

Telecommunications trade liberalization and the WTO

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1 Introduction

The rationale for the WTO Doha round and the complex and intense negotiations of that round both reinforce the view that trade has moved to the forefront of the development agenda (Hoekman et al, 2002²). This shift in importance of trade in the development agenda has resulted in a new emphasis on the need to ensure that the *de jure* market access regimes, typically fashioned by trade law, is in fact reflected in *de facto* market access and the absence of governments commitments to existing national firms or the protection of specific markets (Marsden 2004 p 4³). Thus the focus of trade negotiation has moved beyond the cross border movement of goods and services and now embraces the movement of capital and labour across borders. Trade agreements can also be understood as a multilateral investment agreements, granting rights to the service suppliers of other WTO members, and allowing foreign ownership and control in key sector of the economy, such as telecommunications (Bressie, et al, 2004)⁴. This change in the understanding and outcome of trade agreements, in part, explains the current attention on the ‘Singapore Issues’

This paper explores the impact of a developing country making commitments to liberalize trade in telecommunications within the General Agreement on Trade in Services (“GATS”) of the World Trade Organization (“WTO”). Our hypothesis, following that of others such as Bragga (1997)⁵, and Matto and Sauve (2003)⁶ is that, WTO commitments act to stimulate

² Development, Trade and the WTO, A handbook, edited Bernard Hoekman, Aaditya Mattoo, Philip English (2002), The World Bank, ISBN 0-8213-4997-X

³ Trade and Competition: WTO decides first competition case in Competition Law Insight, May 2004

⁴ World Bank Viewpoint Note (2204) forthcoming

⁵ Liberalizing Telecommunications and the role of the WTO, Public Policy for the Private sector, Note 120, The World Bank Group July 1997

⁶ **Domestic Regulation and Service Trade Liberalization**, Edited by Aaditya Mattoo and Pierre Sauve, A Co-publication of the World Bank and Oxford University Press 2003 (http://publications.worldbank.org/e-commerce/catalog/product?item_id=1997126.)

foreign investment in the sector by opening up the market, acting as a credible commitment to reforming the domestic telecommunications sector and providing recourse to foreign investors through the World Trade Organization's dispute resolution system.

It is typically assumed that developing countries make (WTO) commitments in goods and services in order to obtain concessions from other countries with whom they trade, and to increase their integration into the global economy. These assumptions extend to the telecommunications sector, where a core group of countries first concluded negotiations liberalizing trade in telecommunications services in the 1997 by making commitments pursuant to the General Agreement on Trade in Services (GATS), a collection of commitments sometimes known as the WTO Basic Telecommunications Agreement. In making GATS commitments in telecommunications, developing countries increase opportunities for trade and encourage domestic investment.

Yet GATS commitments in telecommunications—particularly basic telecommunications—services also benefit the domestic sector reform agendas of developing countries. By making commitments in telecommunications services, a developing country can create momentum for further domestic sector reform, and it can also anchor those reforms within an international legal framework to guard against policy reversal. Not only do these commitments correlate with telecommunications sector investment, but, as argued below, they also correlate with better performance in the telecommunications sector vis-à-vis neighbouring countries with similar levels of economic development. As the benchmark evidence presented in this paper demonstrates, since 1997 many countries making GATS commitments in telecommunications services have had more rapid growth in fixed-line penetration, mobile subscribers, and telecommunications-sector revenues than their similarly-situated neighbours.

Domestic sector reform and increased investment in the sector are not, of course, mutually exclusive. By offering recourse to WTO member governments and, consequently, their investors, through the WTO dispute settlement system should a country's implementation of sector reforms fail to satisfy that country's GATS commitments, a developing country can create incentives to implement those reforms — namely, the prospect of increased investment and the threat of WTO dispute resolution. The result is that the specific WTO commitments of a country send a 'credibility' signal to all investors regarding sector reforms.

The current Doha Round of WTO negotiations poses new challenges for liberalization of trade in telecommunications services. While the Doha Round disputes to date have focused on

mostly matters other than the telecommunications sector, further liberalization in the telecommunications sector remains part of the Doha Round agenda. Inevitably WTO members will make trade-offs between issues in the telecommunications sector and other sectors. Nevertheless, it is useful to bear in mind—particularly in the context of a negotiating round where WTO Members are trading concessions in an attempt to reach a comprehensive set of agreements—that GATS commitments in basic telecommunications serve to further domestic sector reform even without regard to new trading opportunities.

2 WTO Commitments in the Telecommunications Sector

As of October 2003, 105 WTO governments (with all figures counting EU Member States individually) had made specific commitments in some or all aspects of the telecommunications sector. In basic telecommunications, commitments had been made by 98 governments, 90 of whom committed during or since the negotiations on basic telecom, and whose suppliers account for well in excess of 90 percent of the worlds' basic telecommunications revenues. In the area of value-added telecom services, 89 governments had market-access commitments.

In addition, some WTO members have made new or improved offers as part of the Doha Round of WTO negotiations. With 39 initial offers (representing 54 governments or about a third of WTO membership) submitted thus far, already a handful of additional governments have indicated a desire to commit for the first time on basic or value-added services and the Reference Paper and about a dozen are proposing to improve the level of their existing telecom commitments.

It should be noted that WTO membership does not automatically extend trade liberalization to telecommunications services. Instead, WTO members must explicitly make commitments to liberalize telecommunications services either as part of their accession package, or subsequent

to accession. Having made such commitments, however, the nature of a WTO member's obligations derive not only from the specific market-access commitments for telecommunications services themselves, but also from the broader agreements establishing the WTO (which subjects WTO members to the binding, supranational dispute settlement process) and the GATS.

The GATS obligates a WTO member making sector-specific commitments to accord most-favored nation ("MFN") treatment (requiring that a WTO member offer the same treatment to like services and service suppliers from all other WTO members) and national treatment (requiring that a WTO member treat like services and service suppliers no less favorably than it treats its own services and service suppliers). The GATS also includes the Annex on Telecommunications, as discussed below.

2.1 Distinguishing features of GATS Telecom Commitments

The GATS telecommunication commitments are unique in a number of respects.

First, the commitments entail complex and far-reaching domestic sectoral reforms, including (to varying degrees, depending on the specific commitments of a particular WTO member) the introduction of competition and the establishment of an effective regulator and regulations. These reforms must be implemented at the national level, and do not automatically result from making the basic telecom commitments. Nevertheless, a WTO member country is obligated to implement the reforms set forth in its specific commitments or else risk having another WTO member invoke the WTO dispute settlement mechanism to enforce those commitments.

Second, the commitments serve as more than traditional "trade" commitments. The GATS can be viewed as a multilateral investment agreement, granting rights to the service suppliers of other WTO members, and allowing foreign ownership and control in telecommunications, a sector of the economy often seen as having particular political and strategic importance. For developing countries, this investment agreement often results in foreign ownership and/or the transfer of control of the incumbent carrier due to lack of domestic capital.

Third, the commitments by 77 WTO members to adopt the Reference Paper—in whole or in part—serve as a multilateral undertaking regarding competition regulation.⁷ For WTO members adopting it, the WTO Reference Paper provides a common set of legally binding, pro-competitive regulatory principles for the telecommunications sector.

The Reference Paper

The Reference Paper, which the majority of WTO members making telecom commitments (and all new WTO members who have acceded since 1997) adopted in their schedules of commitments, contains six basic obligations. WTO members adopting the Reference Paper must:

- implement—either by means of telecommunications-specific laws and regulations, or general antitrust and competition laws—competitive safeguards, including the prevention of anticompetitive conduct, a ban on cross-subsidization, and a ban on the abuse of competitively sensitive information by carriers with market power.
- ensure timely, non-discriminatory, cost-oriented, unbundled, and transparent interconnection between carriers with market power and other carriers, and do so pursuant to publicly available procedures.
- administer universal service obligations in a transparent, non-discriminatory, competitively neutral, and no-more-burdensome-than-necessary manner. The Reference Paper specifies that universal service obligations will not be regarded as anticompetitive *per se*.
- ensure public availability of licensing criteria. The Reference Paper does not, however, specify whether those licenses must be issued on an individual, case-by-case basis, or with “class licenses” for entire classes of carriers.

