countries exporting manufactured goods and agriculture produce has developed that limits the exchange of liberalization concessions in the absence of comprehensive trade negotiating rounds. Mattoo and Schuknecht (1999) find a direct correlation between binding commitments bellow actual policy levels and country membership to an international trade coalition, such as the Cairns Group in agriculture.

The GATS offers other opportunities for indirect trade liberalization and stability in trade policy. In particular, policymakers can lock-in reforms and prevent a policy backlash by binding commitments to the actual level of liberalization, and making future liberalization commitments. Given the weakness and permeability of institutions in developing countries to organized interests, it is expected that they make greater use of international trade agreements to achieve policy stability, yet, there is very little evidence that developing countries have made any substantial of the GATS for this purposes (Mattoo, 2000).

Empirical Tests of Determinants of Services Trade Liberalization

The absence of data for both policies and determinants of these policies makes the task of developing empirical tests potentially difficult. Fortunately, a recently published paper by Mattoo, Rathindran and Subramanian (2001) provide objective measures of actual services trade and regulatory policies for telecommunications and financial services that make this empirical exercise possible. For the determinants a series of indirect observations are used and again here recent efforts to gather data about conditions in telecommunications and financial services markets ease the task considerably. The reader should be cautioned, however, about the preliminary nature of the results presented in this paper.

The financial and telecommunications industries are also selected for methodological purposes. Given that the traditional function of the GATS of encouraging reciprocal liberalization was absent from the sectoral agreements that cover these two sectors, the exercise tests explicitly for other benefits that an institution such as the GATS may accrue to developing countries. An example of such benefits is the opportunities that a multilateral framework such as the GATS creates to lock-in reforms.

Two types of tests were carried out to using a sample of 42 developing countries to evaluate the robustness of the results. A first test uses ordinary least squares to determine the effect of the independent variables in the actual policy indexes. A second model using event history analysis (Blossfeld, Hamerle, and Meyer 1989) tested a logit model to determine the influence of dummy variables given to the independent variables on the probability of liberalization. Both tests were run separately for telecommunications and financial services.

The linear model takes the following form:

$$L = \alpha + \beta C + \gamma D + \delta T + \upsilon G + \rho P$$

Where L is the liberalization policy index, C is dummy variable of 1 in the event that the country has experienced crises, and 0 otherwise. For financial services C measures whether a country has experienced a financial crisis between 1990 and 1998, while for telecommunications C takes the value of one if the country has experienced more than 3 strikes in the same period, which is the mean of the sample. Data for strike in telecommunications is taken from the International Labor Organization LABORSTA.

D is the average government deficit as percentage of GDP between 1990 and 1996 when most privatizations took place. The macroeconomic data is from the International Financial Statistics of the International Monetary Fund.

T measures the influence of conglomerates on services trade and regulatory policy. For financial services this variable measures the share of financial institutions that own nonfinancial institutions in the financial system, but it is dropped for telecommunications in the absence of a reliable proxy measurement for the same effect. G measures the level of GATS commitments in that specific sector, and ***P*** is a control variable for percapita income.

The data on financial crisis and ownership structure of financial institutions is from Barth et al (2000). To determine the share of financial institutions owning nonfinancial institutions, the number of financial institutions owning nonfinancial institutions and the number of nonfinancial institutions owning banks are added together. The share is obtained from dividing the resulting number of institutions from the previous sum and the total number of financial institutions in the sector of a given country.

The overall measurements on GATS commitments on financial services are taken from Mattoo (1999) using an unweighted average of the liberalization indexes for all financial services. In the case of telecommunications measurements of commitments are taken from Marko (1998)[3].

The actual policy indexes are taken from Mattoo et al (2001) and are available at the end of this paper in Annex 1. The indexes range from 1 to 9, with higher values signifying greater liberalization. The Indexes are biased in favor of greater competition, followed by foreign ownership levels and regulation. For the financial sector the index in Mattoo et al (2001) use the schedules of commitments and improve the actual policy measurement with IMF data on capital controls and actual concentration ratios and current foreign equity ownership. This way the policy indexes do not reflected policies bellow the actual level of liberalization.

For the telecommunications policy index Mattoo et al (2001) use the World Bank- ITU database on regulatory policy of the telecommunications sector. The index also privileges pro-competitive market structures, followed by foreign ownership and then independent regulation.

Table 3. Ranking Criteria for Financial Liberalization Index

Rank	Market Structure	Foreign Equity Permitted	Capital Controls (Dailami Index)
8	Competitive	≥ 50%	≥ 1.6
7	Competitive	≥ 50%	< 1.6
6	Competitive	< 50%	≥ 1.6
5	Competitive	< 50%	< 1.6
4	Non Competitive	≥ 50%	≥ 1.6
3	Non Competitive	≥ 50%	< 1.6
2	Non Competitive	< 50%	≥ 1.6
1	Non Competitive	< 50%	< 1.6

Source: Mattoo et al (2001)

The logit model follows a similar structure to the ordinary least squares model, but gives a value of 1 to a liberalization index of 7 or above, and 0 otherwise. Crisis measurements take the same values as in the linear model, while government deficits are adjusted to a dummy variable of 1 if average deficits between 1990-1995 are above 2.0% of GDP, which is the average deficit of the sample for the period, and o otherwise. In the case of financial services, T, which measures the ownership structure of financial institutions, takes a value of 1 when the ownership ratios of nonfinancial institutions are above 3, and 0 otherwise.

