

Varying Depths: Why do Some Countries Get Better WTO Accession Terms than Others?
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The process by which countries accede to the World Trade Organization (WTO) has become the object of considerable debate. Critics charge that insufficient deference is given to developing country entrants (Stiglitz and Charlton 2005), that the process is growing ever longer and more costly (Michalopoulos 2002), and that current standards imposed on acceding countries are higher than what even highly developed states agreed to during the Uruguay Round (Evenett and Braga 2006). Some countries, such as China, are said to have been imposed very stringent terms (Adhikari and Yang 2002), whereas other countries, such as Nepal, were reportedly successful in obtaining the terms they initially demanded (Cattaneo and Braga 2009). Meanwhile, countries keep gathering at the institution's door: twenty-nine countries are currently in talks for accession.

Most existing claims about accession rest on anecdotal evidence and country-specific studies, focusing disproportionately on China and transition economies. By contrast, little rigorous cross-national evidence has been brought to bear on what would seem to be the fundamental question at hand: what determines the concessions the institution requires of an entrant? In other words, which entrants get a good deal, and which do not?

This puzzle holds implications not only for international trade, but also for the study of institutions more broadly. Scholars have suggested that much as creditors impose risk premia to balance the odds of default of their debtors, it may be that institutions set terms of entry to match the expected behavior of a new entrant (Pelc 2009). Greater perceived risk of non-compliance, for instance, would lead to a longer vetting process, tighter constraints, and increased demands for transparency. This paper does not dispute these claims, but argues that owing to the decentralized quality of the WTO and of its accession procedures, most of the variation in the terms offered to entrants is attributable to the domestic interests of existing Member states.

Members need to sell the accession of a new country to their constituents, much as the new entrant must sell accession to its own domestic audience.

Considering the “price of entry” of agreements is not without precedent. Downs, Rocke and Barsoom (1996) long ago drew attention to the “depth” of agreements, which they defined as “the extent to which it [the treaty] requires states to depart from what they would have done in its absence”. Owing mostly to the unavailability of a satisfying proxy for depth, however, empirical studies have not delivered on the promise of theory with regards to the depth of cooperation. Yet in the case of international trade, there does exist an apt measure for the counterfactual to the institution, namely the average rate of protection applied by a country to a given product prior to accession. I use these prior rates as an empirical starting point for determining the factors that lead the institution to grant entrants terms of accession of varying stringency.¹

The chief distinction made throughout the paper in considering depth of integration is between the constraints imposed on a country by the institution (de jure depth), and the adjustments that the country subsequently makes (de facto depth), given those constraints. These correspond, albeit imperfectly, to the two main *raisons d'être* of trade institutions: on the one hand, agreements attempt to resolve a prisoner's dilemma, by avoiding terms-of-trade inefficiencies and beggar-thy-neighbor policies (Bagwell and Staiger 1999); on the other hand, countries enter international institutions as a means of tying their hands against domestic groups' demands for socially costly protection (Staiger and Tabellini 1999; Hudec 1987). Since countries may face different (and indeed, opposite) pressures over trade from the international and the domestic level, disentangling these motivations is essential to getting an unbiased picture of the “deal” countries get upon accession.

¹ Below I address some shortcomings of this measure as a proxy for the counterfactual (Cattaneo and Braga 2009), and the means taken to mitigate those shortcomings.

This article argues that given the design of accession proceedings, the extent of required liberalization is driven by the value of market access for incumbent Members. The one-sided nature of negotiations (Cattaneo and Braga 2009, Drabek and Bacchetta 2004) means that the logic of reciprocity, which underlies much of the trading system (Bagwell and Staiger 2003, Subramanian and Wei 2007) is suspended. Entrants have no means of altering the market access they receive, and existing Members have no way of offering any additional concessions, short of re-negotiating with the remainder of the membership on a most-favored-nation (MFN) basis. The only element at issue is thus the price of entry, i.e. the required concessions over market access demanded of the entrant. These, in turn, are driven by domestic interests within Members' constituencies. The more valuable a sector or a country appears to export-oriented interests, the more likely these groups are to mobilize and exert pressure on their governments, and the greater will be the requirements the latter will impose on entrants. This contrasts with expectations during multilateral trade rounds, where valuable market access is a bargaining chip leading to better, rather than worse terms.

The empirical evidence supports these beliefs. Looking at the tariff schedules of 19 recent entrants at the six-digit product level, I find that controlling for applied protection rates on a given product prior to accession, as well as a host of country-specific variables, the value of import markets prior to accession is the most powerful predictor of entrants' terms of accession. The logic also holds across industries: those sectors that are most valuable to Members as export markets face higher adjustment costs than other sectors within the same acceding country. On the other hand, those very countries and sectors also have an interest in countering such pressure. As a result, they subsequently max out their applied duties relative to the bound in a way that other countries and sectors do not, in an attempt to minimize de facto adjustments. The upshot is that

the most valuable countries and industries, from the point of view of Members' export interests, do not exhibit markedly different protection rates post-accession, given this offsetting behavior. They do, however, become more tightly constrained: tariff flexibility, and the unpredictability it results in, is thus lowest precisely in these industries.

Finally, while some scholars have criticized the process of accession for imposing adjustments on poor countries that are disproportionate to their level of development (Stiglitz and Charlton 2005), the analysis suggests that these fears are mostly unwarranted, at least with regards to tariff schedules. Using a semi-parametric analysis that allows for non-linearity, and controlling for a host of factors, I show that as per existing norms of differential treatment towards developing countries, the poorest countries are required to make the smallest relative adjustments. Indeed, it is the *middle income* countries that fare the worst: benefiting neither from the bargaining capacity of rich countries, nor from the norm of restraint vis-à-vis poor countries, these entrants end up having to make the deepest liberalizing concessions.

The Process of Accession

This section takes a brief look at the design of the process of WTO accession and the literature examining it. In doing so, it puts forward three claims, which later guide the paper's theoretical expectations. First, few formal guidelines or criteria exist around accession. As a result, the process is largely based on state interests, rather than the observance of predetermined rules. Secondly, owing to its design, the WTO accession process cannot be viewed through a traditional bargaining lens. In this respect, it is fundamentally different from multilateral bargaining during the Uruguay Round, and one should not be surprised that negotiation outcomes following accession differ from what they might have been under multilateral

bargaining. Thirdly, there is a cost to Members from imposing or seeking to impose too stringent constraints upon new entrants. In the alternative, the expectations would be far simpler: in equilibrium, incumbent Members would impose maximum stringency on all new entrants, across the board. Yet this is not what we observe; I outline some of the reasons why.

The process of accession is formally covered by Article XII of the WTO Agreement. The article is short on specifics: a country is said to accede to the institution “on terms to be agreed between it and the WTO.”² In other words, there are no pre-established criteria for the level of market access required of entrants; accession decisions are taken by consensus within a dedicated working party, followed by a super-majority vote at the General Council.

The institution has been working to remedy this lack of clear guidelines since the WTO’s inception. First, an early note by the Secretariat sought to go beyond Article XII in clarifying the procedural aspects of accession.³ This note, for all intents and purposes, has become the default set of instructions for entrants. It states that applicants looking to join the institution must start by submitting an application to the Director General, who, in concert with the General Council, then establishes a working party to examine the application. Importantly, all interested existing Members may join the working party.⁴ The next part of the process starts when the applicant country submits a detailed description of its trade regime, including a full current tariff schedule, to the working party, the members of which then submit questions to the applicant “with a view to clarifying the operation of the Applicant's foreign trade régime”.⁵ To illustrate the intricacy of this fact-finding exercise, in the case of Saudi Arabia, it resulted in 3500 questions by Members,

² WTO Article 12.1

³ WT/ACC/1

⁴ The composition of the working party thus varies by entrant, but usually includes both the US and the EC.

⁵ Ibid, para 10.

and 7600 pages of documentation submitted by Saudi Arabia over 10 years (Cattaneo and Braga 2009).

