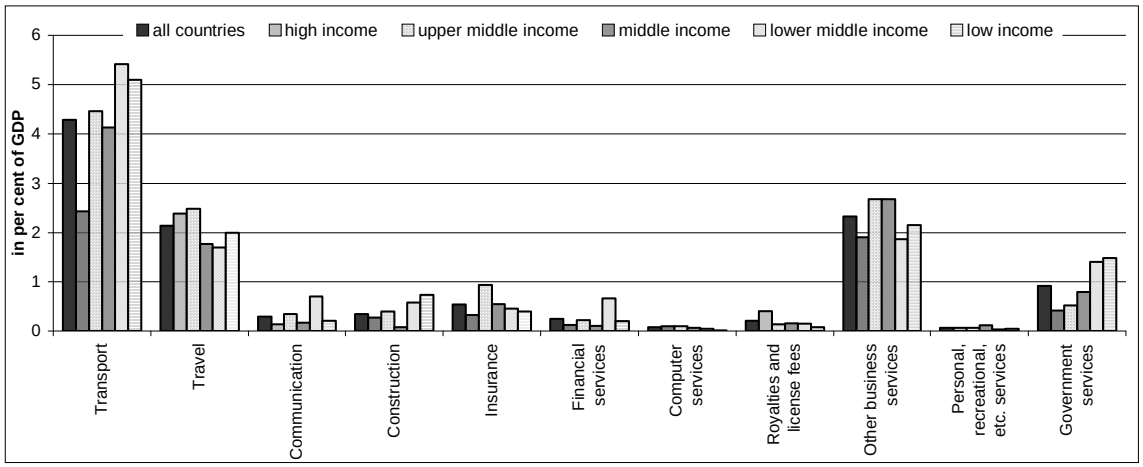
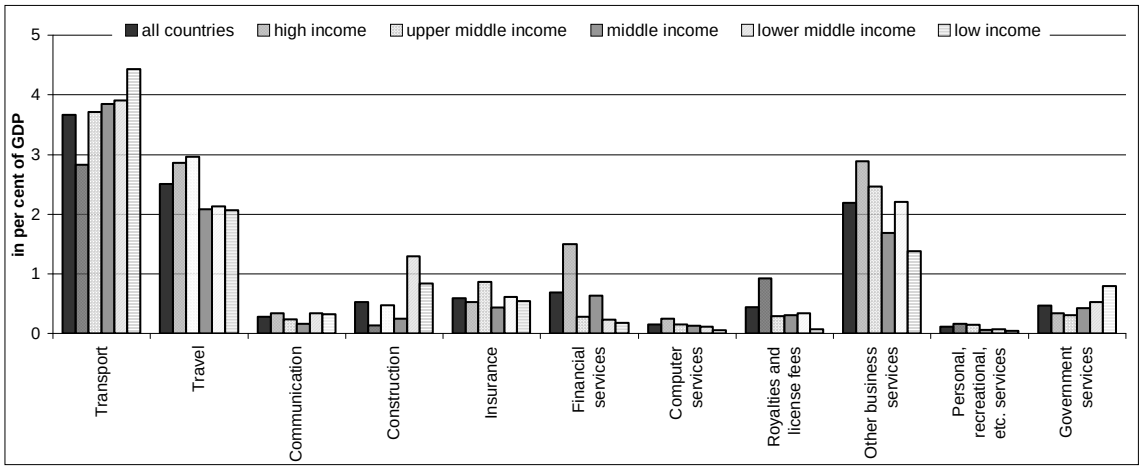


Figure 1b: Service imports as percent of GDP by income group, 2004



Source: IMF BOP statistics.

Technological changes have supported rapid growth in international exchange of business services. The business services exports of developing countries have grown nearly four-fold in the last decade. The average annual growth rate of business services exports for Brazil and China during 1995-2005 was 15 percent, for India it was 25 percent (Figure 2). In large part this reflects growth in so-called business process outsourcing (BPO) services. This activity arises from the outsourcing (and out-location through FDI) of non-core business processes throughout the value chains of both manufacturing and services industries. Within BPO activities, the more advanced

developing countries, such as India, are moving from providing only low-end back-office services (data entry, etc.) to more integrated and higher-end services bundles in fields such as customer care, human resource management, and product development. This move – reflected in a rising index of revealed comparative advantage (RCA) in business services (Figure 3) – is creating space for other developing countries, from China to Senegal, to step into the more standardized segments of the market.

Figure 2. Average Growth Rate of Business Service Exports for Selected Countries during 1995-2005

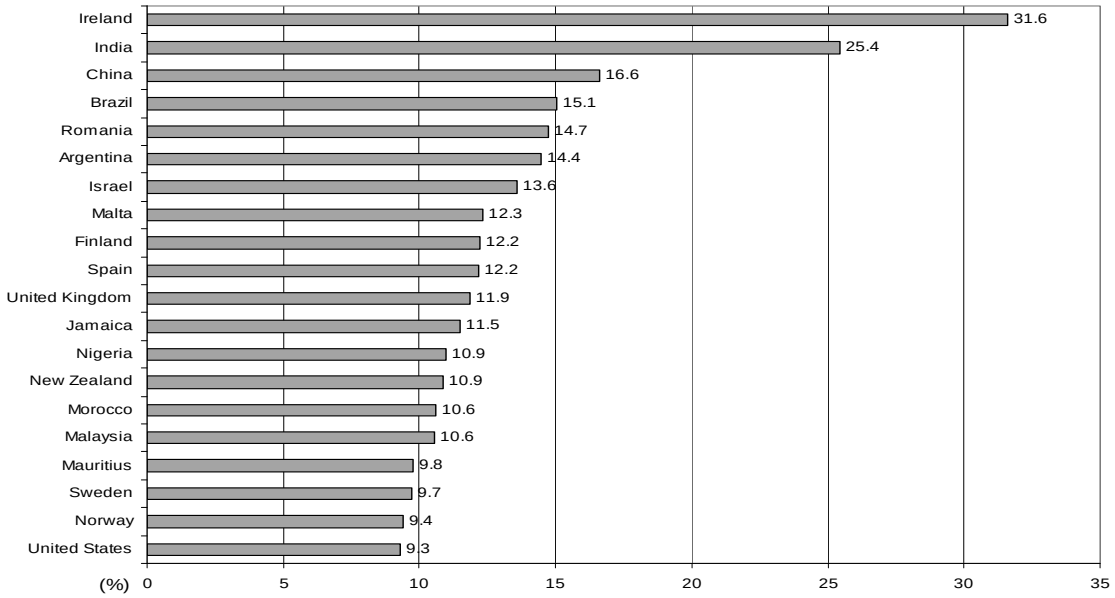
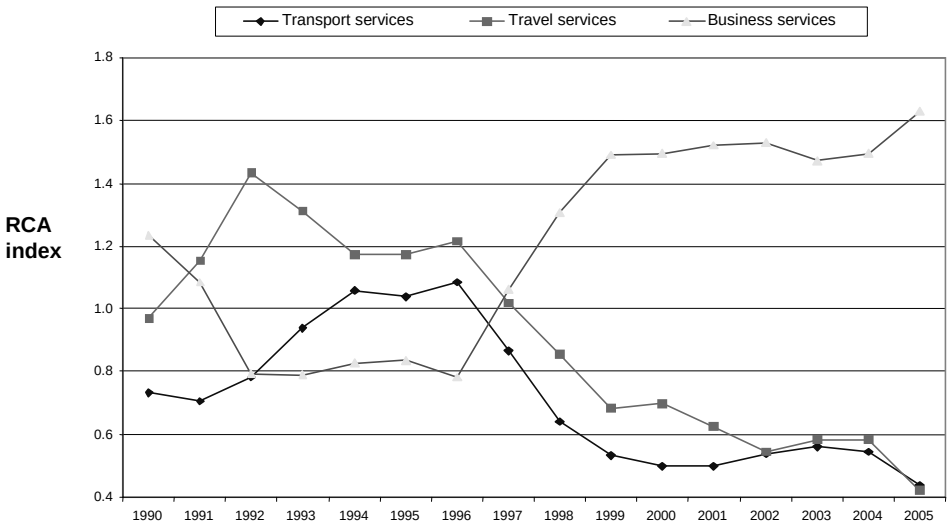