⁷

One could argue that the decision of these WTO members to adopt the Reference Paper as a matter of multilateral competition regulation is unsurprising given that the telecommunications sector had been dominated by monolithic national incumbents. Nevertheless, the Reference Paper remains unique, as the ongoing Doha Round negotiations demonstrate. In the Doha Round, those WTO members making offers in telecommunications have focused on whether to retain the existing Reference Paper or revise or expand it. By contrast, the proposal even to include general competition policy across all sectors—as part of the “Singapore Agenda”—continues to generate enormous controversy and contributed to the collapse of the Cancun Ministerial Conference in 2003.

- establish independent regulators, whether a government ministry or an independent commission.
- allocate scarce resources—such as radio spectrum, numbers, and rights of way—in an objective, timely, transparent, and non-discriminatory manner.

2.2 Annex on Telecommunications

Somewhat confusingly, the GATS contains an Annex on Telecommunications (“Annex”). Unlike the plurilateral specific GATS commitments in telecommunications, the obligations in the Annex are undertaken by all WTO members, as they are all signatories to the GATS.

The Annex establishes clearly that each WTO member shall ensure that service suppliers of any other member are accorded access to and use of public telecom transport network and services on reasonable and non-discriminatory terms and conditions “for the supply of a service included in its Schedule.” The Annex thereby guarantees that whenever a WTO member has made specific market access and national treatment commitments for a particular service sector or subsector (*e.g.*, financial, professional, advertising, publishing, audio-visual, health or education), the commitments will also apply to those services sectors and subsectors when delivered in electronic form. This obligation applies regardless of whether or not the WTO member in question has bound commitments on telecommunications services under the GATS.

Thus, for example, if a supplier of financial services seeks to provide services by means of an automatic teller machine (“ATM”) in a WTO member country that has committed not to restrict cross-border supply or commercial presence for market access or national treatment purposes, the WTO member must ensure that the financial services supplier has access to and use of the public telephone network to communicate with its ATMs, even if the public telephone network is a state-owned monopoly and even if the WTO member has made no commitments to liberalize basic telecommunications services.

2.3 WTO dispute settlement

As a WTO agreement, the GATS falls within the scope of the WTO Dispute Settlement Understanding (“DSU”). The DSU is probably the WTO’s chief innovation over its predecessor—the General Agreement on Tariffs and Trade (“GATT”). The DSU enhances the credibility of the specific commitments made under the various WTO agreements, including telecommunications commitments under the GATS, by providing a supranational dispute settlement mechanism that produces enforceable and expedient outcomes. As discussed below, the timely enforceability of such commitments in the telecommunications sector lends credibility to sector reform and aids in attracting investment.

The WTO’s dispute settlement process is designed to settle disputes, not just generate panel reports. As such, the process requires consultation and encourages settlement without a formal panel report. Of the 294 disputes brought to the DSB as of May 2003, roughly 15 percent have been resolved without the issuance of a panel report. Under the DSU, only a WTO member government—and not a private party, non-governmental organization, or the WTO Secretariat itself—may invoke the DSU to settle a dispute under one of the WTO agreements, such as the GATS.

The dispute process consists of a consultation leading to the creation of a panel, followed by panel consideration and adoption of a final report, which can then be appealed. This part of the process can take over one year to complete. This must be followed by implementation of the final decision and compensation if the decision is not implemented.

A dispute—regardless of the dispute’s magnitude or of the expertises and resources of the WTO members prosecuting and defending the dispute—follows the same progression under the DSU. The DSU may therefore disadvantage developing countries, which lack the expertise and resources necessary to ensure advantageous dispute resolution.

To date, only one dispute has been lodged under the DSU with respect to telecommunications services. (Two other telecommunications-related disputes have been lodged under the DSU—one involving telecommunications equipment and the other involving telecommunications equipment procurement—but neither arose under GATS telecommunications commitments or the Annex). In the telecommunications services case, the United States alleged that Mexico had violated its specific GATS commitments in basic telecommunications—by failing to ensure interconnection with U.S. basic telecom suppliers, and by failing to prevent

anticompetitive conduct by the incumbent, Telefonos de Mexico (“Telmex”), as required by the Reference Paper—and under the Annex—by failing to ensure access to, and use of, public telecommunications transport networks and services in Mexico.

In April 2004, the DSB panel issued its final report in the United States-Mexico dispute, ruling in favor of the United States on most but not all claims. First, the DSB panel found that Mexico violated its Reference Paper (*i.e.*, GATS) commitments by failing to ensure that a major supplier—Telmex—provided interconnection at cost-oriented rates to U.S. suppliers for facilities-based cross-border supply of basic telecommunications services. Second, the DSB panel found that Mexico violated its Reference Paper commitments by failing to maintain appropriate measures to prevent anticompetitive practices, and in fact, by *requiring* anticompetitive practices by competing suppliers. Third, the DSB panel found that Mexico violated its Annex commitments by failing to ensure access to and use of public telecommunications transport networks and services on reasonable terms to U.S. service suppliers for facilities-based cross-border supply of basic telecommunications services. Fourth, the DSB panel found that Mexico violated its Annex commitments by failing to ensure that U.S. commercial agents have access to and use of domestic and cross-border private leased circuits or to permit them to interconnect such circuits to public telecommunications transport networks and services or with circuits of other service suppliers. Mexico still claimed victory in the dispute, however, as the DSB panel found that Mexico had not violated its Reference Paper or Annex commitments with respect to cross-border supply on anything other than a facilities-basis, concluding that Mexico had made no such commitments. Mexico, like many developing countries, sought to exclude non-facilities-based services from its GATS commitments on the theory that it would encourage investment in physical networks. And Mexico has asserted that the DSB’s finding will allow it to enforce restrictions against unauthorized carriage of telecommunications traffic, known as “bypass” services, whereby carriers route telecommunications traffic to avoid per-minute settlement charges for use of the local terminating network.

In June 2004, the United States and Mexico notified the DSB that they had reached an agreement to end their dispute. Under the agreement, Mexico agreed to eliminate many of its international traffic exchange rules that served to entrench Telmex (including its proportionate return system, uniform tariff system and rules allowing Telmex to negotiate settlement rates on behalf of all Mexican carriers) and to introduce resale-based international telecommunications services in Mexico by 2005. The United States agreed to recognize Mexico’s continued

restriction of international simple resale (*i.e.*, use of leased lines to carry cross-border calls) to prevent illegal bypass services.

2.4 Telecommunications and the Doha Round:

From the perspective of telecommunications liberalization in developing countries, the Doha Round is notable in a number of respects⁸:

First, in the Doha Round, the WTO's members have explicitly sought to address how the special and differential treatment provisions of the various WTO agreements might better be used to serve the interests of developing countries, including trade in goods and trade in services.

Second, any liberalization in telecommunications services is taking place in the context of a broader round of negotiations. As a matter of negotiating strategy, WTO members typically trade concessions with respect to their own markets in exchange for concessions on other services or even in goods from their trading partners. Some developing economy negotiating proposals on telecommunications, such as that of Colombia, call on their trading partners to bear this in mind. The telecommunications sector, however, is unusual in that a number of WTO members⁹ have made basic telecom commitments between 1997 and 2002 outside the context of a round of negotiations, suggesting that they viewed their commitments less as a means of procuring concessions from their trading partners and more as a means of locking in domestic reforms within a binding multilateral framework, thus sending a signal to investors.

Third, the Doha Round places the current candidates for membership in the WTO—almost all of which are developing countries—in an awkward position, as they are not permitted to formally take part in any decisions of WTO and the Doha Round negotiating bodies, despite the fact that they are designated as “observers” in the WTO and as “participants” in the trade round.

⁸ The current formal and comprehensive round of WTO trade negotiations—known as the Doha Round—has subsumed the “GATS 2000” service negotiations (including negotiations on telecommunications services) that began earlier. Although the Cancun Ministerial Conference collapsed in September 2003, the impetus for a new trade round remains.