The negotiations per se begin with the applicant country submitting its proposed Schedule of Concessions and Commitments, which specify the bound tariff levels the applicant offers to commit to as a WTO member.⁶ Based on this submission, bilateral negotiations take place with all interested parties (usually limited to members of the working party). Importantly, if the proposed terms are not to its liking, the working party can immediately send the applicant country back to the drafting table. Indeed, when countries have offered bound rates too far above their current applied rates, leading to prospective “tariff overhang” and resulting unpredictability in their tariff regime, Members have refused to even consider the entrant’s offer (Michalopoulos 1998, 11). This occurred, notably, in the case of some former Soviet republics. Once the biggest hurdle of bilateral negotiations is cleared, the outcome is compiled and reviewed by the working party, and annexed to the draft Protocol of Accession, which is then submitted to the General Council. If a two-thirds majority of the Membership approves the Protocol of Accession, it enters into force thirty days after the applicant country signs it, or, if legislative approval is required domestically, once the country ratifies it.

While clarifying procedural aspects of accession, the 1995 note by the Secretariat in no way specifies the levels of bindings required of entrants, nor does it provide any guidelines for setting these levels, save for the mention that tariff bindings should be “at commercially viable levels and reflect the general benefits the Applicant will enjoy upon membership.”⁷ This, if anything, indicates a minimum level rather than a maximum.

⁶ The guidelines also allow for interested Members to submit initial requests, but the norm, likely “as a means of expediting the work” (WT/ACC/1), has been for the applicant to begin by presenting its offer.

⁷ WT/ACC/1, 13(i).

Little wonder, then, that policymakers and scholars alike have expressed concern over the role of power politics in the accession process. As one study puts it, there are thus “no clear rules governing the ‘price’ of membership” (Evenett and Braga 2006).⁸ Given how the working party reaches its decisions by consensus, the fact that all states with whom the applicant enters into bilateral negotiations have an effective veto over its accession further decreases the bargaining power of applicant countries. This is especially true of small, poor countries that possess little bargaining leverage to start with. Samoa’s senior trade consultant voiced this very complaint during Samoa’s accession talks: “They [WTO Members] can ask for all sort of commitments which Samoa isn’t in a position to offer. If they insist, there are two options: we will never become a member or we have to give in to that request.”⁹ This reaction speaks to the fundamental difference between accession negotiations and multilateral talks during trade rounds. Whereas in the latter case, countries exchange reciprocal commitments, obtaining better terms by offering better terms, this process of exchange is absent from accession talks. The logic of reciprocity, the bedrock of the international trade system (Bagwell and Staiger 1999), is thus suspended during accession bargaining. To be sure, the benefits that the entrant receives from membership were originally reached through reciprocal commitments with other members, but it remains that the entrant cannot influence those benefits through the concessions it offers. The institution thus effectively presents the entrants with a “take-it-or-leave-it” offer.¹⁰ This aspect of the talks, coupled with the effective veto that all working party members retain over the entrant’s

⁸ Indeed, if anything, there is considerable emphasis on the ad hoc nature of accession negotiations, in a view to minimizing the setting of precedents: the content of the Protocol of Accession, being as it is the outcome of negotiations between a given applicant country and a given Working Party, is said to “reflect the particular case of the Applicant.” (WT/ACC/1, 14).

⁹ Interview with Tuala Falani Chan Tung, *Sunline*, April 2004, quoted in Stiglitz and Charlton 2005.

¹⁰ See Schelling 1956.

offered concessions, should lead to very different bargaining outcomes from those achieved under multilateral negotiations during trade rounds.

There is growing concern that the design of accession proceedings has therefore led to unfair accession terms, where entrants are imposed adjustments that appear stringent even by the standard of highly developed countries. Some scholars thus worry that the accession process may have created “a ‘second class’ of citizens in the WTO” (Cattaneo and Braga 2009, 12), beholden to tighter rules than what the original Members must abide by.

Importantly, the one-sided nature of the negotiations does not do away with differences in power *among* applicant countries. It is accepted that wealthier entrants have better knowledge of the proceedings, greater legal capacity,¹¹ and more skilled negotiators¹² than do poorer countries, who are thus at a greater disadvantage. For these reasons, Evenett and Braga (2006, 236) are left wondering whether “current WTO members wring commercial advantage out of weaker economic partners”. Indeed, all applicants face the one-sided nature of the negotiations, but poor countries are particularly ill-prepared for the power politics that emerge from the design of the proceedings. This lack of legal and negotiating capacity is precisely why critics have called on greater technical assistance to developing and least developed countries during accession negotiations (Stiglitz and Charlton 2005, 163).

Accession outcomes cannot be reduced, however, to state interests and negotiating ability. Indeed, there exists a longstanding norm at the WTO dictating differential treatment for developing countries and least-developed countries (LDCs). And this norm has been formally recognized in the context of accession on a number of occasions since the WTO’s inception,

¹¹ Similarly, Busch, Reinhardt and Shaffer (2009) show that the legal capacity of WTO Members strongly influences their likelihood of filing a dispute at the WTO.

¹² To cite a negotiator of the (ill-fated) Vanuatu accession negotiations, “There was very, very little preparation done. In terms of opening up the economy, which affected revenue, we were underprepared.” Interview cited in: Gay 2005, fn 47.

when Members have taken steps to “facilitate and accelerate negotiations” with LDC entrants.¹³

In 1997, a WTO High-Level Meeting concluded with a hortatory commitment for further support to LDCs in preparing their accession documentation and negotiations. A far more explicit statement to this effect was then made when the General Council reached a decision on the matter of LDC accession in December 2002. There, it was determined that “WTO Members *shall exercise restraint* in seeking concessions and commitments on trade in goods and services from acceding LDCs.”¹⁴ Such unprecedented language indicates a real effort on the part of the institution to adjust accession terms to the development level of country applicants.

The two factors affecting terms of accession thus appear at odds with one another. On the one hand, Members have the ability to coerce countries, especially poor countries with little bargaining capacity or knowledge of the stake of the negotiations, as a means of increasing their own market access.¹⁵ On the other hand, there exists a widespread norm of differential treatment towards these very countries, and that norm is formalized in WTO texts calling on Members to match concession demands with the development level of entrants. The existence of these competing considerations leads to a methodological challenge. If country wealth both increases expected adjustments required of entrants and lowers them, we must allow that its effect on the terms of accession may be non-linear. I explicitly test for this possibility in the analysis.

The existence of norms favoring differential treatment for LDCs is also the first step in answering an important question: since reciprocity is suspended, what keeps Members from simply demanding maximum concessions from all states?

¹³ WT/COMTD/LDC/11 Section (f) para. 18(iii).

¹⁴ WT/L/508, Section I, para 1 (emphasis added).

¹⁵ On the related notion of legal capacity, see Busch, Reinhardt and Schaffer 2009. There, the authors note that legal capacity corresponds to more than the number of available lawyers, but encompasses the “bureaucratic apparatus” required to understand governments’ rights and obligations, and managing their relations with the private sector.

First, the WTO is an institution that has long had concerns over its legitimacy, and one of the common ways of enhancing perceived legitimacy is to increase representativeness; enlarging the membership is one way of achieving this. The more countries are represented, the greater the perceived procedural legitimacy of the institution's policy outcomes (Clark 2005).

Secondly, expanding the membership also has more immediate material benefits. Though it is known that commitments are harder to make with a higher number of actors at the bargaining table (Olsen 1971), which may account for the slowdown in trade round negotiations since the earlier days of the GATT, a growing membership also helps the institution achieve its primary objectives: lowering the barriers to world trade and rendering them more predictable. Simply put, the more countries commit to lower barriers, the greater the possible gains from trade provided by the institution.