To test explicitly for the influence of government deficits and bureaucratic interests, as well as the permeability of financial policy to conglomerates, the original logit model is altered. For these tests the dummy variable for liberalization takes a value of 1 for liberalization indexes values between 3 and 5. Index readings between this values account for elimination of restrictions to foreign ownership, but maintain barriers to market access. Thus, if governments or bureaucrats have their say, market entry limitations will prevail to increase revenue from privatizations. In the same way, conglomerates limit competition to allow them to finance affiliated nonfinancial institutions without being penalized by eroding interest margins.

[3] Marko (1998) measures the level of commitments using frequency measures. Higher frequency levels are associated with greater restrictions to trade in services. For the purpose of the analysis here the frequency measures are subtracted from one thus showing the actual level of liberalization.

The results of both the OLS model and the logit model were essentially consistent and are not reported in this paper, but are available upon request. The results of the logit model in its four versions provide interesting insights into the determinants of trade liberalization in the telecommunications and financial industries. The results are presented in Table 4.

Table 4. Logit Model

	Financial Liberalization 1	Financial Liberalization 2	Telecom Liberalization 1	Telecom Liberalization 2
Constant	1.30	-1.14	-0.74	-5.17
	(1.03)	(-0.86)	(-0.67)	(-1.59)
Crisis	1.48	2.12	0.036	0.11
	(2.58)	(3.37)	(0.15)	(0.20)
Deficit	0.81	-0.90	0.91	1.19
	(1.26)	(-0.88)	(2.32)	(3. 91)
Conglomerates	-3.32	-3.87		
	(-0.31)	(-3.40)	NA	NA
GATS	1.72	7.24	-3.27	2.24252
	(0.15)	(1.07)	(-0.38)	(1.90)
Income	-7.44	-1.04	8.39	1.10
	(-0.88)	(-0.16)	(1.20)	(0.09)
Akaike info criterion	1.37	1.12	1.59	0.58
Schwarz criterion	1.68	1.38	1.83	0.80
McFadden R-squared	0.31	0.12	0.06	0.28

t-Statistics in parenthesis.

Crisis is the driving variable in the liberalization of financial services, both when liberalization includes market access and when it is limited to elimination of foreign equity restrictions.

The GATS is not significant at full liberalization, but becomes significant when liberalization is restricted to measure foreign equity and regulation. As in (Quian 2000) the level of economic development measured in terms of percapita income is not significant.

Conglomerates, or the ownership of nonfinancial institutions by banks and other financial organizations is not a significant influence for high levels of liberalization, but becomes more important once access to the domestic market is limited. The results indicate that conglomerates influence the policy process by inhibiting greater liberalization of regulatory structures to limit market access in much the same way that was speculated in the second section of this paper.

In the case of telecommunications, only government deficits seem to play a significant part in elimination of foreign equity and market access restrictions. The GATS is significant once liberalization is defined only as the elimination of equity restrictions. The results are not surprising since schedules of commitments in the GATS were lower than the actual levels of services liberalization. The tests carried out here fail to pick up any positive effects of the GATS, particularly of binding commitments. However, The exercise does not test for future commitments of liberalization, which as pointed out in the previous section may be an important incentive for governments wishing to strengthen the credibility of their trade policies.

Concluding Remarks

A number of recent works have pointed out the shortcomings of the GATS in terms of failing to deliver actual liberalization of trade in services. Among the shortcomings of the agreement is the high transaction costs of trading liberalization concessions in services industries due the regulatory nature of most barriers to trade in services. Among the few liberalization achievements of the GATS are the sectoral agreements in telecommunications and financial services where opportunities for trading concessions among negotiators were absent. These developments have increased the interest of experts in the domestic factors that have spurred reform in these sectors, and done little to ease concern about the shortcomings of the GATS.

However, the fact that reform was possible in these industries does not make the GATS redundant. The empirical tests carried out in this paper point out the limited success of domestic forces in promoting liberalization of telecommunications and financial services, where achievements have stop short of ensuring market access. Financial crisis and fiscal pressures have triggered reforms to foreign equity restrictions in financial services and telecommunications, respectively. Conglomerates in financial services and again fiscal pressures seem to be the leading forces preventing full liberalization of financial services and telecommunications.

Liberalization of the services sector is far more complex than goods liberalization. First, regulatory frameworks are far more complex to comprehend than tariff structures or quotas. Second, the effects of regulatory policies in prices and quality are far less transparent to the majority of consumers. Consumers more often have access to foreign goods than they have to foreign services, thus lacking a critical demonstration effect that raises the salience of trade and regulatory reforms. In the absence of demonstration effects that highlight the virtues of more competitive markets, crises have been a formidable source of pressure for reform of impediments to trade in services. Yet, those reforms have come in carefully measured amounts as many of the entrenched interests from the import substitution regime have managed to survive and move to the safer grounds of services regulatory barriers.

Overcoming those protectionist interests will require more than domestic politics have been able to deliver as the empirical tests carried out here indicate. A number of authors have place high hopes in the virtues of unilateral liberalization following the telecommunications and financial services agreements, but those expectations merit careful assessment in light of the weakness of domestic interests to carry through liberalization reforms the eliminate barriers to entry in services markets.

In testing the GATS, this paper does not evaluate the potential opportunities of the multilateral trading system to encourage reciprocal concessions across sectors of the economy. Developing countries may have withheld biding services liberalization reforms in the expectation of obtaining liberalization concessions in agriculture, textiles and manufacturing. The failure of the GATS 2000 negotiations to raise ay enthusiasm for exchange may only be reflecting the fact that trade in services between developed and developing countries tend to be one way.

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