Figure 3: Shifting Comparative Advantage -- India's RCA for Services Exports



The high business service export growth rates for developing countries have resulted in their share of global trade rising to 22 percent. Most of this increase reflects expanding exports of Asian countries, which doubled their global market share to reach 14.8 percent in 2005. However, trade in business services continues to be dominated by the high-income countries, whose global market share in 2005 was 78 percent, down from 86 percent in 1995. The country with the highest annual rate of business services export growth during 1995-2005 was Ireland, at 31.6 percent.

As mentioned, the characteristics of services make FDI a major channel for foreign providers to contest services markets. It may well be that increased use of services outsourcing will result in cross-border trade in services coming to dominate the value of sales of services by affiliates of foreign-owned firms at some point in the future, but this is not the case today.[12] Moreover, as noted by Bhagwati, Panagariya and Srinivasan (2004) among others, the share of high-income countries in global stocks of FDI and flows of services is very high, implying that rich countries remain the dominant net exporters of services. For the United States, sales of services by foreign affiliates of US firms (i.e., through outward FDI) has grown more rapidly than cross border trade in services since the mid 1990s. The global stock of FDI stood at some $10 trillion in 2004, of which about 60 percent was in service industries, up from only 25% in 1970.[13] This rapid increase is in part the result of changes in policy towards FDI and large-scale privatization of service sector firms in many countries during the late 1980s and the 1990s.

These developments have also led to a marked shift in the composition of global services FDI flows. UNCTAD (2005) reports that in 1970 finance and trade (distribution) accounted for 65% of the total stock; this dropped to 45% in 2003. Conversely, the share of telecoms, energy, and business services has risen from 17% to

[12] See, e.g., Jensen and Kletzer (2005). In the case of the US, which collects and publishes detailed data on both cross-border trade in services as reported in the BOP and sales by affiliates of US services firms in host countries, the overall value of FATS (some $500 billion in 2004) dominates cross-border services trade (close to $350 billion in 2004), illustrating that although services have become more tradable in recent years, geographic proximity remains crucial for the provision of many services. As the stock of outward FDI by the US in 2003 was some $1.8 trillion, of which $1.3 trillion was in services (UNCTAD 2005), given FATS of $477 billion in 2003, this gives a sales/stock ratio of 0.35. Assuming some $5 trillion global FDI in services, this generates a global FATS guesstimate of $1.6 trillion.

[13] See http://www.unctad.org/Templates/Page.asp?intItemID=1923&lang=1.

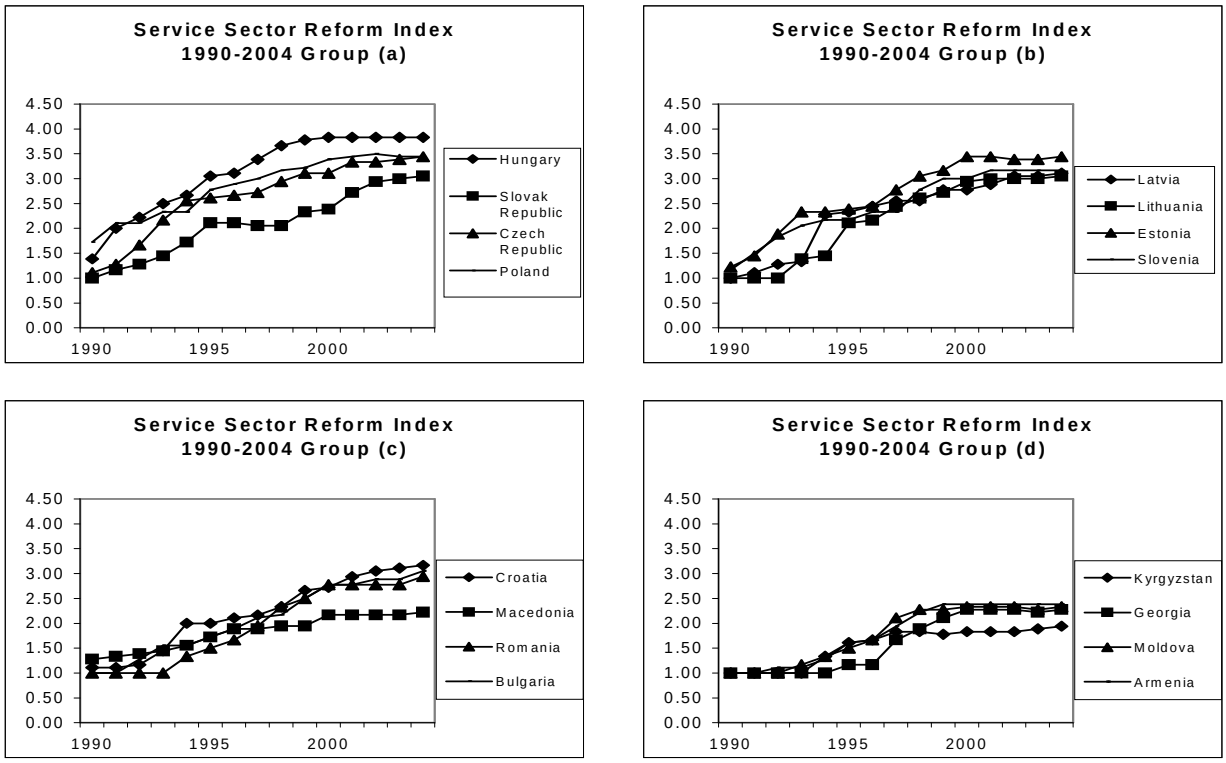
44%. There are significant differences in the composition of FDI inflows into developed and developing countries. Business services accounted for 40% of the total inward FDI stock in developing countries in 2003, compared to only 20% in the OECD.[14]