Crucially, demanding too high a price for accession risks forfeiting these benefits, by pushing away potential entrants, who become unable to sell the benefits of membership to their domestic audiences. This happened in the case of Vanuatu, which finally withdrew its accession bid following a 10-year accession process. Yet Vanuatu had much to gain from membership, since all its trading partners were WTO partners and seeking membership was thus an expected defensive move aiming to prevent trade loss (Copelovitch and Ohls 2009). Moreover, it would have been the first LDC to join since the WTO's inception, an important symbolic success for the institution. The reasons cited for the withdrawal are many, but it is generally agreed that the United States "extracted the maximum concessions possible" (Gay 2005, 3) from the country, thus undermining the pro-trade forces within Vanuatu and decreasing domestic support for

accession in the first place.¹⁶ The length of the process and the burden it placed on such a small country was thus a major factor in that country's decision to walk out on accession talks. It is difficult to assess the impact of the decision for the WTO's perceived legitimacy, but it appears likely that given the attention the event has drawn, it was hardly worth a marginal increase in market access to a small least-developed Pacific island country.

A final reason for which Members may exercise restraint in the demands they make on entrants, and a somewhat more subtle one, is that it may not be optimal, from the point of view of prospective compliance, to impose adjustments that are too burdensome for a developing economy to implement and abide by. Recent work has shown that exogenously increasing a country's trade commitments drastically increases its likelihood of using trade remedies and blowing protectionist steam elsewhere (Bown and Tovar 2008; Busch and Pelc 2009). In fact, the very concept of the depth of integration, in Downs, Rocke and Barsoom's seminal article, was conceived to explain why countries would breach their obligations: the deeper their commitments, the more profitable noncompliance becomes. Since the whole institution suffers from an increase in noncompliance, if only through the unpredictability it creates, not to mention possible "contagion effects" (Pelc 2009), demanding overly ambitious adjustments from entrants may destabilize the institution in the long run.

The upshot is that demanding too high of an entry price, in terms of market access, can backfire against incumbent Members, who thus need to be selective in the demands they make. Accession to the WTO, as with any international treaty, leads to distributional effects, and thus never enjoys full support domestically. State leaders need to sell the move to their constituencies.

¹⁶ Vanuatu was also imposed exceptionally short transition periods for customs valuation, a two year transition period for TRIPS commitments, and export subsidies on agriculture capped at zero (Stiglitz and Charlton 2005, 162-163).

If the required adjustments are too high, or perceived as unfair, this task is made much more difficult, and accession less likely.

The Benefits of Accession

Whether states gain or lose from WTO membership is the subject of a growing literature, and outside the scope of this article. Here, I only address the question summarily to demonstrate that there exist benefits counterbalancing the adjustments required of new entrants, especially in the realm of market access, despite the lack of real bargaining.

Members apply to join the institution of their own volition, and yet, there is much skepticism about whether the benefits of membership, especially in terms of market access, are real. This skepticism is founded on the knowledge that many WTO members, the United States among them, extend market access to non-members as well (Drabek and Bacchetta 2004). These authors argue that in terms of market access, the benefits of accession are reducible to increased certainty of existing concessions: the status quo gets locked in, rather than improved upon.¹⁷ And to be sure, greater predictability of concessions, and thus decreased volatility of trade flows, are undoubtedly a key function of multilateral trade institutions.¹⁸ Furthermore, stability is also achieved through another channel that evades non-members: by entering the institution, states acquire the ability to challenge the trade actions of their trading partners when the latter run afoul of their obligations. The ability to do so, by itself, works as a deterrent, decreasing the likelihood that a country's rights will be flouted in the first place (Busch 2007).

¹⁷ The US has long extended MFN status to China, to be reaffirmed annually by Congress. While there is little work on the removal of MFN status to non-Members, we know that in the case of the generalized system of preferences (GSP), another form of unilaterally decided preferences, rich countries tend to remove preferential access exactly when a country's exports begin to grow (Ozden and Reinhardt).

¹⁸ Mansfield and Reinhardt 2007; Francois and Martin 2004 (World Trade Report 106).

Contrarily to some recent claims,¹⁹ however, the advantages of membership are by no means limited to greater predictability and access to a dispute settlement panel, no matter how important these may be. A simple test reveals that despite the great powers often extending MFN status to non-members, enough trading partners do not do so. Again, this test remains agnostic about whether these reciprocal policy changes lead to increased trade; an ongoing debate deals with this issue, and it remains separate from the question examined here, which is about policy alone.²⁰ As can be seen in Table 1, which shows effective applied trade-weighted tariffs for countries before and after accession, market access is on average much improved as a result of joining the institution. This, it turns out, is also true of China, which is usually taken as the example of the country that bought itself greater predictability, rather than better terms, by joining the WTO.²¹

[Table 1 about here]

Entrants thus gain real market access when they join, though they do not gain any more (or less) of this market access if they offer more (or less) concessions of their own. They are faced with a “price” of accession (Evenett and Braga 2006) that has no immediate link to what they gain as a result. The rest of this paper examines the variation in this price of accession across entrants.

De Jure vs. De Facto Depth

The notion of depth of integration, as per Downs, Rocke and Barsoom (1996) is based on a counterfactual: how does a state’s behavior within an institution differ from how it would have

¹⁹ E.g. Cattaneo and Braga 2009.

²⁰ See Rose 2005, Goldstein, Rivers and Tomz 2007, Gowa and Kim 2005, Subramanian and Wei 2007. The debate continues: see Gowa 2009.

²¹ This was the case for China-US bilateral trade.

behaved in the absence of that institutional commitment? This question is empirically difficult to tackle for reasons that are quickly apparent.

In the case of human rights treaties, for instance, it becomes nearly impossible to judge what a country's behavior towards its citizens would have been had it not signed a given treaty. And yet, the concept of depth remains useful. It leads us to consider treaties as imposing varying adjustment costs on their signatories. All institutional commitments are not created equal, and so compliance should not mean the same thing across different institutions. And while the original Downs, Rocke and Barsoom (1996) work differentiated only among treaties, the same concept can be readily applied to different members of the same international organization. Some members may be made to make greater and more costly adjustments than others. In the case of multilateral negotiations, where everyone's commitments are set simultaneously, countries are wary of making relatively greater adjustments than their trade partners. Variation in the price of entry is thus minimized. Those for whom the same absolute level of commitment is cheaper, for any reason, are often expected to make greater commitments.²² The debate between developed and developing countries over the curbing of CO₂ emissions, where the level of commitments may differ according to the level of industrialization and technology, is a case in point.²³ The process of WTO accession does not lead to this natural leveling of commitments. There is, in other words, no baseline setting the price of entry, which is shaped in an ad hoc fashion by the interests of the working party countries for the case at hand.

²² This relates directly to two-level games: domestic weakness (strength) can lead to greater strength (weakness) at the international level (Putnam 1988).

²³ Since the Kyoto Protocol strove for a common emissions abatement level for all countries relative to a baseline year, those countries that had grown dirtier (cleaner) since the baseline year effectively had to make smaller (greater) relative adjustments in present-day terms. The approach changed notably with the Copenhagen Accord, which shifted the approach from a common baseline to the equivalent of reciprocal commitments. See Ghosh (2010).

As is most often the case in social science, the counterfactual cannot be assessed with certainty. It may be, for instance, that if seeking institutional membership is itself a sign of changing preferences towards reform, then even absent the institution, some degree of reform would have been pursued through other means. The long waiting period at the institution's door, however,²⁴ may be a boon to the scholar in this case. Once an applicant country initiates the process, its length can vary widely, and is determined in major part by working party deliberations, and thus out of the applicant country's hands. As a result, the timing of the accession point is further exogenized, and somewhat disconnected from changing country preferences over trade. And while endogeneity can never truly be avoided, the case of multilateral trade institutions offers us an apt proxy for the counterfactual to membership. Contrarily to other issue-areas, such as human rights, in trade there exist highly disaggregated, product-level data charting countries' behavior prior to entry.²⁵ Looking at per-product tariff protection before accession thus offers the most reliable estimate of the type and level of protection a country would have been applying after the point of accession, had it not been for the institution. There may be some concerns about countries adjusting their tariff regime in view of accession; I address this issue at some length in the analysis section below.

For now, the concern is to relate the depth of an agreement to what scholars of WTO accession have been calling the price of entry. Indeed, even as there is growing consensus that countries only benefit from membership if they liberalize themselves (Subramanian and Wei 2007), the price of entry must be viewed in political terms. Accession has distributional consequences, favoring some interest groups over others, and the price of entry is commensurate

²⁴ This period averages 7 years in the data.