⁹ Five member countries made “late” commitments after 1997 - Barbados, Cyprus, Kenya, Suriname and Uganda – and an additional 11 countries made commitments upon their accession since 1997 – Albania, China (PRC), Croatia, Estonia, Georgia, Jordan, Kyrgystan, Latvia, Moldova, Oman) .

Regardless of the level of development, however, WTO members will likely address the following issues as the Doha Round progresses:

- greater market access and fewer national treatment exemptions for basic telecommunications and value-added services (focusing on traditional issues, such as foreign ownership limitations, the phase-out of existing monopolies, regulator independence, competition regulation, as well as to negotiate, if needed on the coverage of new services and technologies such as Voice over IP and broadband)
- axiomatic adherence by a greater number of Members to the full WTO Reference Paper on Regulatory Principles for Basic Telecommunications (Reference Paper);
- the relationship between the different service classifications, e.g. the blurring of distinctions between basic and value-added services and between value-added services and on-line computer services, and the implications of this, both for the existing provisions of the GATS Annex on Telecommunications and the Reference Paper and in relation to the scheduling of commitments; and
- the recognition of the maturation of e-commerce as it relates to market access for services complementary to telecommunications services that also form the basis for e-businesses (*e.g.*, advertising, computer services, financial services, express delivery services), as well as those that use networks for this purpose (*e.g.* computer services, professional services, business services such as back-office processing, etc).

2.5 Conclusion

The commitments entered into under the auspices of the WTO have developed from just establishing a framework for cross border movement of goods and services into broader agreements and binding commitments on the process of sector reform within a WTO member state; in many respects the telecommunications sector has been in the vanguard of this changing nature of WTO commitments.

In the on-going Doha round the issues in the telecommunications sector are twofold; namely (i) the desire to reinforce, and for some to re-define, the nature of existing commitments made

under the existing GATS agreements, and (ii) to broaden the scope of services in recognition of market change and the increasing widespread use of the internet in the delivery of a wide range of electronic communications networks and services

3 Framework

The main hypothesis of this paper is that investment will be limited or precluded by the lack of any GATS commitments in telecommunications, and thus, such a commitment will provide a credible signal that the government is committed to sector reform and has taken the necessary legal and regulatory measures to allow for such investment, particularly foreign direct investment. In particular, the WTO dispute settlement system sends a signal to WTO member governments and, in turn, their investors, that there will be recourse should a country's implementation of sector reforms fail to satisfy that country's GATS commitments.

As described above, GATS commitments in telecommunications entail the following legal obligations: market access, most-favored nation treatment, and national treatment; the Reference Paper commitments to an independent regulator, regulation of anticompetitive conduct, and interconnection; and liberalization and measures enacted in order to effect such commitments. A country making GATS commitments in telecommunications must modify its laws and regulations to ensure compliance with these obligations. Although it should be noted that often many of these new laws and regulations are in place prior to making GATS commitments in telecommunications. Technically, GATS commitments in telecommunications themselves do not reform the telecommunications sector— they are a treaty obligation, even though it may necessitate changes in domestic laws and regulations.

Nevertheless, GATS commitments in telecommunications do not just necessitate changes in domestic laws and regulations; changes which a country could undertake regardless of GATS telecoms commitment or WTO membership. Most critically, GATS commitments in telecommunications reflect a commitment to a multilateral framework for liberalization and to

the binding WTO dispute settlement process. Investors who may have questioned the government's commitment to sector reform but for GATS commitments in telecommunications, in which case they would have relied upon domestic legal remedies or international arbitration, can be assured that there is an international process for settling these disputes where a WTO member has undertaken GATS commitments in telecommunications. These WTO commitments significantly alter the investment climate and increase the likelihood of new investment in the sector.

This new investment, in turn, has benefits throughout the telecommunications sector of a country, as shown in Exhibit 1 below. Investment can flow to three types of telecommunications providers in developing countries: the incumbent operator (who may also provide data services and/or mobile services), service providers that compete with the incumbent, and those that complement the incumbent. Competing service providers may be those that compete with the incumbent in fixed, mobile, and data services. Finally, complementary service providers provide new services that the incumbent does not provide, or may expand to geographic areas not served by the incumbent.

Investment in the fixed incumbent can help to provide network improvements, including increasing the quality of the network as well as increasing the geographic scope of the network. Investment in competing service providers helps to increase competition, that can result in lower prices and better service. Investment in complementary service providers provides new services to customers already served by the incumbent, or to customers in underserved areas. The result for the sector can be increased mobile and fixed penetration, as well as increased usage of these services. Over time, these sector improvements can benefit the economy directly, through increased service revenues and employment, and also indirectly, through improvements in the performance of other sectors that rely heavily on telecommunications services.

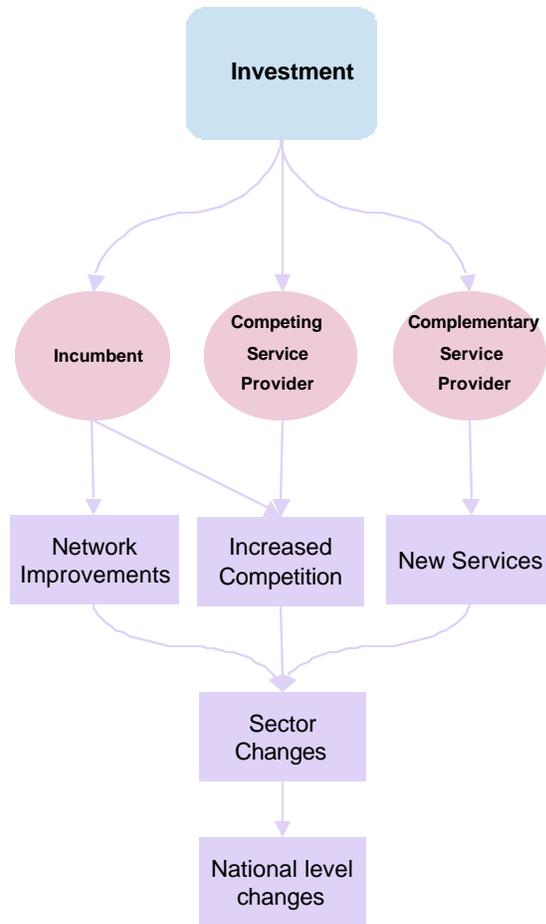


Exhibit 1:
Impact of Investments
 [Source: Analysys; Harris Wiltshire]

4 Benchmarks

This section benchmarks countries that have made WTO commitments against other countries to see what inferences can be drawn, while controlling for regional and economic impacts. The paper examines key measures of telecommunications sector performance since 1997, the year that most countries made basic telecommunications commitments, to show how countries that made such commitments fared against others that did not. The focus is on several key metrics:

fixed-line penetration, mobile subscribers, and sector revenues (as a % of GDP). These metrics were chosen partly because data for other relevant metrics, such as investment, prices, and size of the waiting list for fixed lines are relatively limited across time and countries, but also because these metrics are good proxies for the performance of the sector. For instance, on the fixed side, increasing penetration reflects increasing investment in the sector, and is also likely to reduce the waiting list for lines. On the mobile side, increasing numbers of subscribers reflects good coverage and attractive service propositions. Finally, the revenue generated by the entire sector is a good proxy for the general health of the sector.

In the three sub-sections below, the research focuses on countries in a particular region at a particular income level, as defined by the following World Bank groupings:

- **Region** – benchmarks are provided for each of the World Bank Country Groups¹⁰, except South Asia, due to data limitations for countries in that region.
- **Income** – Again, using the World Bank classification, and focus on countries in the lower income groups that work with the Bank; specifically, the research looked at low-income and lower-middle-income countries.

In addition, the research controlled for the following:

- **Privatisation of the Incumbent.** For the fixed-line penetration benchmarks, the hypothesis is that even within the group of countries that have, or have not, made GATS commitments, there would be improved performance for those countries that have privatized their incumbent and can then benefit from the outside capital and resources of the investor.
- **Competition in Mobile.** For the mobile penetration benchmarks, the hypothesis is that there would be improved performance for those countries that have competition in mobile and benefit from the lower prices and increased quality that results from competition.