Policy reforms, mostly implemented by governments autonomously, have complemented changes in technology in supporting the expansion of trade in services. Many countries have taken action to increase competition on services markets by liberalizing FDI, opening access to foreign competition in backbone sectors such as transport and telecommunications, and privatizing state-owned or controlled service providers. The most far-reaching liberalization and regulatory reform processes have been implemented by transition economies – illustrated by the time trend of an index of service sector regulatory policies developed by the EBRD (Figure 4). Similar trends pertain to developing countries, although comparable time series data are not available.

A recent survey undertaken by the World Bank of the extent of discriminatory policies restricting entry by foreign firms in specific services markets in 30 developing countries has found significant heterogeneity (Gootiz and Mattoo, 2007). Many sectors are open, especially for FDI. However, in many sectors various restrictions continue to be imposed, and some sectors are completely closed. The consensus view is that the tariff equivalents of prevailing restrictions are a multiple of those that restrict merchandise trade.[15] "Sensitive" sectors vary by country reflecting differences in comparative advantage and the legacy of past policies. Many countries maintain foreign equity or entry restrictions for certain services markets.[16] Moreover, barriers to entry in a number of services sectors, ranging from telecommunications to professional services, are maintained not only against foreign suppliers but also against new domestic suppliers. Liberalization can, therefore, lead to enhanced competition from both domestic and foreign suppliers.

[14] Non-equity FDI (franchising, management contracts, leasing) is not captured in the forgoing statistics.
[15] See e.g. Dee (2005). No comprehensive, cross-country, comparable datasets exist that allow a summary assessment of the prevailing levels of services trade and investment barriers.
[16] In India, for example, professional services like accountancy and legal, retail distribution, postal, and rail transport services are formally closed to foreign participation.

Figure 4. Time Path of Service Sector Reform, Transition Economies, 1990–2004



Source: Eschenbach and Hoekman (2006b).

3. Impacts of Services Trade (Liberalization)

In theoretical models, the impact of trade liberalization on economic growth is either absent or ambiguous. In a conventional neoclassical growth model, trade does not affect the equilibrium or steady state rate of output growth because, by assumption, growth is determined by exogenously given technological progress. In two-sector models of this kind, trade policy affects the allocation of resources between sectors and hence the steady-state level of savings and capital accumulation. This can have a one-off effect on the steady-state level of output (which can be positive or negative depending on how savings and capital accumulation are affected by trade policy), but not on the rate of growth.

In endogenous growth models, the impact of trade liberalization on output growth can be positive or negative. If the resource allocation effects of trade policy changes promote sectors or activities that generate more long-run growth, the impact is positive,

and negative otherwise. For example, if trade liberalization shifts resources into manufacturing and away from agriculture, this will have a positive impact on long run growth if manufacturing generates greater positive externalities or creates knowledge, that is, if it possesses the attributes necessary for endogenous growth. The impact of trade policy on growth is thus an empirical question.

What about services? It does not seem unreasonable to assume that certain services industries, like certain goods industries, possess growth-generating characteristics. In sectors like telecommunications, software, financial services and transport, there is considerable scope for learning by doing, knowledge generation, expanding product variety, and upgrading product quality, though the precise extent of these possibilities is an empirical question.

A key difference between trade in goods and services in terms of their growth impact is that "imports" of services often must be locally produced. As long as greater foreign factor participation is associated with increased competition, there will be a larger scale of activity, and hence greater scope for generating growth-enhancing effects. If foreign participation merely substitutes for domestic factors and the sector does not expand, i.e. the degree of competition remains unchanged, then there cannot be a positive growth impact on account of the scale effect. Conversely, a larger scale achieved merely by eliminating domestic barriers to entry and attracting domestic resources from other sectors would suffice to generate larger endogenous growth.

Even without scale effects and even if services sectors do not possess endogenous growth attributes, the import of foreign factors that characterizes services sector liberalization could still have positive effects because they are likely to bring with them the source of endogenous growth, namely, technology. If greater technology and knowledge transfer accompanies services liberalization—either embodied in FDI or disembodied—the growth effect will be stronger. There is substantial empirical evidence demonstrating that technology diffuses through trade in goods and affects total factor productivity growth (see, e.g., Hoekman and Javorcik 2006 for a recent set of studies). At least theoretically, the same should hold true for technology that is diffused through factor flows.

Empirical evidence

It is important to note up front that there are serious limitations that impede rigorous empirical analyses of the impacts of services trade reforms. Information on both policies and outcomes (performance) is patchy and often the best that can be done are cross-sectional analyses. As a result of data constraints the dependent variable in analyses varies across the limited extant literature. Some studies focus on overall growth of economy-wide output, others on output per worker at the industry or firm level.

In a cross-section, cross-country regression analysis, Mattoo, Rathindran and Subramanian (2006) find that controlling for other determinants of growth, countries with open financial and telecommunications sectors grew, on average, about 1 percentage point faster than other countries. Fully liberalizing both the telecommunications and the financial services sectors was associated with an average growth rate 1.5 percentage points above that of other countries. Eschenbach and Hoekman (2006a) utilize three indicators of the "quality" of policy in banking, non-bank financial services and infrastructure, constructed by the EBRD spanning the period 1990-2004 to investigate the impact of changes in services policy, including liberalization, on economic performance over this period for a sample of 20 transition economies.[17] They find that changes in policies towards financial and infrastructure services, including telecommunications, power and transport, are highly correlated with inward FDI. Controlling for regressors commonly used in the growth literature, they conclude that measures of services policy reform are statistically significant explanatory variables for the post-1990 economic performance of the transition economies in the sample.