²⁵ Indeed, in the case of many institutions, the measuring of outcomes (e.g. human rights violations) only begins once the institution is in place, as part of a monitoring mechanism. In many cases, this provision of information is the main observable benefit of these institutions. Tariff rates and accession to the WTO are thus an anomaly in this way.

with the total level of adjustment required of these domestic groups. The greater the tariff abatement demanded of a country, the greater the short term costs it imposes on its constituency. Countries join the institution of their own volition precisely to facilitate and lock in domestic market reforms and to gain market access in turn. And yet, given interest group dynamics, it remains that the price of entry is viewed in terms of how great an adjustment to its trade regime a country is required to make. That is why reciprocity is regarded as such a fundament of the multilateral trade regime. Owing to domestic political economic dynamics, only by getting can a country offer in turn, rather than the other way around. The complaints of developing country accession negotiators, as in the above-quoted case of a Samoan negotiator, support this belief. The price of entry becomes too high when the required adjustments become too burdensome.

However, in this case, depth is not one-dimensional. It turns out that the commitments the WTO asks of entrants, as well as of existing Members during the Uruguay Round, does not necessarily equate with the subsequent behavior of those countries. The effective result of accession negotiations (and trade rounds) is a list of bound tariff rates, which function as the ceiling for protection on a given product. However, countries need not, and most often do not, apply protection at that maximum level. Indeed, in more than 69% of all tariff lines in the sample, the maximum allowable rate of protection is not reached,²⁶ leaving a gap referred to as “tariff overhang”. Hence, there are two ways of measuring depth in the case of accession, each with a different interpretation. The first is the difference between the applied rate on a given product prior to accession, and the bound level for that same product following accession. I refer to this as *de jure* depth, or the extent to which legal commitments curb behavior. The second measure, which I refer to as *de facto* depth, corresponds to the effective change in behavior: the

²⁶ Specifically, this corresponds to the percentage of tariff lines that exhibit a 1% or greater gap between the applied MFN tariff and their bound rate for a given product.

difference between the applied rate on a given product before accession, and the applied rate on that same product following accession.

Naturally, the two measures of depth are not unrelated: Ecuador was given such lax treatment by the institution (an average de jure depth of -9 percentage points in the data, compared with -2 percentage points for the average country) that it could afford to “raise its applied tariffs across the board in the years after WTO accession.”²⁷ Low de jure depth may thus allow for low (and in this case, negative) de facto depth.

Theoretical expectations, however, need not be analogous in both cases. If Members expect that a country would apply a low rate whatever the bound, they have less incentive to press hard on the country to bind its tariff for that product, given that exerting pressure on an entrant, as demonstrated above, is not costless. Conversely, if a country is made to cut its tariffs to a high degree, it has a natural incentive to levy applied duties as close to that maximum level as possible, in order to recoup tariff revenue, and minimize the adjustment required of domestic groups. Both these dynamics are examined in the analysis.

Who Pays More?

The accession of an entrant is not without consequences for Members. Even those states that extend MFN status to non-members must suddenly keep to those low rates of protection, at the risk of being brought to dispute settlement. They no longer have unilateral control over their trade policy vis-à-vis the entrant. Just as the entrant country must sell membership to its constituents, so too must existing members sell the new entrant to their constituents. In the case of important entrants such as China, there is often much domestic resistance on the part of import-competing industries that fear competition. Little can be done about directly alleviating

²⁷ Evenett and Braga 2006, 237. Unsurprisingly, this resulted in a fall in imports.

the concerns of industries fearing a surge of cheap imports from a new entrant (except precisely in the case of China, where special safeguards were written in, and subsequently exercised, as part of China's accession package).²⁸

What Members can do, however, is balance the discontent on the part of import competing sectors by touting the benefits of increased market access to their export-oriented industries. Indeed, the biggest winners of the process of accession are perhaps the exporters within existing Member countries that now gain "free" access to the entrant's domestic market. The more valuable that market access, then, the more export interests it will mobilize, and the higher the domestic pressure on Members to push for greater adjustments on the part of the entrant. Hence, and counter to expectations in a classic bargaining setting, the more one has to offer, the more one is required to give, since no reciprocity exists to balance the value of what one has to offer with the value of what one gets for it. In sum, pressure from Members to adjust tariff rates downwards is in proportion to the size of a sector's or a country's imports market.

Indeed, we would expect that the same effect would pertain at both the country and the sector level. Export-oriented industries in Members' constituencies would mobilize in order to open specific valuable sectors in the entrant's markets. If an entrant has many such valuable markets, that is, if it is overall heavily reliant on imports, then it will face high pressure to open many industries, resulting in a higher overall level of de jure depth of integration.

Importantly, state behavior is not wholly dictated by the institution upon accession. Both in the case of existing Members and new entrants, countries retain considerable flexibility in their setting of protection rates despite their WTO commitments. To wit, looking at the data on recent entrants, the bound rate for a given product is on average 2.1 percent *higher* than the

²⁸ Beyond the inclusion of special safeguards, China had to agree to be designated a non-market economy for 15 years (Michalopoulos 1999, 201) with the disadvantages with regards to antidumping this entailed.

applied rate on that product prior to accession. In other words, de jure depth is on average negative. This is not to say that accession deals have little meaning, or that they are easy to comply with. Some tariff lines—and as the argument entails, the choice of these is endogenous—are significantly cut by bound rates. But more to the point, and in keeping with recent literature, a key function of institutional commitments in trade is the provision of stability, and the reduction of trade volatility (Mansfield and Reinhardt 2008). There is evidence to show that the lack of such certainty acts as a tax on trade, just as a tariff might (Pelc 2010). Ensuring “security and predictability” —an objective enshrined in the WTO texts—is thus as important a goal for trade institutions as is reducing average imports barriers. Credible commitments serve to imbue a country’s trade regime with certainty, which is a boon for traders and investors.

What this means in practice, however, is that within the constraints imposed upon them by the institution, acceding countries have some wiggle-room in which to operate. They can choose to max out their protection within the allowable bounds of the accession deal, or they can keep their applied rates lower than the bound, and retain some flexibility for dealing with unexpected future circumstances. The theory presented here thus also allows us to conjecture about which countries and sectors are most likely to exercise their flexibility by raising their applied rates to the bound, and which are likely to keep their applied rates at lower levels, and retain some flexibility to deal with future contingencies.

Given that, as demonstrated above, pressure on entrants still comes at a cost, and cannot be applied in an unrestricted fashion, I hypothesize that Members will aim to reduce precisely those tariffs that are least likely to be reduced otherwise. What this also means is that in places where there most pressure is exerted, there is likely to be most reaction against that pressure. Partly to recoup lost tariff revenue, and partly because these are likely to be the most politically

sensitive areas, the very countries and sectors imposed the greatest legal adjustments will be the ones in which applied rates will be set closest to their legal ceilings.

Since the literature tells us that one of the main functions of trade institutions is to lock in, and not only abate, existing commitments, this does not necessarily constitute a negative development. The argument suggests that this locking-in role (as opposed to a straightforward abatement role) will be most pronounced in precisely those countries and sectors which are most valuable as export markets. Member country exporters will thus not necessarily get as big a drop in tariffs as they would desire, but they will face far greater certainty in these sectors. In other words, flexibility will be “spent” by entrants most frequently in those industries that are most valuable as export markets, and the wiggle-room that leads to unpredictability will be lowest in those industries as a result. The above reasoning leads to the three following hypotheses:

1. If a country, or a sector within a country, is a valuable export market prior to accession, then it will face higher de jure liberalization.
2. In an effort to compensate the required adjustments, controlling for de jure depth, those countries and sectors that are most valuable as export markets will observe lower de facto liberalization following accession.
3. As a result of the two first hypotheses, tariff overhang, or the degree to which a tariff rate can be raised within the legal confines of an agreement, is likely to be lowest in the case of those countries and sectors that are most valuable as export markets.