The information used to create these different groupings is contained in a table in Annex A below.

¹⁰ East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, South Asia, and Sub-Saharan Africa

The analysis focused on the following trends:

- Performance of countries that have made WTO basic telecoms commitments against those that have not.
- Within those countries that have (or have not) made basic telecoms commitments, one can compare those countries that have privatized the incumbent (on the fixed side) with those that have not, and those that have introduced competition in mobile (on the mobile side), again with those that have not.

The research sought to establish a *correlation* between WTO basic telecom commitments and sector performance. While the results could be interpreted as indicative of a *causation* between WTO commitments and sector performance, as several key factors that impact the sector were controlled, the data limitations prevent such causations were established in any statistically significant manner.

4.1.1 Sector revenues

First 'cut' was to review sector revenues, as a percentage of GDP, in order to explore overall sector performance. These revenues are the total for both mobile and fixed operators. Because of limited data, it was not possible to isolate just those countries with privatized incumbents, or with competitive mobile sectors. Instead comparisons were made with those countries with GATS commitments in telecommunications to those countries without in order to determine whether the growth in sector revenues as a percentage of GDP is higher in countries with GATS commitments in telecommunications. One might expect a better performance in those countries that have made WTO telecom commitments for the reasons described above, namely that investors are more willing to commit capital and technology in countries with WTO telecoms commitments, and they are rewarded in turn with higher revenues.

In sub-Saharan Africa, those countries without WTO basic telecoms commitments started with higher sector revenues (as a percentage of GDP) in 1997, but were overtaken by those countries that had made such commitments.

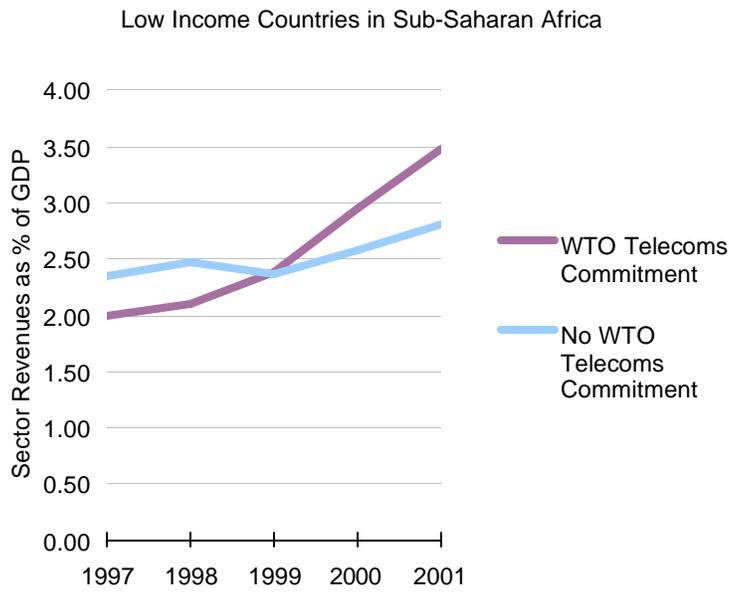


Exhibit 4.1:
Telecoms sector revenues in Sub-Saharan Africa¹¹
 [Source: ITU *Telecommunications Indicators*]

The same pattern holds true in the Middle East and North Africa region. Those countries that made WTO telecoms commitments had a higher growth rate in sector revenues since 1997, as well as a higher level of sector revenues by 2001.

11

Note that due to a lack of data, the following countries are excluded from the “No WTO Telecoms Commitments”: Angola, Chad, Congo, Guinea-Bissau, Liberia, Malawi, Mauritania, Nigeria, Sierra Leone, and Somalia. Also the data point for 2000 is missing for Uganda, so we used the average of 1999 and 2001. Since Uganda had made WTO telecommunications commitments, the average is also used for the grouping for “WTO Telecommunications Commitments”.

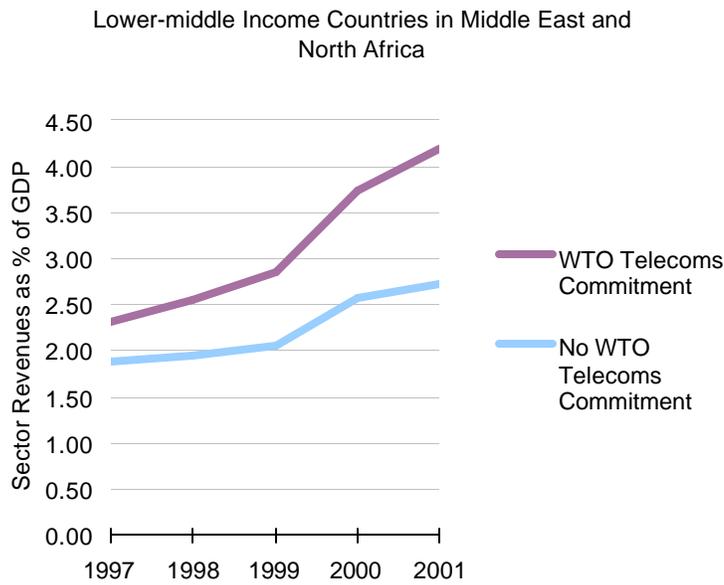


Exhibit 4.2:
*Telecoms sector revenues in Middle East and North Africa*¹² [Source: ITU Telecommunications Indicators]

In the East Asia and Pacific region, countries with WTO telecoms commitments again experienced a more rapid pace of growth in sector revenues than those without such commitments (subject to the limited data series available).

¹²

Note that due to a lack of data, the Iraq is excluded from the "No WTO Telecoms Commitments" category.

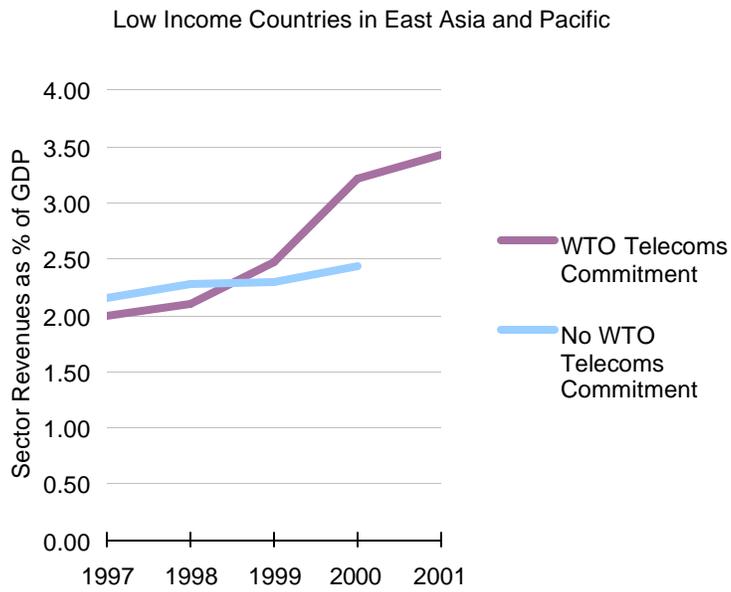


Exhibit 4.3:
*Telecoms sector revenues in East Asia and Pacific*¹³
 [Source: ITU *Telecommunications Indicators*]

In Europe and Central Asia countries with WTO telecoms commitments have both higher levels of sector revenues as a percentage of GDP by 2001, as well as higher growth rates in the years since 1997.

13

Note that due to a lack of data, the following countries are excluded from the “No WTO Telecoms Commitments”: Myanmar, North Korea, and Papua New Guinea.