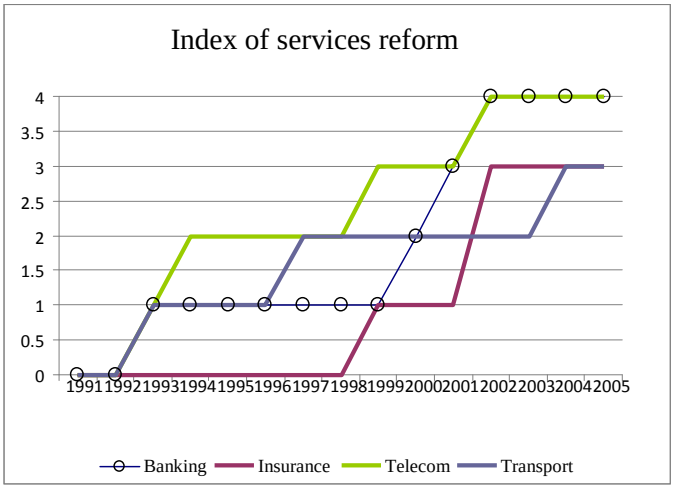
The positive association between policy reforms in services and inward FDI in services, and between TFP growth performance of downstream firms and FDI is perhaps the most robust finding to emerge from the limited empirical research on the impacts of services reforms. Arnold, Javorcik and Mattoo (2007) analyze the effects of allowing foreign providers greater access to services industries on the productivity of manufacturing industries relying on services inputs. The results, based on firm-level data

from the Czech Republic for the period 1998-2003, show a positive relationship between FDI in services and the performance of domestic firms in manufacturing. They conclude that the presence of foreign services providers as the measure of services policy is the most robust services variable affecting TFP in user firms. In related firm-level research focusing on Africa that uses data from over 1,000 firms in 10 sub-Saharan African economies, Arnold, Mattoo and Narciso (2006) also find a statistically significant positive relationship between firm performance (TFP) and the performance of three service input industries for which data were collected through enterprise surveys (access to communications, electricity and financial services).

Work in progress by Arnold, Javorcik, Mattoo and Lipscomb (2007), based on panel data for 10,000 Indian firms for the 1990-2005 period, examines the link between services sector reforms and manufacturing productivity and export propensity. In recent years, India has radically reformed a number of key 'backbone' services sectors (Figure 5a). Barriers to entry by new private firms have been eliminated in telecommunications and freight transport, and are being phased out in insurance and banking – even though restrictions on foreign ownership remain. These reforms are associated with a significant increase of FDI into services, outpacing FDI into goods (panel 2 in Figure 5a). There is a significant positive relationship between Indian policy reforms in banking, telecommunications and transport and the productivity of firms in manufacturing industries. Enterprises that rely more intensively on services such as banking and telecommunications have higher TFP growth rates. While services reforms benefit both foreign and locally owned manufacturing firms, the effects on foreign firms tend to be stronger (Figure 5b).

[17] The index focuses primarily on regulatory regimes and access to the markets concerned. The value of the policy indices range from zero to 4.3 and are set at zero for 1989, so that the 2004 value provides a measure of the progress that has been made by countries in converging to "best practice" standards.

Figure 5a: Services policy reforms in India, FDI and TFP



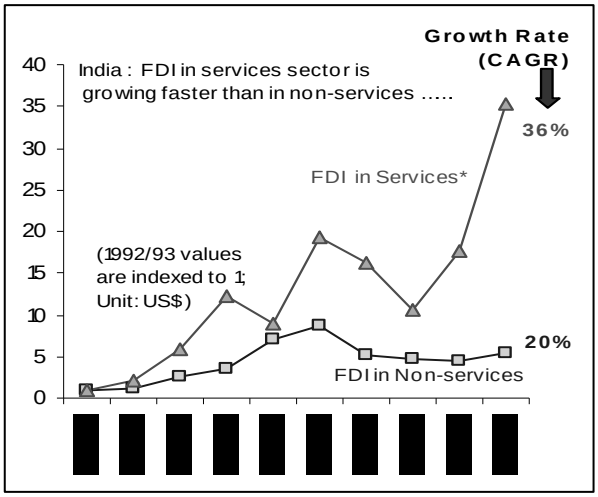
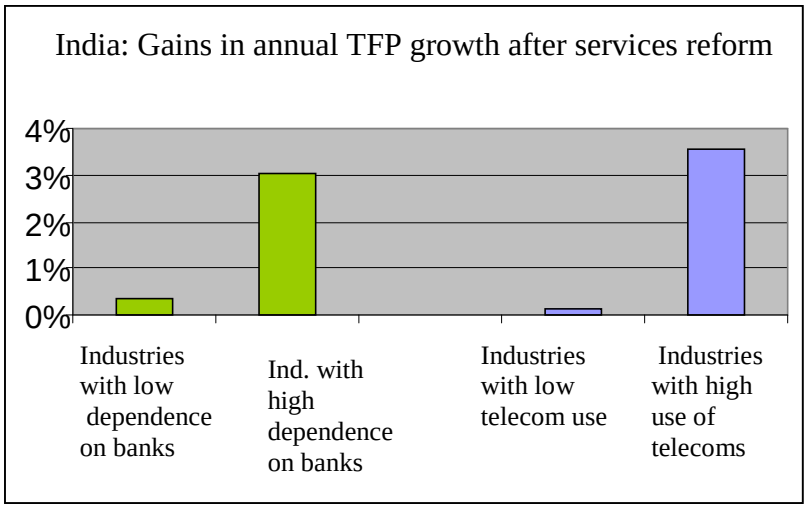


Figure 5b. Impacts of Banking and Telecom Reforms on User Industries



Source: Arnold, Javorcik, Mattoo and Lipscomb (2007).

Sectoral analyses

Due to data constraints, there is only limited empirical *ex post* analysis of the impacts of liberalization of trade in services. Most of the literature has focused on financial services, distribution/transport services, and telecommunications.

Financial services

The empirical work on finance tends to use financial development indicators such as the size of the banking sector, the degree of private sector involvement in financial services, and cost measures (interest rate spreads, etc.) as independent variables in growth regressions. Trade in financial services has not figured prominently until recently. Eschenbach and Francois (2006) provide a synthesis of much of the relevant literature and extend it by distinguishing the effects of domestic financial development from the (additional) impacts of international financial integration. They differentiate between capital account openness and foreign participation in the financial services markets of a country and find that the latter (i.e. FDI) has a statistically significant positive association with growth, while the latter does not. Absent an adequate domestic financial system, inflows of foreign capital (non-FDI) may not help countries to grow (in part because of potential negative impacts on the real exchange rate). A recent paper by Bayraktar and Wang (2006) shows that the asset share of foreign banks has an economically and statistically significant positive effect on the growth rate of GDP per capita after controlling for other determinants of growth, indicating a direct link between the two variables.