Operationalizing the Dependent Variable: Depth of Integration

The key to the analysis rests in employing the difference between pre-accession applied rates and post-accession bound rates, and of that between pre-accession applied rates and post-

accession applied rates, as measures of depth of integration. The first I refer to as de jure depth; the second as de facto depth. Both correspond to different ways of viewing the degree of adjustment required of states upon accession. This is in keeping with the classic notion of depth (Downs, Rocke and Barsoom 1996), which rests on an implicit comparison with the counterfactual, namely: state behavior in the absence of the institution. Usually difficult to get a handle on empirically, the strategy used here is to proxy for this counterfactual by looking at rates of protection for a given industry prior to accession.

This approach, as some have noted, is not without its flaws. Cattaneo and Braga (2009), for instance, argue that given how in some cases, liberalization efforts are undertaken in preparation for accession, rather than solely as a result of it, it is unclear what the “pre-accession” reference period ought to be. These concerns are legitimate, yet taking a closer look at the data can put some of these fears to rest.

To begin with, this is the type of data issue that is alleviated in part by employing more data. The longer the reference period prior to accession, the lesser the bias caused by any pre-emptive liberalization. Here, I use a maximum number of pre-accession and post-accession years to account both for pre-emptive liberalization, and post-accession implementation delays.²⁹ In this way, more recently available data allows me to present a fuller picture than was possible before.

More to the point, however, we have reason to believe that the degree of pre-emptive liberalization, in all but one case, has been relatively small. Indeed, comparing pre-accession terms and post-accession terms, one notices a highly statistically significant difference across the board, suggesting that despite possible anticipatory reforms, a big drop in protection rates does

²⁹ The use of data is only limited by data availability. I use an average of three pre-accession years, and more when the data is available, as it is in the case of China.

occur at the point of accession. Looking at the data employed in the analysis, the average drop in the level of protection during accession is 17.6% [16.3%, 18.7%].³⁰ Moreover, since the analysis is concerned with variation in depth of integration among different countries all going through the same process—and thus facing similar incentives to anticipate accession talks with early reforms (or not)—there should be less concern that there is any systematic bias in the data. In other words, the importance of factors influencing depth of integration is examined strictly in reference to other entrants.

Finally, the very notion of pre-emptive abatement is questionable. If anything, the incentives of countries point in the opposite direction: to maximize bargaining leverage, a country would leave its barriers high and only abate them as a condition of gaining entry. The lack of a baseline level for post-accession rates reinforces this incentive, since entrants benefit from portraying any liberalization as directly resulting from the accession deal. Along these lines, what we know of the negotiated outcomes should also serve to reassure us. Little is made of implementation periods of bindings, but as it turns out, 35% of tariff lines in new entrants' tariff schedules remained unbound on their first day as WTO members, to be implemented at a (sometimes much) later date. The existence of these hard-won implementation delays would suggest that countries are not likely to give away concessions for free prior to accession.

The case of China may be an exception in this regard, since China faced an uphill battle in convincing apprehensive Members that its accession would be beneficial in the first place. As such, it had to demonstrate goodwill in abating barriers in the run-up to its accession negotiations. And even here, looking at the data, China's depth, in both de jure and de facto measures, is the highest in the sample of 19 countries, which matches what we know anecdotally

³⁰ 95% Confidence intervals based on a t-test between average applied rates during pre and post accession reference periods. These correspond to the percentage drop in protection, rather than the absolute change in the tariff rates, which is on average 1.77%.

of its accession deal. In other words, any pre-emptive liberalization China offered does not appear to significantly reduce the observable depth of integration it displays, as defined in this paper.

Overall, then, while it is not possible to dismiss concerns about a bias in the data due to pre-emptive liberalization entirely, the availability of more data, and our knowledge of the accession process should serve to dispel some of these concerns. The data remain imperfect, but appear, in all respects, useful to the task at hand, which is to explain variation in the price of accession paid by different WTO entrants.

[Table 2 about here]

I thus average tariff rates across a pre-accession and post-accession reference period, producing a cross-sectional panel. The year of accession itself is not counted in either period. Throughout, I use simple (unweighted) tariff rates, in order to avoid the downwards bias which occurs when using tariffs weighted by trade flows: in the case of prohibitive tariff, imports would be nil, and the tariff line would receive no weight in the aggregation (Ingo 1997). Importantly, however, using weighted tariffs instead, as I do in the robustness checks, does not substantively affect any of the findings. The data cover 13 years of accession deals since the WTO's inception, from 1995 to 2008. Cape Verde is the most recent entrant, for a total of 19 countries. The unit of analysis is that 6-digit product level tariff line, making for a sample of 82 362, with some variation in size due to missing values for control variables. It is worth noting how the sheer length of the process of accession alleviates any self-selection concerns. With 153 Members, and 29 more countries currently waiting at the door of the institution, a negligible number of countries have "opted out" of the multilateral trade regime altogether. Whether a country joins or

not is thus more a matter of economic criteria and incumbent Member interests than a question of willingness on the part of potential entrants.

Analysis

I test each of my three hypotheses first on a ordinary least squares (OLS) regression with key explanatory variables at the country level, and robust standard errors clustered by country; and secondly on a country fixed effects panel regression with all explanatory variables at the country-product level. In the case of the first hypothesis, I thus estimate the OLS model:

$$\begin{aligned} (MFNpre_{ij} - BNDpost_{ij}) = & \beta_0 + \beta_1 (MFNpre_{ij}) + \beta_2(\log imports_i) + \beta_3(\log exports_i) + \beta_4(\log GDPcap_i) \\ & + \beta_5 Regime_i + \beta_5 X_i + \varepsilon_{ij} \end{aligned} \quad (1)$$

for sector j in country i, with X_i a vector of controls for country i. I then test the same hypothesis using a country fixed effects panel estimation, with all right-hand side variables at the product level:

$$(MFNpre_{ij} - BNDpost_{ij}) = \beta_0 + \beta_1 (MFNpre_{ij}) + \beta_2(\log imports_{ij}) + \sum_i \delta_i Country_i + \varepsilon_{ij} \quad (2)$$

The explanatory variable of interest is a measure of the value of imports for a given product or country. I measure this as the log of total imports, in US constant 2000 level dollars. For symmetry, and to ensure that the imports variables are not merely catching the extent of overall trade activity, I also separately control for exports (also coded as the log of US constant 2000 level dollars), though I am agnostic about the sign of the coefficient.

The reference period for imports and exports, as well as for all other controls used, is the year prior to accession, to reflect conditions as the time the final deal was achieved. Using an averaged measure across all reference years for the “pre accession” period instead, however, does not affect any of the results. The data on both GDP per capita and trade flows come from the World Bank’s World Development Indicators (WDI).

The most important control variable corresponds to the applied rate of protection prior to accession, MFNPRE. Hence, whenever looking at depth of integration, I control for the “starting point” from which an adjustment was required. Beyond getting at the intuitive notion that high rates will be cut the most in absolute terms, the inclusion of this variable also seeks to remedy the main drawback of proxying for valuable market access using existing imports. Indeed, in the case of a prohibitive tariff, protection rates would so high as to block imports altogether. Controlling for the rate prior to accession gets at these prohibitive tariffs; it is also the reason why the rate used here is a simple, rather than a trade-weighted average. One would thus expect the sign on MFNPRE to be positive: when the prior rate is higher, a deeper cut is expected. The data on all tariff rates come from the World Integrated Trade Solution (WITS).

Throughout the analysis, I control for regime type, which is expected to play an important function. Much scholarship suggests that democracies exhibit both a greater need to bind themselves, since they are beholden to powerful interest groups, and a greater ability to make such commitments and keep to them.³¹ Moreover, regime type may in some way proxy for the need to self-bind through trade agreements. While one function of agreements is to limit beggar-thy-neighbor policies, such tariff abatement is, after all, to the entrant’s benefit, in that it reduces market distortions. The second benefit of trade agreements is thus widely seen as the ability to reduce the domestic costs of denying distortionary protection.³² And democracies are more likely to need to tie their hands to achieve such abatement than countries less beholden to domestic constituencies. As a result, one would expect that both in de jure and de facto terms, democracies would exhibit greater depth of integration, and that the coefficient would thus be consistently

³¹ Mansfield, Milner and Rosendorff 2003.