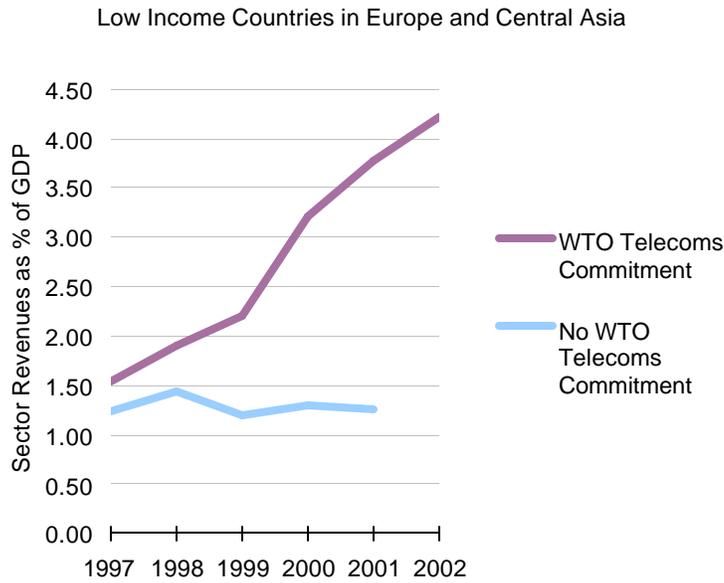


Exhibit 4.4:
Telecoms sector revenues in Europe and Central Asia
 [Source: ITU *Telecommunications Indicators*]

For lower-middle income countries in Latin America and the Caribbean, in 1997 sector revenues as a percentage of GDP were lower in countries with WTO telecoms commitments than those without such commitments, but the countries with commitments began to catch up with the other countries as a result of higher growth rates in sector revenues.

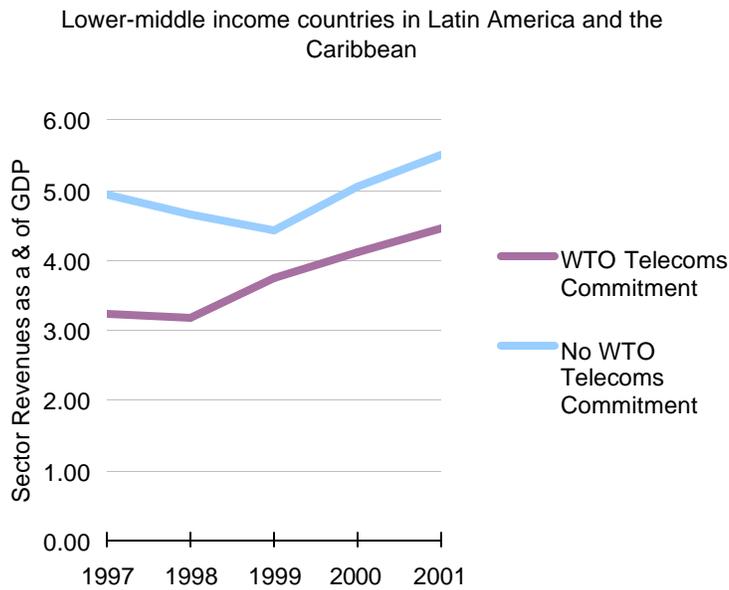


Exhibit 4.5:
Telecoms sector revenues in Latin America and the Caribbean¹⁴
[Source: ITU Telecommunications Indicators]

4.1.2 Fixed-line penetration

Increasing fixed-line penetration is an important goal for many countries, one that is often enshrined in license conditions for incumbents and competing operators alike. The privatization of the incumbent can help realize these goals, as investors (often foreign) can provide capital, technology, and know-how to the incumbent in order to increase the size of the network. Our thesis is that, not only is it easier for a country to privatize the incumbent after making GATS commitments in basic telecommunications, but even after privatization, investors will be more willing to supply additional capital in those countries that have made GATS commitments in basic telecommunications. Thus, under this hypothesis, one would expect that fixed-line penetration would increase more in those countries that have made GATS commitments in basic telecommunications. As discussed below, in many countries privatization is only partial, with the government often keeping the majority of the equity, and this may impact investment behaviour adversely.

14

Note that due to a lack of data, Cuba is excluded from the "No WTO Telecoms Commitments" grouping. Also, Dominican Republic is excluded from the "WTO Telecoms Commitments" grouping for the same reason.

In Sub-Saharan Africa, those countries in the region that *have* made basic telecommunication commitments (all of which have privatized their incumbent) have made larger advances in line penetration from 1997 to 2002 than those without basic telecommunication commitments (See **Exhibit 4.6**). Within the group of countries that have *not* made basic telecommunication commitments, those that have privatized their incumbent, have also experienced greater average increases in penetration than those countries that have not privatized their incumbent.

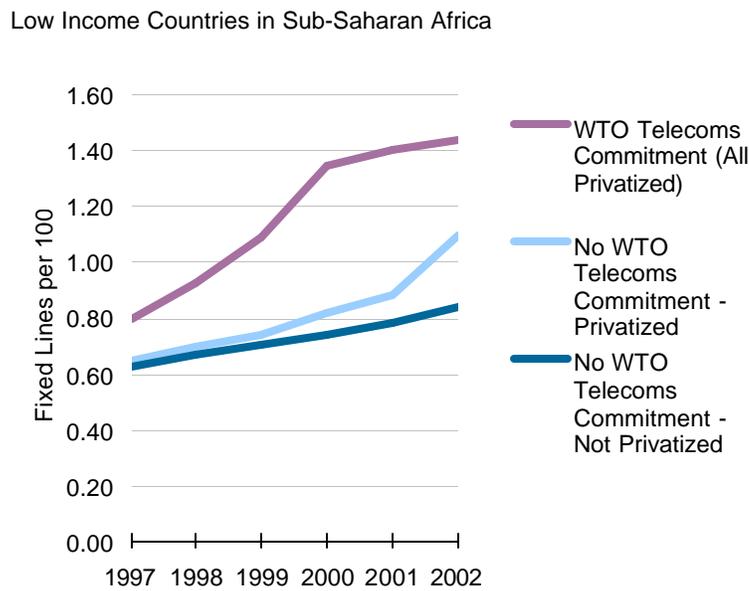


Exhibit 4.6:

Fixed-line penetration in Sub-Saharan Africa¹⁵

[Source: ITU

Telecommunications Indicators]

In the Middle East and North Africa, the following observations hold true. First, in general, those countries with basic telecoms commitments had higher fixed penetration rates than those without. However, within the group that made such commitments, the increase in penetration was higher in those countries that did not privatize, contrary to what one might expect.

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Note that due to a lack of data, Liberia is excluded from the "No WTO Telecoms Commitments – Not Privatized" grouping.

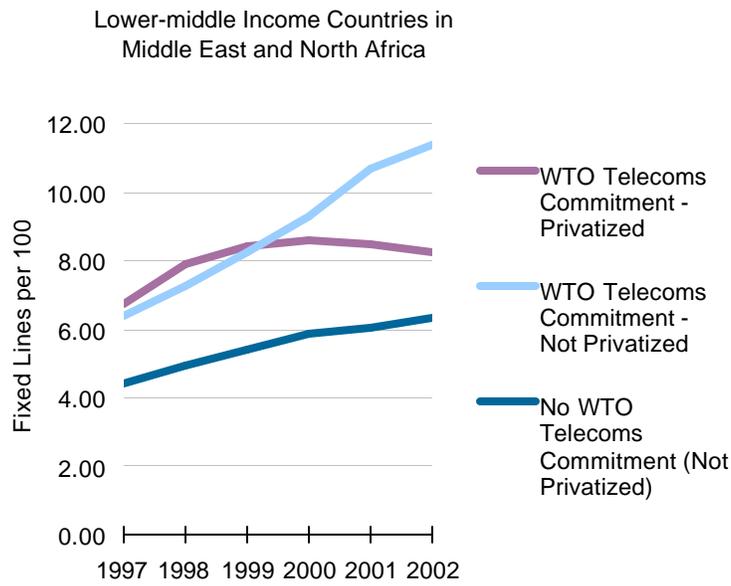


Exhibit 4.7:

Fixed-line penetration in Middle East and North Africa [Source: ITU Telecommunications Indicators]

A similar pattern holds true in the East Asia and Pacific region (see Exhibit 4.8 below). Those countries that have made GATS commitments in basic telecommunications (all of which have privatized their incumbents) experience greater growth rates in fixed-line penetration than those that have not made basic telecoms commitments. Within this latter group, growth in fixed-line penetration is again higher for those countries that have not privatized their incumbent.