Transport, communications and distribution services

The trade literature has devoted much attention to the effects of "trade costs" – the non-tariff related costs that are incurred in getting goods from point of production to point of consumption. Many of the determinants of trade costs are services-related. Trade costs are often (much) greater in *ad valorem* equivalent terms than the border barriers that confront goods when entering an export market. The most obvious source of such costs is infrastructure-related services. Limão and Venables (2001) estimate that poor infrastructure accounts for 40 percent of predicted transport costs for coastal countries and up to 60 percent for landlocked countries. Francois and Manchin (2007) conclude that infrastructure is a significant determinant not only of export levels, but also of the likelihood exports will take place at all. They find that basic infrastructure (communications and transportation) explains substantially more of the overall sample

variation in exports than do the trade barriers faced by developing countries.[18] Similarly, Djankov, Freund and Cong (2006) find that internal transport and related transactions costs are a major factor determining the competitiveness of (potential) exporters.

Such cost factors reflect the specific role of "transport" services—they are intermediates that help determine the costs of trade in goods and thus the producer prices received by firms. The impact on trade (and welfare) of lowering transport-related costs may be much larger proportionately than those that can be obtained from merchandise trade liberalization because transport costs generate real resource costs as opposed to rents (Deardorff, 2001). Insofar as policy generates redundant procedures and duplication of fixed costs, the potential gains from liberalization of "trade services" are likely to be large.

Francois and Wooton (2007) note that trade in goods may depend on the degree of market power exercised by the domestic trade and distribution sectors. An absence of competition in the domestic distribution service sector can serve as an effective import barrier against goods. Their econometric results point to statistically significant linkages between effective market access conditions for goods and the structure of the domestic service sector. An implication is that services liberalization can boost trade in goods. More important, by ignoring the structure of the domestic service sector, the benefits of tariff reductions may be overstated. They also find that competition in margin sectors matters more for poorer and smaller exporting countries than for others, which is intuitive given that small players will have less, if any, ability to counteract the exercise of market power they confront.

Other research has also illustrated the interdependence between the efficiency of available domestic service sectors and trade in goods. For example, Francois and Reinert (1996) have documented that the importance of services for export performance rises with per capita incomes – business, distribution, and communications services become the most important sectoral elements of overall exports in terms of inter-industry linkages. Fink, Mattoo and Neagu (2005) show that international communication costs are a determinant of export performance for higher value, differentiated products,

[18] There is a substantial literature on infrastructure and growth that will not be summarized in this paper. See, e.g., Calderón and Servén (2004) and Hulten, Bennathan and Srinivasan (2006).

whereas they matter less for more homogenous, bulk type commodity trade. Beck (2002) finds a positive association between economies with more developed financial systems and export-oriented manufacturing industries, as the former allows financing of large-scale, high-return investment projects.

Numerous "services inputs" therefore affect the volume and composition of trade, whether in goods or services. Many of these input costs will factor into the overall level of trade costs confronting firms. Actions to reduce these excess costs and improve quality will enhance the competitiveness of firms located in the markets concerned, with an aggregate effect that is akin to a depreciation of the real exchange rate.[19] Which factors are more important than others will vary across countries. Wilson, Mann and Otsuki (2005) use a gravity model to estimate the effects of four "trade cost" variables, two of which are services-related: port efficiency, customs clearance, the regulatory environment more broadly, and service sector infrastructure (telecommunications, e-business) across 75 countries for the 2000-2001 period. The total potential expansion in trade in manufactures from trade facilitation improvements in all the four areas – raising performance of "underperformers" to the average in the sample – is estimated to be $377 billion. On average, their port efficiency variable – which includes both maritime transport and airports -- account for more than half of the trade costs imposed by policies in their four areas.

CGE analyses

Much of the (limited) literature on trade in services is simulation based, reflecting the paucity of data on both policies and outcomes. The limitations of CGE studies are well known, and in the case of services a major issue is the lack of detailed data on both policies and flows. However, they have the virtue of being forward looking in that they seek to identify potential impacts of reforms. For example, Konan and Maskus (2006), build a CGE model to investigate the potential effects of removing barriers to trade in services in Tunisia. They argue that increasing international competition on service markets will reduce the "cartel effect"—the markup of price over marginal cost that

[19] This aspect of measures to reduce trade costs is an additional reason to target development assistance for this purpose: it can help attenuate the real exchange appreciation that may otherwise result (Dutch disease).

incumbents are able to charge due to restricted entry; and attenuate what they term the "cost inefficiency effect"—the fact that in an environment with limited competition marginal costs of incumbents are likely to be higher than if entry were allowed. The latter is most important as inefficiency imposes a cost on all sectors and households that consume the services involved. They conclude that removing policies that increase costs can have much greater positive effects on national welfare than the removal of merchandise trade barriers – by up to a factor of seven or eight. Instead of the "standard" 0.5 to 1 percent increase in real income from goods liberalization, introducing greater competition on services markets that removes cost inefficiencies raises the gains to 6-8 percent. These large potential effects of services liberalization reflect both the importance of services in the economy and the extent to which they tend to be protected.

Rutherford, Tarr and Shepotylo (2006, 2008) use a static CGE model to assess the impact on Russia of accession to the WTO. Their analysis is innovative in that all 55,000 households distinguished in the Russian Household Budget Survey are incorporated into their model, allowing assessments of the impacts on income distribution and the poor. Their analysis also includes FDI (mode 3) and incorporates Dixit-Stiglitz endogenous productivity effects in both the trade and poverty analysis. They conclude that in the medium term virtually all households would gain from liberalization, with increases in real incomes in the range of 2 to 25 percent of base year household income. These estimates are decisively affected by liberalization of FDI in business services sectors and endogenous productivity effects in business services and goods. The gains from FDI liberalization in services alone are 5.3 percent of the value of Russian consumption, and represent more than 70 percent of the total value of the potential gains from WTO accession-related reforms. The welfare gains from Russia's tariff reductions and better access to markets abroad would be equivalent to only 2 percent of consumption. Thus, similar to what emerges from Konan and Maskus (2006) for Tunisia, the most important component of potential welfare gains from liberalization are removal of barriers against FDI in services sectors.