³² Hudec 1987.

positive. The data on regime come from Polity IV, and are coded on a 21 point scale from -10 to 10.

I also ensure that all regressions are robust to the inclusion of a dummy for China, since all analyses to date agree that the case of China's entry stands apart, and was beholden to different norms. This dummy is coded as 1 for all observations with China as the country, and 0 otherwise. Knowing what we know of China's accession process, we would expect the coefficient on this dummy to be consistently positively signed (Adhikari and Yang 2002). I also include a dummy for LDCs, as defined by the United Nations, to get at the belief that poorer countries benefit from restraint on the part of Members in the required concessions. Finally, I consider the effect of the number of years into the WTO at which a country entered, to test the belief that the terms of accession are getting progressively more stringent (Michalopoulos 2000).

In checking the models' robustness, I include other control variables, such as total aid, as a measure of development assistance, which may proxy for the norm of differential treatment towards developing countries, and would thus be expected to have an inverse relationship with de jure depth, and the number of preferential trade agreements (PTAs) a country is party to. A summary of all variables used is presented in Table 2.

While my unit of analysis throughout is the country tariff line, I run ordinary least-squares when considering country imports, and fixed country-effects specifications when looking at product imports. Additionally, I run these regressions on sub-samples of the data, and a generalized additive model (GAM) using un-weighted rates, to test for potential non-linearity in the results. I go into greater detail about the models used below.

Findings

The paper's main hypothesis considers the effect of a country's or an industry's value as an export market for existing Members on the degree of adjustment required of that country or industry during accession negotiations. In this case, the belief is that given the design of accession negotiations, the more one has to offer, the more one is asked to concede.

I first test this hypothesis looking at imports at the country level, using an ordinary least squares regression with robust standard errors and clustering by country-product. My dependent variable is *de jure* depth, or the extent to which legal limits negotiated during accession require a country to cut its pre-accession protection rates for a given product. My main variable of interest is the logged value of country imports. I control for the MFN applied rate prior to accession, as well as logged GDP per capita, logged exports, and regime type.

[Table 3 about here]

The results, shown in the first column of Table 3, support the paper's expectations. Most noticeably, countries exhibiting high import levels and thus representing valuable exports markets are made to bind themselves more deeply. Conversely, export oriented countries seem to have no effect on depth: the coefficient for logged exports is negative, though less substantive and significant than the coefficient for imports. In substantive terms, raising imports by one standard deviation, while holding all other variables at their mean, raises *de jure* depth of integration from -1.96% (meaning bound rates do not, on average, cut into prior applied rates at all) to 8.18%, a considerable increase.

As expected, income has a strong positive relation to *de jure* depth. Wealthier countries may be more valuable as export markets overall, and they are not affected by the formalized norm according to which smaller economies are required to make smaller adjustments. Also as expected, a high applied rate prior to accession leads to a much greater adjustment. In this sense,

the accession process does seem to normalize rates: the highest rates get cut the most. Finally, it appears that democracies not only exhibit a greater likelihood of joining trade institutions in the first place,³³ but also take on greater formal constraints when they do so: regime type is strongly and positively associated with de jure depth of integration. All these findings are significant at the 0.01 level.

In the second column of Table 3, I add a dummy for LDCs, a variable indicating how late the country joined the institution, and a dummy for China. Once again, the size of imports has a strong positive effect on de jure depth of integration. Moreover, the additional controls follow expectations: China, as per anecdotal evidence, is made to bind itself considerably more than other countries, demonstrated by the positive and significant coefficient on the China dummy. Offering support for some criticisms voiced in the literature,³⁴ it appears that the later a country joins, the more stringent the adjustments required of it. Finally, LDCs are made to bind themselves considerably less tightly. This last finding offers some further reassurance that the norm of exercising restraint with regards to demands made of developing countries is being abided by.

Do these beliefs hold at the product level, as theory would suggest? Considering within-country variation, do sectors that are more valuable to Members as export markets face a higher price of entry? I answer this question using a country fixed-effects model, shown in the third column of Table 3. This allows me to control for a number of country characteristics that may not be covered by the controls in the preceding specifications. It also precludes the need for a dummy for China, or for any other country. My dependent variable thus remains the same, but the main explanatory variable is now the logged value of imports for a given six-digit product.

³³ Mansfield, Milner and Rosendorff 2003.

³⁴ Michalopoulos 1999.

The only additional (product-level) control is the applied rate prior to accession on a given product.

Here again, the effect of imports remains: those products that were more heavily imported prior to accession are imposed greater *de jure* depth during accession negotiations. More importantly, it is not only countries, but also the industries within them that are beholden to the rule that the more one has to offer, the more one is asked to concede: once again, the coefficient on the applied rate prior to accession is positive and significant.

Next, I go on to test my second hypothesis, according to which countries, and the sectors within them, exercise some targeted push-back against demands formulated during negotiations. I hypothesize that it is precisely those countries and products that were targeted for the deepest adjustments that will try to compensate those demands by using up their flexibility and raising tariffs closer to legal ceilings. To test this belief, I begin by running the same basic OLS specification as in Table 3, this time with *de facto* depth as a dependent variable.

Strikingly, while the effect of market size, regime type, and prior applied rates remains the same, the imports effect in the first column of Table 4 has gone down considerably, and is less significant. In the second column, conversely, where I add a China dummy and an LDC dummy, the effect of imports becomes *negative*, though substantively very small. Finally, in the last column, where I rerun the same fixed effects model as in Table 3, the effect of imports is positive, though effectively close to zero.

What takes place between Table 3 (looking at *de jure* depth) and Table 4 (looking at *de facto* depth) is a reaction by entrants to high required adjustments through an exploitation of tariff flexibility. Entrants seek to counteract the legal demands put on import dependent sectors by raising tariffs to their allowable ceiling. Moreover, it may be that the effect operates in both

directions. Indeed, it is plausible that since demands during negotiations are costly, Members would selectively target the greatest adjustments precisely in those markets where they think such adjustments are least likely to occur otherwise, and where they are thus most likely to encounter resistance. The results in Table 4 illustrate precisely such resistance at work. Finally, in the fixed effects product-level model, the effect of the imports sector remains significant, but drops considerably in magnitude. And while Hypothesis 2 predicted a negative effect for imports on de facto depth, the insignificant effect in the OLS estimations and the drop in magnitude of the coefficient in the fixed effects model demonstrate the expected shift from de jure to de facto depth.

The key to understanding this shift is that average de jure depth is lower than one might expect. In other words, even when Members require significant adjustments of entrants, they still leave entrants considerable flexibility. This flexibility, it should be noted, is even greater in the tariff schedule of Members themselves.³⁵ In this case, such wiggle-room appears to then be exploited most on those very products that are most valuable to Members' domestic interests.

I test this latter belief more directly in Table 5. If entrants react to the greater legal demands put on import-reliant sectors by raising applied tariffs up to the bound, then we should expect that looking post-accession, those same sectors should exhibit least flexibility: they should have the lowest tariff overhang. If this is the case, this paper presents a first cut at a puzzle which has thus far eluded the literature: what explains the variation in overhang between countries, and among the sectors within them? While the conventional wisdom argues that the variation is reducible to development level, this is a partial explanation, at best.³⁶ Here the hypothesis is that variation in overhang among post-1995 entrants is attributable in great measure

³⁵ Indeed, the average tariff overhang for all Members is 17% (Busch and Pelc 2010), while it is only 4.5% on average for entrants in the data.

³⁶ Many developed countries, Norway and South Korea among them, exhibit considerable overhang (Pelc 2009).

to Members exerting pressure on valuable export markets, and entrants reacting to this pressure by “spending” flexibility and raising applied rates to the bound in those same sectors.