Low Income Countries in East Asia and Pacific

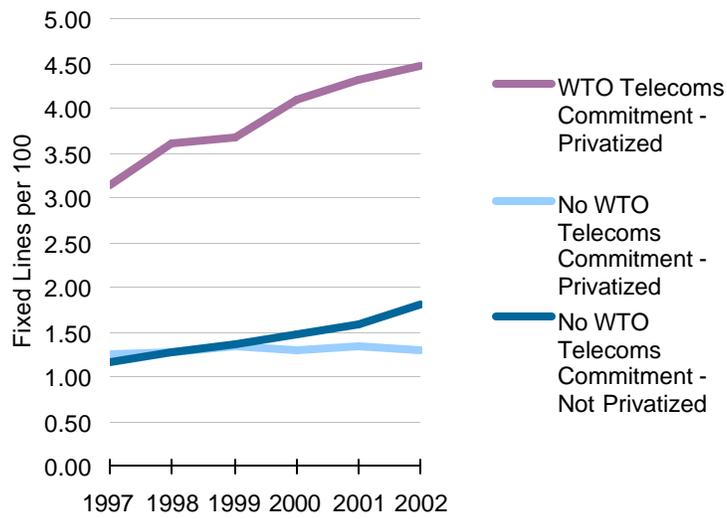


Exhibit 4.8:

Fixed-line penetration in East Asia and Pacific

[Source: ITU

Telecommunications Indicators]

In Europe and Central Asia, none of the countries have privatized their incumbent. The countries with GATS commitments in basic telecommunications, have higher fixed line penetration in 1997 than those countries without, but the growth rate through 2002 is roughly the same in all countries, albeit with some up and down movement in the former group of countries.

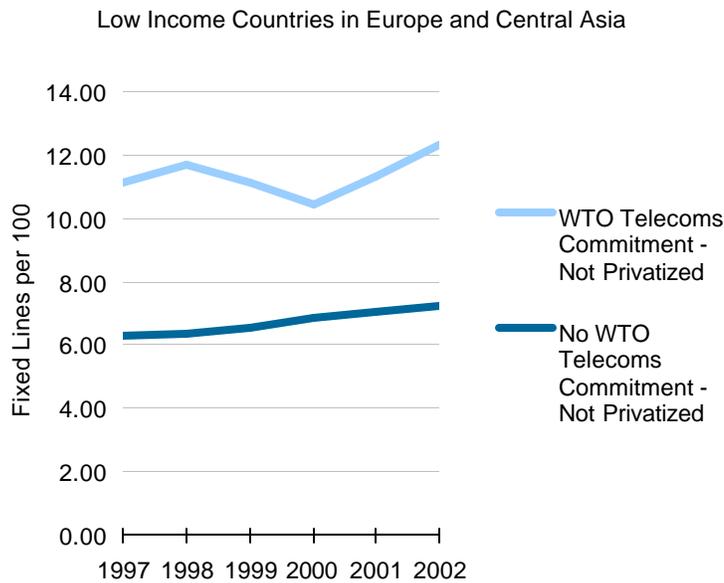


Exhibit 4.9:
*Fixed-line penetration
 in Europe and
 Central Asia [Source:
 ITU
 Telecommunications
 Indicators]*

A slightly different pattern emerges for lower-middle income economies in the Latin America and Caribbean region. In this region, countries without basic telecoms commitments that had privatized the incumbent outperformed those countries that did make basic telecoms commitments. Within the group of countries that made WTO commitments, those without privatized incumbents had higher fixed line penetration than those with commitments. Within the group of countries without WTO basic telecom commitments, those that had privatized incumbents had a better performance.

The situation in Brazil may impact the regional results. While Brazil, as a WTO member, has negotiated basic telecoms commitments, they have not yet ratified these commitments. Thus Brazil has been treated as if not having made such commitments, but it is possible that some investors have already acted as if Brazil had made such commitments, in advance of ratification. Brazil, with a privatized incumbent, more than doubled fixed line penetration over this time period, which was above the average of other countries in both groups.

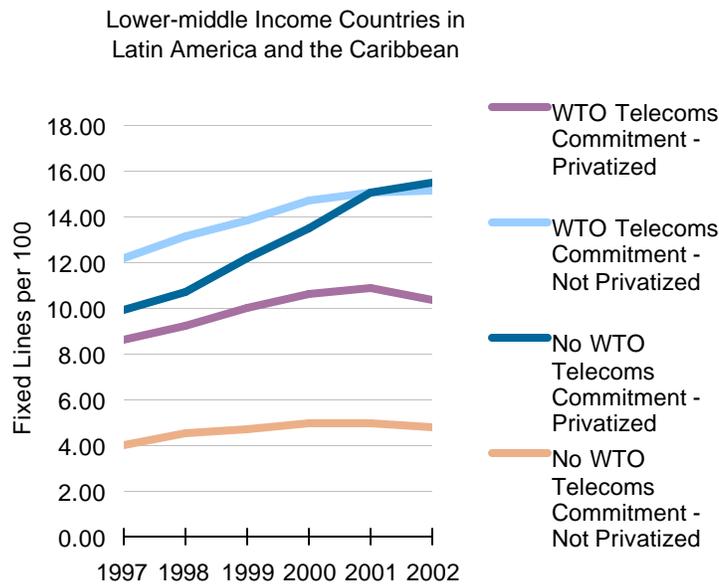


Exhibit 4.10:
*Fixed-line penetration in Latin America and the Caribbean*¹⁶
 [Source: ITU Telecommunications Indicators]

4.1.3 Mobile subscribers

Fuelled by decreases in the cost of technology and increasing consumer demand for mobility mobile phone subscriber levels have grown at phenomenal rates in many countries. Indeed, in many countries—in particular those with low fixed-line penetration—mobile phone usage is rivaling or supplanting fixed usage. The extent of this phenomenon can, however, be influenced by a number of factors, including the competitiveness of the industry. While many countries boast competitive mobile sectors whose operators are owned by private investors (even in those countries that have not privatized the fixed-line incumbent), our thesis is that countries that have made GATS commitments in basic telecommunications will attract investors better able to—or more willing to—make the investments needed to increase mobile penetration.

In sub-Saharan Africa, in 2002 those countries with basic telecommunication commitments (all of which have competitive mobile sectors) had significantly higher penetration than those

without commitments. Within the group without commitments the countries with competitive mobile sectors had a higher penetration than those without competition.

Low Income Countries in Sub-Saharan Africa

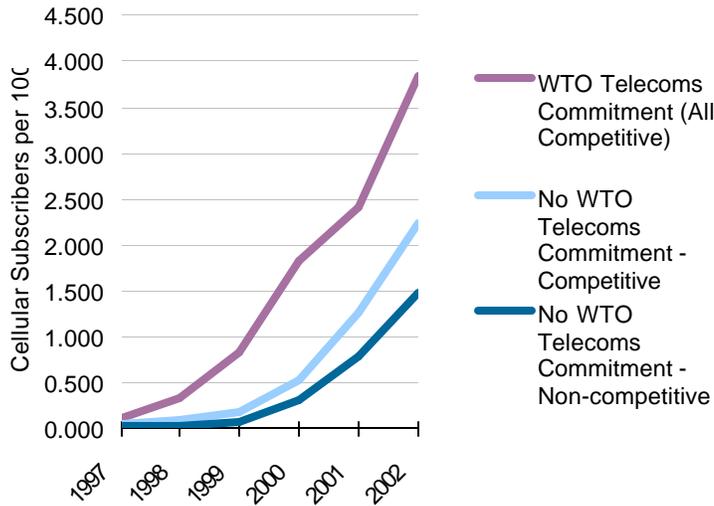


Exhibit 4.11:

Mobile penetration in Sub-Saharan Africa¹⁷

[Source: ITU

Telecommunications Indicators]

In the Middle East and North Africa, those countries that *have* made GATS commitments in basic telecommunications, have a much higher mobile penetration in 2002 than those countries without GATS commitments in basic telecommunications.¹⁸ Within the latter group, those countries with non-competitive sectors had greater penetration in 2002, but the growth rate since 1997 was lower than for those countries with competitive sectors.