Another interesting conclusion emerging from the CGE literature is not only that gains from services liberalization may be greater than from goods liberalization, but the adjustment costs associated with service-sector reforms may be lower because of the

absence of corner solutions: services will continue to be produced locally and thus generate demand for labor. Moreover, comprehensive reforms spanning both services *and* goods trade may generate less need for factors to be reallocated across industries than just goods liberalization alone (Konan and Maskus, 2006). If so, this suggests a policy implication for the sequencing of liberalization – it may be best to proceed on a broad front, targeting *both* goods and services markets.[20] Another reason for a broad-based approach is that many services are inputs into production and inefficient production of such services acts as a tax on production. Goods liberalization in the absence of services liberalization could well result in negative effective protection for goods, highlighting the need for the latter to keep pace with the former (Hoekman and Djankov, 1997; Hoekman and Konan, 2001).[21]

4. Policy Implications

A number of rules of thumb regarding the design and sequencing of services policy reforms were already mentioned in the previous section. What follows are two questions, one long-term and another one short-term: (i) what could be done to enhance comparative advantage in the production and export of services; and (ii) how to design policy reforms to open services markets to greater foreign participation.

4.1 Determinants of Comparative Advantage

The capacity to produce (and export) services is determined by the interplay between endowments, institutions and infrastructure. While these determinants are given today, their state tomorrow can be influenced by policy choices today. As services are on average intensive in skills (see Figure 6a), human capital is a critical source of

[20] If countries start with reforms in trade policies pertaining to goods, and only subsequently reform services trade policies, factors of production that were pulled out of manufacturing as a result of goods trade liberalization may be drawn back into those sectors after services trade reforms that lowers relative prices there. The result of this type of sequencing would be excessive adjustment.

[21] Langhammer (2007) analyzes the impact of liberalization of intermediate services in developed and developing countries on effective rates of protection of manufacturing and finds that indirect effects of greater competition in services – in terms of more variety and lower prices – is larger than the direct effect, as reflected in the associated change in the implicit effective rate of protection for manufacturing sectors.

comparative advantage. As Figure 6b shows, across Indian states, services output per capita is strongly associated with the number of tertiary educated per capita.[22]

Recent research identifies institutions as a source of comparative advantage: customized services are more reliant on the quality of institutions, such as those that influence regulation and contract enforcement, than standardized products for which there is a spot-market and low-switching costs (Figure 7a). Again, as Figure 7b shows, across Indian states services output per capita is strongly associated with relatively stronger institutions – reflected, for example, by the transmission and distribution losses of the public sector electricity providers. Other research finds that the state of telecommunications, itself dependent on the quality of regulatory institutions and policy, has a significant influence on the pattern of services trade.

Figure 6a: Skill intensity of sectors (skilled to total labor ratios)

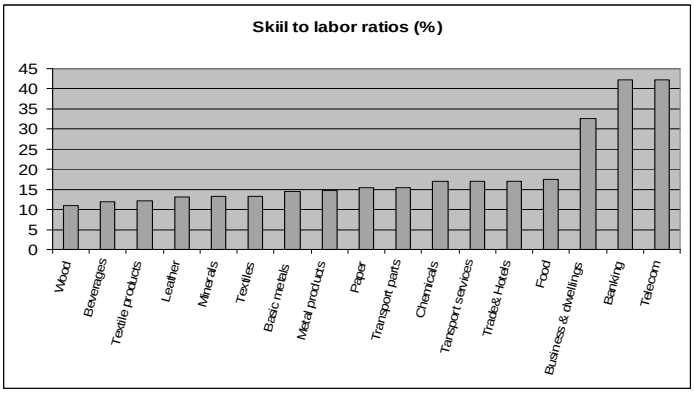
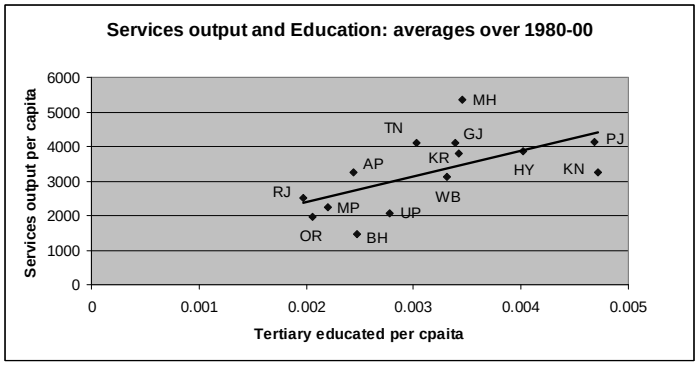


Figure 6b: Per capita services output and tertiary education across Indian states



[22] What follows focuses on services output because of the weaknesses in data on trade in services.

Figure 7a: Institutional dependence of sectors
(measured by concentration of upstream and downstream transactions)

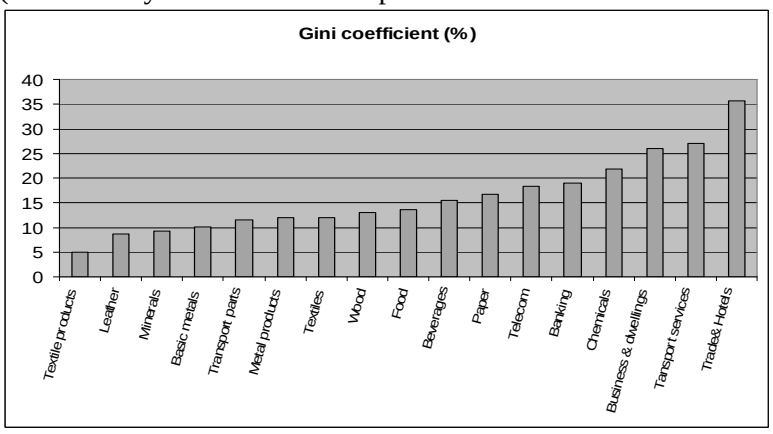
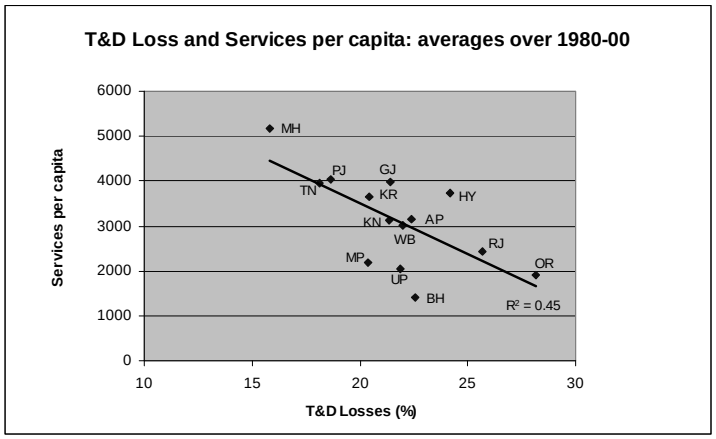


Figure 7b: Per capita services output and institutional quality in Indian states
(measured by transmission and distribution losses of public electricity undertakings)



Source: Amin and Mattoo, 2006.