To test this belief, I thus use tariff flexibility as my dependent variable, coded as the difference between bound and post-accession applied rates, and use much the same order of specifications as in Table 3 and 4. In the first column, I control for GDP per capita, exports, and the applied rate prior to accession, regime type, and dummies for China and LDCs. In the second column, I run a country fixed-effects model, with logged imports for a given product as the independent variable of interest, and the prior applied rate as the only other control. In both specifications, the same result obtains. The higher the value of imports, however defined, for a country or a sector, the lower tariff overhang. Countries and industries that are targeted for deeper adjustments counteract these demands by digging into tariff flexibility. As a result, those countries and sectors that are most valuable to export oriented interests in Members’ constituencies do not necessarily exhibit greater market access; they do, however, exhibit greater predictability.

There may be some concern that if, as mentioned above, not only do entrants react to the constraints imposed upon them, but Members also pre-empt such reactions when choosing which sectors to target, then the two are being set simultaneously. To account for this possibility, and to see whether this would change any of the results, I run a seemingly-unrelated regression model (not shown in the tables, but available from the author) with de jure depth and de facto depth as the two dependent variables. As before, I control for logged GDP per capita, regime type, dummies for China and LDCs, and the prior applied rate. The findings remain entirely unaffected: imports increase de jure depth substantively, but actually have a negative (though substantively weak) effect on de facto depth.

Accounting for Non-Linearity

A corollary of the argument is that the effect of country wealth may be non-linear. This expectation flows from the way in which wealth could have both a positive effect on de jure depth (through the lower negotiating capacity of poor countries, something small country representatives have claimed is exploited by Members during negotiations)³⁷ and a negative one (through the formalized norm against demanding overly burdensome concessions of poor countries). If both effects do not offset each other perfectly, then we might expect some non-linearity. Here I examine this possibility further, both to check the robustness of the above findings to such curvilinearity, and to glance at the true effect of wealth on depth of integration, which has been the topic of much debate in the literature. To do so, I first quickly verify the effect of adding a GDP per capita quadratic term as a plausibility probe (not shown). When added to the basic regression with de jure depth as the dependent variable (since I am interested in the demands put on the entrant by the working party), the quadratic term is negative and highly significant, and increases model fit, while none of the other variables are affected. Since this first approximate test supports the possibility of non-linearity, I go on to test the true effect of wealth using a generalized additive model (GAM). GAMs are valuable in that they allow us to relax the linearity assumption without forsaking interpretability of the results.³⁸

Once again, de jure depth is the dependent variable, and I control for the usual set of variables. The results are shown in Table 6. First, allowing for non-linearity, the average effect (the “linear coefficient” of the GAM) of imports is positive and significant, as per all previous

³⁷ See *supra*, on Samoa.

³⁸ The great flexibility of GAMs is also their main weakness. One common concern with GAMs is therefore the possibility of over-fitting, whereby the model is made overly complex and begins accounting for too much noise. To address this possibility, I use only three degrees of freedom, which given the size of the data, should limit concerns of over-fitting.

findings. The same is true for GDP per capita, but that variable also exhibits the largest “gain” of any variable in the model, which corresponds to the normalized difference between an ordinary linear model and the GAM for that specific predictor. In other words, the linearity assumption is most severely violated in the case of GDP. The non-linear effect becomes most apparent in the graph drawn from this specification, shown in Figure 1, which charts *de jure* depth on the vertical axis, and wealth on the horizontal axis. The results follow the interpretation of the quadratic term included above. The first thing to note is that the poorest countries do seem to be benefiting from restraint on the part of Members. And this norm of behavior does seem to hold in the face of the negotiating weakness of those countries at the lowest development level. The relationship changes further along the wealth axis, where the middle-income countries seem to be imposed greater adjustment costs than the wealthiest countries. No longer benefiting from the norm of restraint, but lacking the negotiating acumen and legal expertise of the wealthiest countries, the middle-income entrants appear to be the worse off. That being so, the results should serve to ease the fears of critics who worry that Members may be “wring[ing] commercial advantage out of weaker economic partners”.³⁹ The poorest of countries, such as Nepal, Cambodia, and the Kyrgyz Republic, do not appear to be exploited, in spite of their limited bargaining capacity. Counter-intuitively, it is countries that are somewhat better off, such as Ukraine, that are being imposed the highest relative adjustment costs, controlling for other factors.⁴⁰

³⁹ Evenett and Braga (2006, 236). In a similar vein, Steinberg (2002, 367) finds that there is no evidence that “normative considerations have thus far precluded the eventual equilibration of outcomes with power”.

⁴⁰ It is important to recall that the sample does not include those poor countries that were unable to changes the demands required of them by accession working parties. In other words, this sample does not contain the Vanuatus, or the countries that remain stalled in negotiations. There may be some selection at work, for which we cannot control, given the lack of data on accession demands made before a country becomes a Member.

Conclusion

As multilateral institutions undergo what has been described as a crisis of legitimacy,⁴¹ scholars have been taking a closer look at the deal new entrants—usually developing countries—get upon accession to these institutions. In this way, the price of entry may be what determines whether the WTO will be viewed as a “country club”,⁴² or as a legitimate tool of global governance. Looking at the tariff rate adjustments required of countries upon entry, this paper enters the debate by asking why some countries emerge from accession negotiations with a better deal than others.

An important caveat should be made about the scope of the findings. This paper deals only with the price of entry countries paid in terms of tariff concessions. But in the post-Uruguay trade regime, accession terms cover a breadth of issues beyond tariffs. It thus remains up to future research to examine whether the effects identified in this paper would hold for concessions over export subsidies, intellectual property standards (under TRIPS), or concessions on services (under GATS).⁴³

In trying to explain variation in the price of accession among entrants, the starting point of the argument is an examination of how the design of WTO accession negotiations suspends reciprocity, which is at the basis of the international trading system. Indeed, acceding countries are unable to influence their gains from accession by granting either greater or lesser concessions. As a result, the shape of accession deals is largely driven by the interests of the WTO Members who enter into bilateral negotiations with applicant countries. Specifically, the greater the value of market access from the point of view of export-oriented interests in

⁴¹ Stiglitz and Charlton (2006); Steinberg 2002.

⁴² The expression comes from Gowa and Kim 2005, who find that the trade benefits from the GATT/WTO are limited to the biggest Members.

⁴³ See Stiglitz and Charlton (2006) on how least developed countries were required considerable concessions on these issues.

Members' constituencies, the more pressure these interest groups are likely to exert on their own governments, and the greater will be the requirements the latter will impose on entrants.

Outcomes from negotiations are thus in stark contrast to what they would likely have been under multilateral bargaining during a trade round. In the case of accession, the more a country has to offer, the greater the concessions required of it.

Moreover, entrants react by raising the applied tariffs of the very industries that are targeted by Members closer to their bound levels. As a result, in these valuable sectors, the net effect of accession is negligible in terms of market access, but very significant in terms of the predictability of this access. This result mirrors recent claims according to which trade institutions not only provide market liberalization, but also greater market stability. Here, such stability is achieved in precisely the sectors that are of greatest value to export-oriented firms in Members' constituencies.

Finally, the analysis allows for non-linearity in the effect of wealth on the depth of liberalization. Though some scholars have been voicing concerns to this effect, this imbalance has heretofore gone untested; here I show the first statistical evidence to bear on the question. And despite the way in which accession proceedings at the WTO allow for a reinsertion of a state power through a suspension of reciprocity, it does seem that Members exercise restraint in the demands they make of the poorest entrants. In this respect, the fears of critics appear to have been overstated.