¹⁷ Note that due to a lack of data, Somalia is excluded from the “No WTO Telecoms Commitments – non-competitive” grouping, and likewise Congo and Liberia are excluded from the “No WTO Telecoms Commitments – competitive” grouping.

¹⁸ One country, Djibouti, that made basic telecom agreements, has a non-competitive sector. We felt that one country does not provide enough data observations for these benchmarks.

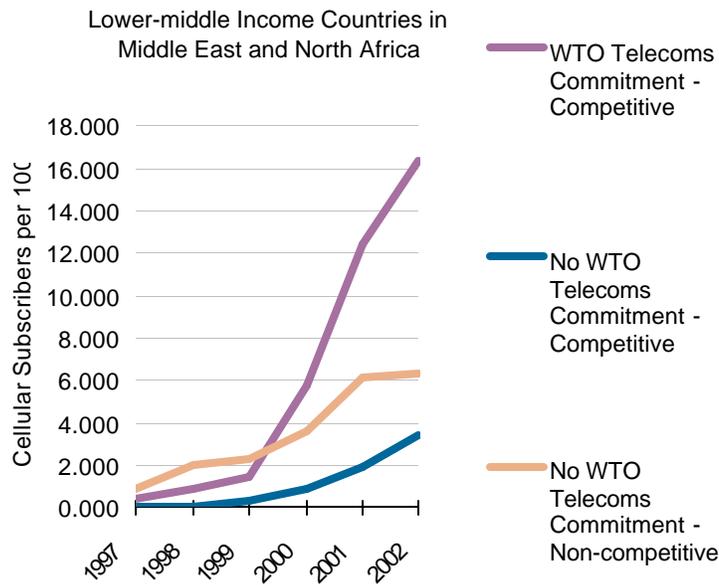


Exhibit 4.12:

Mobile penetration in Middle East and North Africa¹⁹

[Source: ITU

Telecommunications Indicators]

In the East Asia and Pacific Region, those countries with GATS commitments in basic telecommunications have significantly higher growth rates in mobile penetration than those countries that do not have GATS commitments in basic telecommunications (see Exhibit 4.13 below). All countries with GATS commitments in basic telecommunications have competitive mobile sectors. Within the group without GATS commitments in basic telecommunications, the countries with competitive mobile sectors have higher growth rates in mobile penetration over the years in the sample.

19

Note that Iraq is excluded because it does not have any data for mobile subscribers.

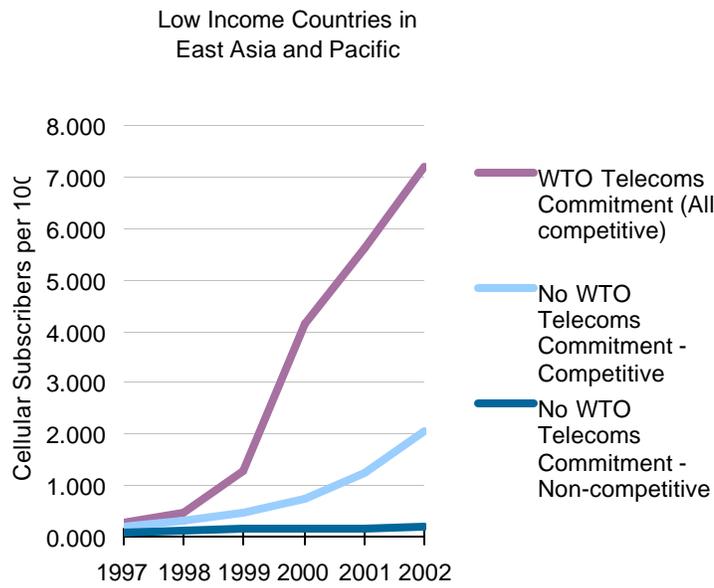


Exhibit 4.13:
Mobile penetration in East Asia and Pacific²⁰ [Source: ITU Telecommunications Indicators]

In the Europe and Central Asia, all low-income countries have competitive mobile sectors. As shown in Exhibit 4.14 below, although in 1997 the average mobile penetration in countries with GATS commitments in basic telecommunications is similar to those without GATS commitments in basic telecommunications, by 2002 those countries with GATS commitments in basic telecommunications have significantly more mobile subscribers per 100 citizens than countries without GATS commitments in basic telecommunications.

²⁰ Note that the Democratic People's Republic of Korea is excluded because it does not have any data for mobile subscribers.

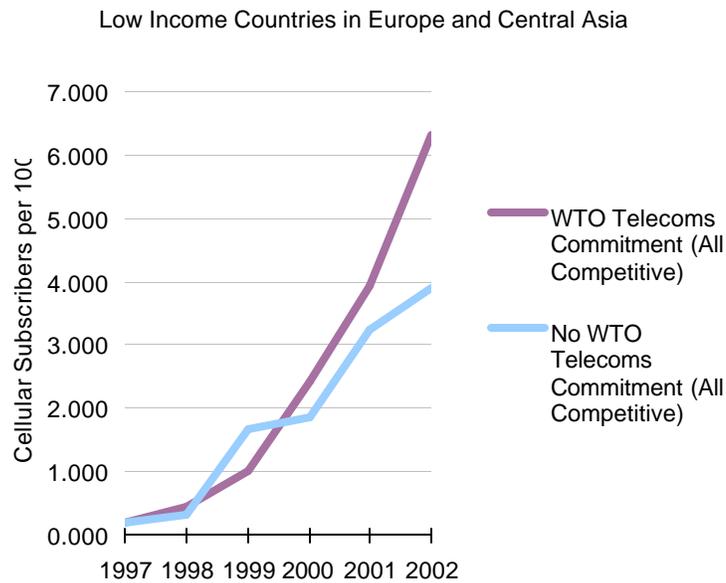


Exhibit 4.14:
*Mobile penetration in
 Europe and Central
 Asia [Source: ITU
 Telecommunications
 Indicators]*

For lower-middle income countries in Latin America and the Caribbean, among countries with competitive mobile sectors, those that made WTO telecoms commitments have a higher penetration rate by 2002.²¹ The growth rate since 1997 was slightly lower in those countries that made WTO telecoms commitments, however, perhaps because they already had a higher penetration rate in 1997.

²¹

Only one country, Suriname, that made WTO telecom commitments had a non-competitive mobile sector, and we do not include it because there are too few observations for benchmarking.

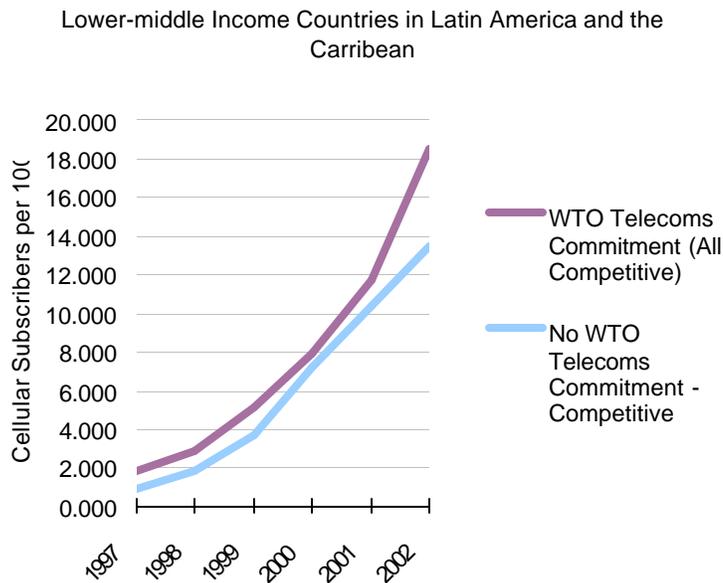


Exhibit 4.15:
Mobile penetration in Latin America and Caribbean
 [Source: ITU Telecommunications Indicators]

5 Conclusions

The benchmarks show that, controlling for geographical region and income level, countries that have made GATS commitments in basic telecommunications tend to outperform those countries that have not made GATS commitments in basic telecommunications with respect to fixed and mobile penetration as well as sector revenues (as a percentage of GDP). This relatively enhanced performance holds true even when one compares only those countries that have privatized their incumbent on the fixed side and only those countries that have introduced competition on the mobile side. These results provide evidence supporting the hypothesis that companies are more likely to make significant investments in countries that have made GATS commitments in basic telecommunications, and that these investments will in turn impact key sector metrics such as penetration levels and revenues.