4.2 Designing domestic services reforms

A new World Bank database provides a first view of the state of services policy across a range of countries. We find that many developing countries have moved away from public monopolies in sectors such as communications, financial, and transport services, but still restrict new foreign entry. Asian countries, in particular, are unwilling to allow foreigners to acquire a majority share of ownership and full control of firms in these sectors, and Latin American countries are unwilling to give up discretion in licensing. Do these restrictions matter? And if they do, how might countries sequence their removal?

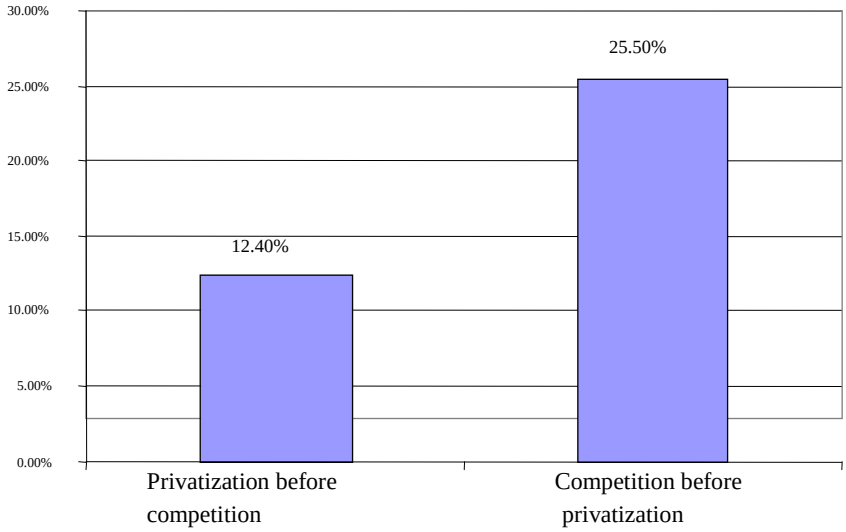
While there are substantial potential benefits from liberalizing key services sectors, these gains cannot be realized by a mechanical opening up of services markets. Governments have an important role to play in putting place the preconditions for an efficient set of service industries, bolstering the case for focusing on key inputs like education and (institutional) infrastructure. Also important is the design of reform programs. It is now widely recognized that a flawed reform program can undermine the benefits of liberalization. For example, if privatization of state monopolies is conducted without concern to creating conditions of competition, the result may be merely transfers of monopoly rents to private owners (possibly foreigners). Similarly, if increased entry into financial sectors is not accompanied by adequate prudential supervision, the result may be insider lending and poor investment decisions. Also, if policies to ensure wider access to services are not put in place, liberalization need not improve access to essential services for the poor. Managing reforms of services markets therefore requires integrating trade opening with a careful combination of competition and regulation. Here we emphasize three elements of successful reform.

Sequencing of liberalization

For some time now, it has been established that larger welfare gains arise from an increase in competition than from simply a change in ownership from public to private hands. The role of competition in unleashing productivity-enhancing turnover of firms – the process through which the least competitive firms are forced out of the market, and innovative, new, firms enter markets —has also been noted (Aghion and Howitt, 2007). Fink et al. (2003) analyze the impact of policy reform in basic telecommunications on sectoral performance, using a panel-data set for 86 developing countries across Africa, Asia, the Middle East, Latin America and the Caribbean in the period, 1985 to 1999. It was found that both privatization and competition can independently lead to significant improvements in performance. But a comprehensive reform program, involving both policies and the support of an independent regulator, produced the largest gains: an 8 percent higher level of mainlines and a 21 percent higher level of labor productivity compared to years of partial and no reform.

Interestingly, the sequence of reform matters: mainline penetration is lower if competition is introduced after privatization, rather than at the same time (Figure 8). This result suggests that delays in the introduction of competition – for example due to market exclusivity guarantees granted to newly privatized entities – may adversely affect performance even after competition is eventually introduced. This could happen for three reasons. First, the importance of location-specific sunk costs in basic telecommunications suggests that allowing one provider privileged access may have durable consequences because sunk costs have commitment value and can be used strategically. Second, allowing privileged access creates vested interests that may then resist further reform or seek to dilute its impact.

Fig. 8. Sequencing of telecom reform and outcomes



Source: World Bank/ITU Telecommunications Policy Database & Fink, Mattoo, Rathindran (2003).

Sequences matter because of the implied changes in the regulatory environment: in one case, the incumbent is a relatively inefficient public operator and the regulator is well informed about the cost structure; in the other case, the incumbent is a relatively efficient private operator and the regulator is less well informed. It could be argued that new entry is easier to accomplish in the former situation.

Efficient regulation: Making competition work

It is almost a platitude now to say that effective regulation is a precondition for successful liberalization. Regulation in services arises essentially from market failure attributable to three kinds of problems: natural monopoly; inadequate consumer information; and considerations of equity and protecting the poor. In each case, however, the design and implementation of regulation poses serious challenges, which we illustrate drawing upon three examples.

Dealing with anticompetitive practices

The existence of natural monopoly or oligopoly is a feature of the "locational services." Such services require specialized distribution networks: roads and rails for land transport, cables and satellites for communications, and pipes for sewage and energy distribution. Many countries have instituted independent regulators for basic telecommunications services to ensure that monopolistic suppliers do not undermine market access by charging prohibitive rates for interconnection to their established networks. A similar approach is being taken in a variety of other network services, including transport (terminals and infrastructure), and energy services (distribution networks).

However, the enforcement of competition law (particularly by large countries or jurisdictions) can generate significant positive externalities (especially for small countries), and may be underprovided in a non-cooperative equilibrium. Consider one important example. Maritime transport costs have a profound influence on international trade: exporters in Sub-Saharan African countries pay transport costs that are several times greater than the tariffs they face. The persistent high level of maritime transport costs has been attributed not only to restrictive trade policies, but also to private anti-competitive practices such as rate-binding agreements, primarily but not exclusively of the maritime conferences. The high incidence of such agreements is due to the fact that the United States, the European Union and many other countries exempt shipping conferences from antitrust regulation - on the ground that they provide price stability and limit uncertainty regarding available tonnage. In the case of routes serving the United

States, the exemption from antitrust law is compounded by the Federal Maritime Commission's role in helping police price-fixing arrangements.

Recent empirical analysis has suggested that while public restrictions adversely affect maritime transport costs, private anti-competitive practices have an even stronger impact.[23] Thus, it would seem that even though there has been erosion in the power of conferences due to the entrance in the market of efficient outsider shipping companies and of a certain tightening in the law, collusive arrangements have not disappeared.[24] In recent years, the European Commission imposed fines on shipping lines serving the East Asian and US routes and on those serving the transatlantic route for collusive pricing which went beyond the scope of the exemptions that had been granted. Japan too has recently taken some initiatives to bring shipping within the scope of competition law. However, the prevailing situation is far from what would be optimal from the perspective of small developing countries – a willingness on the part of competition authorities in major high-income markets to declare anticompetitive practices on third markets by their firms illegal (see, e.g., Hoekman and Saggi, 2006).