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Table 1. *The Change in Market Access Flowing from Accession*

	Period	Observations	Mean Applied Tariff	Standard Error
<i>All Entrants</i>	<i>Pre-Accession</i>	23445	8.20	0.04
	<i>Post-Accession</i>	23445	4.71	0.02
	<i>Change</i>		3.49	0.04

Table 2. *Descriptive Statistics*

	Observations	Mean	Standard Deviation	Min	Max
<i>Prior Applied Rate</i>	90102	10.571	11.350	0.000	130.000
<i>Post Accession</i>					
<i>Applied Rate</i>	182572	8.687	9.787	0.000	353.000
<i>Post Accession</i>					
<i>Bound Rate</i>	182874	12.312	10.976	0.000	338.000
<i>log Total Aid</i>	171821	18.900	1.564	15.957	21.022
<i>log Imports</i>	191207	23.238	1.851	20.321	26.249
<i>log Exports</i>	191207	23.203	2.148	19.468	26.358
<i>Accession Year</i>	191207	7.225	3.126	1.000	13.000
<i>Exports %</i>	191207	0.404	0.177	0.157	0.749
<i>Imports %</i>	182278	0.460	0.239	0.209	1.051
<i>Regime</i>	189529	11.015	7.684	0.000	20.000
<i>China Dummy</i>	191207	0.105	0.307	0.000	1.000
<i>log Product</i>					
<i>Imports</i>	191207	4.810	3.242	-6.908	18.525

Table 3. *The Effect of the Imports Sector on De Jure Depth Following WTO Accession*

	1	2	3
<i>log Imports</i>	2.12	6.29	
	(0.59)**	(1.63)**	
<i>log GDP per capita</i>	0.39	1.75	
	(0.66)	(0.43)**	
<i>Prior Applied Rate</i>	0.46	0.50	0.49
	(0.06)**	(0.04)**	(0.00)**
<i>log Exports</i>		-6.03	
		(1.68)**	
<i>Regime</i>		0.33	
		(0.06)**	
<i>China Dummy</i>		11.20	
		(1.90)**	
<i>Accession Timing</i>		1.51	
		(0.20)**	
<i>LDC</i>		-9.83	
		(2.55)**	
<i>Log Product Imports</i>			0.15
			(0.01)**
<i>Constant</i>	-59.51	-41.05	-8.08
	(14.99)**	(8.44)**	(0.07)**
<i>R²</i>	0.37	0.52	0.55
<i>N</i>	96 769	95803	82362

Column 1 and 2 show OLS regressions. Column 3 shows country fixed effects model. Robust standard errors clustered by country in parentheses. * denotes 2-tailed $p < 0.05$; ** denotes 2-tailed $p < 0.01$.

Table 4. *The Effect of Imports Sector on De Facto Depth Following WTO Accession*

	1	2	3
<i>log Imports</i>	0.62 (0.41)	-0.38 (1.84)	
<i>Log GDP per cap</i>	-0.22 (0.38)	0.57 (0.60)	
<i>Prior Applied Rate</i>	0.18 (0.08)**	0.19 (0.09)**	0.04 (0.00)**
<i>log Exports</i>		0.05 (1.62)	
<i>Regime</i>		0.18 (0.10)	
<i>China Dummy</i>		7.94 (1.54)**	
<i>Accession Timing</i>		0.37 (0.17)	
<i>LDC</i>		0.64 (0.79)	
<i>log Product Imports</i>			0.07 (0.01)**
<i>de jure Depth</i>			0.29 (0.00)**
<i>Constant</i>	-13.68 (7.77)	-2.97 (9.49)	0.79 (0.04)**
<i>R²</i>	0.2	0.28	0.49
<i>N</i>	96642	96032	98187

Column 1 and 2 show OLS regressions. Column 3 shows country fixed effects model. Robust standard errors clustered by country product in parentheses. * denotes 2-tailed $p < 0.05$; ** denotes 2-tailed $p < 0.01$.

Table 5. *The Effect of the Value of Imports on Tariff Overhang*

	1	2
<i>log Imports</i>	-7.04** (2.25)	
<i>Prior Applied Rate</i>	-0.15* (0.05)	-0.16** (0.00)
<i>log GDP per capita</i>	-2.43 (1.89)	
<i>log Exports</i>	6.61** (1.93)	
<i>China Dummy</i>	-5.89 (6.56)	
<i>LDC</i>	3.72 (5.23)	
<i>log Products Imports</i>		-0.06** (0.01)
<i>Constant</i>	34.88** (11.81)	5.47** (0.06)
<i>R</i> ²	0.27	0.41
<i>N</i>	83698	85651

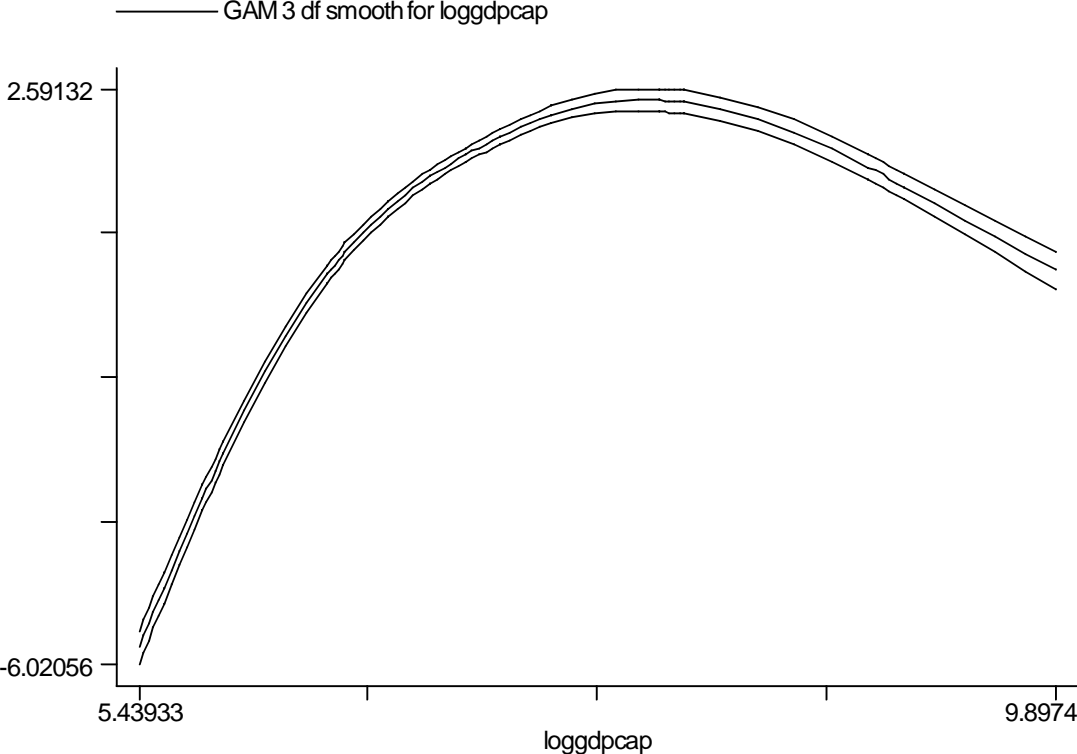
Column 1 shows OLS regression. Column 2 shows country fixed effects model. Robust standard errors clustered by country product in parentheses. * denotes 2-tailed $p < 0.05$; ** denotes 2-tailed $p < 0.01$.

Table 6. Semi-Parametric Model of De Jure Depth Following WTO Accession

	Linear Coefficient	Degrees of freedom
<i>log GDP per cap</i>	0.91** (0.03)	3.00
<i>log Imports</i>	3.63** (0.12)	3.00
<i>log Exports</i>	-1.69** (0.11)	3.00
<i>Prior Applied Rate</i>	0.49** (0.00)	3.00
<i>Regime</i>	0.19** (0.00)	3.00
<i>Constant</i>	-1.92** (0.03)	1.00
<i>Total</i>		16
<i>Dispersion</i>	61.11	
<i>N</i>	79 443	

Generalized Additive Model specified with three degrees of freedom. Deviance= 4853610. . * denotes 2-tailed $p < 0.05$; ** denotes 2-tailed $p < 0.01$.

Figure 1. *The Effect of GDP per Capita on De Jure Depth of Integration*



Appendix: *List of Entrant Countries Included in the Data*

Armenia
Cambodia
Cape Verde
China
Ecuador
Estonia
Georgia
Kyrgyz Republic
Latvia
Lithuania
Macedonia, FYR
Moldova
Nepal
Oman
Saudi Arabia
Taiwan, China
Ukraine
Vietnam