Whilst the results suggest WTO commitments led to beneficial outcomes many questions remain unanswered. The WTO commitments can be seen as part of a repertoire of policy instruments which help to secure sector reform, however, future research could usefully seek to control for:

- The partial privatization of the incumbent. For a variety of reasons, governments often do not fully privatize their fixed-line incumbent operator, and sometimes even retain a majority share. This may impact the propensity of any company buying a stake in the incumbent to invest in the company upon purchase, for a number of reasons: the investor with a minority shareholding does not have full control of its investments; the investor does not receive the full benefits of its investments; and fear that the government may take actions harmful to the interests of the partial owner of the incumbent.
- The timing and sequencing of sector reform²². The timing of privatization, introduction of the incumbent, and sector reforms can all have an impact on the performance of the sector, for two reasons: first, the impact of recent actions may not yet show up in the time series currently available, and second, the sequence of reforms may have an impact on the benefits of the reforms.
- Particular regulations. Even given a certain sector structure and reforms, there can be differences in the performance depending on the regulations introduced in the country. For instance, on the fixed side, universal service obligations can have a significant impact on the fixed penetration levels. On the mobile side, the cost to interconnect with the fixed incumbent can likewise have an impact on performance. In both cases, the cost of buying the fixed or mobile license, if any, can impact the willingness to further invest capital into the operator.
- The timing of actual investment. It is recognized that there are a number of ways that investment can be impacted by a country making GATS commitments in

22

See for example, Wallsten (2002) 'Does Sequencing Matter? Regulation and Privatization in Telecommunications Reforms', World Bank Policy Research Working Paper 2817. In this paper Wallsten concludes that that countries that established separate regulatory authorities prior to privatization saw increased telecommunications investment, fixed telephone penetration, and cellular penetration compared with countries that did not. Moreover, he finds that investors are willing to pay more for telecommunications firms in countries that established a regulatory authority before privatization. This increased willingness to pay is consistent with the hypothesis that investors require a risk premium to invest where regulatory rules remain unclear. Such evidence resonates with the results reported here showing that WTO commitments a signalling mechanism to new investors.

telecommunications. For instance, GATS commitments in telecommunications may bring forward investment that would have taken place in any case, and thus overall investment levels over a certain time period may be unaffected by the GATS commitments. Likewise, the GATS commitments may serve to divert investment from other countries, potentially in the same region, so that overall regional investment levels are not impacted by the GATS commitments. Due to current data limitations it is not possible to determine whether the performance in benchmark countries results from new investment or diverted investment.

Given the data that are currently available, there may not be enough degrees of freedom to control for these variables and still derive statistically significant results that would be more indicative of causality than the results presented above. Nonetheless, the research reported here provides important insights in determining the impacts of WTO telecom commitments on sector performance.

Annex A: Summary of benchmark countries

The following table summarizes the benchmarks contained above in section 4, describing those countries that have made GATS telecoms commitments, have at least partially privatized their incumbent, and have more than one mobile operator. The case study countries are highlighted.

<i>Region</i>	<i>Income level</i>	<i>Country</i>	<i>GATS telecoms commitment?</i>	<i>Privatized incumbent?</i>	<i>Competitive mobile?</i>
East Asia and Pacific ²³	Low Income	Cambodia	No	No	Yes
		Lao P.D.R.	No	Yes	Yes
		Myanmar	No	No	No
		Papua New Guinea	No	No	No
		Solomon Islands	No	Yes	No
		Viet Nam	No	No	Yes
		Indonesia	Yes	Yes	Yes
		Mongolia	Yes	Yes	Yes
Europe and Central Asia	Low Income	Azerbaijan	No	No	Yes
		Tajikistan	No	No	Yes
		Uzbekistan	No	No	Yes
		Georgia	Yes	No	Yes
		Kyrgyzstan	Yes	No	Yes
		Moldova	Yes	No	Yes

²³ We did not include the Republic of Korea in this group due to data reliability.

			<i>telecoms commitment?</i>	<i>incumbent?</i>	<i>mobile?</i>
Latin American and the Caribbean	Lower-middle Income	Brazil	No (signed but not ratified)	Yes	Yes
		Guatemala	No	Yes	Yes
		Guyana	No	Yes	Yes
		Honduras	No	No	No
		Paraguay	No	No	Yes
		St. Vincent	No	Yes	Yes
		Suriname	Yes	No	No
		Bolivia	Yes	Yes	Yes
		Colombia	Yes	No	Yes
		Dominican Republic	Yes	Yes	Yes
		Ecuador	Yes	No	Yes
		El Salvador	Yes	Yes	Yes
		Jamaica	Yes	Yes	Yes
		Peru	Yes	Yes	Yes
Middle East and North Africa	Lower-middle Income	Algeria	No	No	Yes
		Iran	No	Yes	No
		Palestine	No	No	No
		Syria	No	No	Yes
		Egypt	Yes	No	Yes
		Jordan	Yes	Yes	Yes
		Djibouti	No	No	No
		Morocco	Yes	Yes	Yes
Sub-Saharan Africa	Low Income	Tunisia	Yes	No	Yes
		Angola	No	No	No
		Benin	No	No	Yes
		Burkina Faso	No	No	Yes
		Burundi	No	No	Yes
<i>Region</i>	<i>Income level</i>	<i>Country</i>	<i>GATS telecoms commitment?</i>	<i>Privatized incumbent?</i>	<i>Competitive mobile?</i>
		Cameroon	No	No	Yes
		Central African	No	Yes	Yes

Telecommunications Trade Liberalization and the WTO

Republic				
Chad	No	No	Yes	
Comoros	No	No	No	
Congo	No	No	Yes	
Congo (Democratic Republic)	No	No	Yes	
Equatorial Guinea	No	Yes	No	
Eritrea	No	No	Yes	
Ethiopia	No	No	No	
Gambia	No	No	Yes	
Guinea	No	Yes	Yes	
Guinea-Bissau	No	Yes	Yes	
Kenya	No	No	Yes	
Lesotho	No	Yes	Yes	
Liberia	No	No	Yes	
Madagascar	No	Yes	Yes	
Malawi	No	No	Yes	
Mali	No	No	Yes	
Mauritania	No	Yes	Yes	
Mozambique	No	No	Yes	
Niger	No	Yes	Yes	
Nigeria	No	No	Yes	
Rwanda	No	Yes	No	
Sao Tome and Principe	No	Yes	No	
Sierra Leone	No	No	Yes	
Somalia	No	Yes	No	
Sudan	No	Yes	Yes	
Tanzania	No	No ²⁴	Yes	

<i>Region</i>	<i>Income level</i>	<i>Country</i>	<i>GATS telecoms commitment?</i>	<i>Privatized incumbent?</i>	<i>Competitive mobile?</i>
		Togo	No	No	Yes
		Zambia	No	No	Yes

Telecommunications Trade Liberalization and the WTO

Zimbabwe	No	No	Yes
Uganda	Yes	Yes	Yes
Cote d'Ivoire	Yes	Yes	Yes
Ghana	Yes	Yes	Yes
Senegal	Yes	Yes	Yes

Exhibit A.1: Summary of benchmark countries [Source: ITU Regulatory Trends, World Bank]