Regulation to remedy inadequate consumer information

In many intermediation and knowledge-based services, consumers have difficulty securing full information about the quality of service they are buying. Consumers cannot easily assess the competence of professionals such as doctors and lawyers, the safety of transport services, or the soundness of banks and insurance companies. When such information is costly to obtain and disseminate and consumers have similar preferences about the relevant attributes of the service supplier, the regulation of entry and operations in a sector could increase social welfare. However, the establishment of institutions competent to regulate well is a serious challenge, as is revealed by the difficulties in the financial sector—not only in a number of developing countries but also in the U.S., Sweden and Finland in the 1980s and 1990s. The fact that regulatory inadequacies

[23] Fink et al. (2001) estimate that the break-up of conference and other price-setting agreements leads to a more dramatic reduction in transport prices (38 percent) than restrictive cargo allocation policies (11 percent). The estimated potential savings from the elimination of both could be as high as one billion U.S. dollars on goods carried to the US alone.

cannot be quickly remedied raises the issue of how different elements of reform—particularly prudential strengthening and trade and investment liberalization – are best sequenced.

Regulatory weakness must not, however, be followed by regulatory inappropriateness. Barth, Caprio and Levine (2006), in the first comprehensive cross-country assessment of the impact of the Basel Committee's influential standards for bank regulation, conclude that there is no evidence that any single set of "best practices" is appropriate for promoting well-functioning banks. Such standards create the danger of regulatory 'over-shooting' for some countries – they argue this is the case with Basel II. There is need, therefore, for a high degree of country specificity in both diagnosis and remedial action. This is more time- and labor-intensive – i.e., expensive – than is the adoption of (international) norms "off the shelf."

Regulation to widen access to services

A key challenge is to harness liberalization to advance social goals. Conflicts between efficiency and equity could arise as essential services are liberalized (and cross-subsidies become unsustainable), services exports increase (and domestic availability declines), and standards gravitate towards international levels (which are inappropriately high).

Unfortunately, there is growing evidence that openness by itself will not necessarily lead to improved access to services. Moreover, the failure to design and implement efficient policies to widen access to services could lead to a reversion to state capitalism and the use of inefficient instruments of "empowerment". Zambia's experience may be representative.[25] Foreign banks today account for over two thirds of total assets, loans and deposits. However, credit to the private sector is only 8 per cent of GDP - lower than in 1990 and in most other Sub-Saharan African countries. The national air carrier was liquidated and the sector was opened to foreign airlines. International air transport grew by 7 per cent per annum between 1995 and 2004, but domestic traffic

[24] The Ocean Shipping Reform Act (OSRA) of 1998 allows for the confidentiality of key terms (prices are included in this category) in contracts between shippers and carriers but preserves the antitrust immunity of the rate-setting conference system.
[25] What follows draws on some of the contributions in Mattoo and Payton (2007).

declined at an average of 5 per cent per annum. Even by poor country standards, access to telecommunications, health and education is unusually low.

Access to services is also extremely unequal. Only 5,000 people hold 90 percent of loans. Large firms and goods exporters borrow at rates much below the average rate of 48 percent in 2005. Nearly 80 percent of fixed lines are located in Lusaka and the Copper belt, where only 30 percent of the population lives. Less than 1 percent of Zambia's rural households, accounting for 65 percent of Zambia's population, own a telephone. Why? The post-independence period was characterized by widespread nationalization and the implementation of policies to address the inequities of colonialism and to widen access to services. The instruments employed (such as artificially low prices) distorted the functioning of markets, were macro-economically unsustainable and had a significant urban bias. The problem is that Bank-Fund supported liberalization replaced these instruments with none outside a few social sectors. This policy vacuum helps explain the unequal distribution of the benefits of liberalization. Reform is seen as undesirable and may therefore be unsustainable.

Efficient policies to widen access to services could build on three elements. First, harness markets to improve access: use universal access funds that are competitively allocated, as has been done by some countries in telecommunications (Kenny and Keremane, 2007).[26] Second, exploit synergies in access between service sectors: for example, between telecom and finance as has been done in Bangladesh; and banking and insurance, as in the Zambian Zyonse experiment.[27] Third, ensure that regulation is appropriate. For example, in banking, "Know Your Customer" rules, and in accounting, International Financial Reporting Standards (IFRS) may promote financial integrity, but they may also effectively shut out small enterprises and poor households.

[26] This involves private providers competing (bidding) for performance-based subsidies that are conditional on providing services to the poor. This would ensure that the poor to reap some of the benefits of competition, while minimizing outlays for the government – the "reverse auction" process allows it to discover the true cost of service provision. Countries such as Chile, Peru and Uganda have put in place such mechanisms, which have helped to expand services to areas that otherwise would not have access.

[27] "Zyonse" refers to an inclusive financial product that is aimed at giving smallholders access to production credit through banks and other financial institutions. It includes rainfall-indexed crop insurance; production credits (including a crop insurance premium); certified warehouses for crop storage; and options to purchase fertilizer through affiliated input suppliers on credit. Farmers are required to deposit and market their produce through a warehouse receipts system (Martinez, 2007).

5. Conclusion

Services matter for growth in many ways. The expansion in the size and diversity of the services sectors is both a reflection of – and a precondition for – economic growth. As the share of services expands, productivity of services sectors becomes important for overall growth performance. Trade openness is one important channel for improving services performance. Foreign suppliers are sources of new technologies as well as the competition that is needed in markets characterized by dominant incumbents, often state-owned or controlled or former pubic monopolies. FDI is a particularly important channel for international provision of services, as many services remain effectively nontradable in the traditional sense. Increasing evidence is emerging that FDI is a key channel through which higher quality, lower cost services improve total factor productivity at the firm level.

Liberalization of trade and investment in services is more complex than liberalization of merchandise trade because of the importance of regulation in many services sectors. Regulation is generally motivated by a mix of efficiency and equity considerations. The challenge for policy makers is, first of all, to strengthen such regulation without making it inappropriately strong, as there is some risk of happening in financial services. Furthermore, such regulation need not in most cases distinguish between domestic and foreign-owned firms. Maximizing competition on the domestic market is generally a good rule of thumb from both an efficiency and equity perspective, though there is also likely to be a need for complementary policies to ensure that the benefits of competition are widely distributed.

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