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8 Tariff Phase-Outs: Theory and Evidence from GATT and NAFTA

Carsten Kowalczyk and Donald Davis

8.1 Introduction

Regionalization is now so widespread that the World Trade Organization, in one of its first studies since its creation, can claim that "when the WTO was established on 1 January 1995, nearly all its members were parties to at least one agreement notified to GATT."[1] According to the same study this process has picked up speed in recent years with almost a third of the 109 agreements brought to the General Agreement on Tariffs and Trade (GATT) between 1948 and 1994 having been notified since 1990. Clearly nations perceive the process of regionalization to be one from which they cannot afford to be left out.[2]

The question of whether the process of "regionalization" is desirable or not is an important one. A related question is whether the form in which the world trading system permits preferential arrangements is beneficial, and if not, which types of arrangements would be. It is particularly interesting, and this is the topic of the present paper, that results from economic theory offer only

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1. WTO 1995, 27. By "regionalization" we mean the creation or expansion of preferential trading areas. Whether world trade has become regionalized has been the subject of several studies, including Anderson and Norheim (1993) and Frankel (1993).

2. Indeed, and as pointed out in the WTO study, should current talks toward establishing preferential trade across the Pacific (and the Atlantic) lead to agreements, then every current WTO member would participate in at least one trading bloc and be the outsider relative to at least one. To complete the picture, it should be pointed out that the number of GATT contracting parties has increased substantially over the same period of time, suggesting that a simultaneous process of "multilateralism" is unfolding.

mixed support for article XXIV, the condition under which about 90 percent of all notifications of preferential agreements have been presented to GATT.

Article XXIV deems admissible customs unions and free trade areas that eliminate duties on "substantially all the trade" between the partners and that apply extraclub duties that are "not on the whole . . . higher or more restrictive" than the initial duties.[3] The latter of these conditions aims at preventing clubs from forming for the purpose of extracting better terms of trade from outsiders through the use of higher external tariffs by club members, a concern that has received some support in economic analysis. The former of the two conditions in article XXIV was intended as a price to be paid by the participants in a preferential arrangement for the exemption from the most-favored-nation principle. However, received wisdom, which derives from Richard Lipsey and Kelvin Lancaster's work (1956–57) on the second best, supports the optimality of intraclub free trade only under quite restrictive assumptions.

It could be argued that actual trade arrangements reflect this ambiguity. The restriction on extraclub duties does seem to have been relatively effective, as GATT reports no major increases in between-club tariffs even for clubs of substantial size in world markets.[4] The implementation of the condition that tariffs be eliminated on substantially all intraclub trade has been less effective. This is in part due to the inherent vagueness of the language, and in part due to the sizable loophole offered by paragraph 5(c) of article XXIV, which states that "any interim agreement [necessary for the formation of a customs union or a free trade area] shall include a plan and schedule for the formation of such . . . within a reasonable length of time" (Jackson, Davey, and Sykes 1995, 49). Agreements on customs unions and free trade areas presented to GATT have often left out important sectors, and tariff reductions have sometimes been at a leisurely pace.

Recent theoretical work on customs unions and free trade areas has primarily been concerned with their effect on interclub protection, and has taken the intraclub liberalization as given, comparing, most frequently, the initial situation with one of internal free trade. Instead, this paper takes a closer look at intraclub reform. Even after the completion of the European Community's internal market, the expansion of the European Union, and the passage of the North American Free Trade Agreement (NAFTA), the issue remains important as major undertakings are under consideration or negotiation, including the integration of the east European nations into the European Union, and the formation of an Asian-Pacific trading bloc. The WTO even points to the consequences of intraclub reform for globalism by stressing how European Community (EC) expansions or deepenings induced the Dillon, Kennedy, and Tokyo Rounds (WTO 1995, 53–54).

3. See, for example, Jackson, Davey, and Sykes (1995) for the full text.

4. Of course, increased protection can take other forms, such as increased use of anti-dumping duties or of various quantitative measures.

This paper discusses global and preferential tariff phase-outs from both a theoretical and an empirical perspective. In particular, the paper presents an analysis of the agreed U.S. and Mexican NAFTA phase-outs and discusses how they might be explained from the perspective of bargaining between two governments responding to different domestic pressures and environments.

Section 8.2 reviews briefly the theoretical literature with particular emphasis on results on world welfare. Section 8.3 presents a historical discussion of phase-outs both in the context of global trade negotiation rounds and with respect to article XXIV. Section 8.4 summarizes results from the empirical literature on tariff reductions. Section 8.5 considers U.S. and Mexican phase-outs in NAFTA. Section 8.6 concludes.

8.2 A Review of the Theoretical Literature

Theoretical work on reform of trade policy, including preferential arrangements such as customs unions and free trade areas, can usefully be separated into two, sometimes overlapping, literatures: one considering the welfare consequences from such reforms, and another investigating which coalition equilibria will emerge. The majority of this work has assumed that national governments are the decision makers and that each government's objective is to maximize national income.

Few general results have been established for tariff reforms that encompass all nations. Early work by Jaroslev Vanek (1964), later generalized to more than three countries by Tatsuo Hatta and Takashi Fukushima (1979), demonstrate that a reduction of the highest tariff rate to the next highest level raises global welfare when initial trade taxes are either positive or zero and the high-tariff good is a net substitute to all others.[5] Hatta and Fukushima (1979) show also that an equiproportionate reduction of all tariffs raises global income. Kowalczyk (1989) demonstrates that if there are trade subsidies in addition to tariffs then an equiproportionate rate reduction has an ambiguous effect on world welfare when rates are ad valorem, while Fukushima and Namdoo Kim (1989) show that no such ambiguity exists if rates are specific.[6]

As discussed in Kowalczyk (1992), work on the selective reduction of non-extreme tariffs leads directly to the literature on trading clubs. Drawing on earlier work by James Meade (1955) and S. A. Ozga (1955), Vanek (1964, 1965) shows that the reduction of a single tariff, which is not extreme, has an ambiguous effect on world income. If the tariff under consideration is between partners, and if the reform constitutes a complete elimination, this result exemplifies Jacob Viner's earlier proposition (1950) that a customs union has the potential to lower world welfare.

5. This literature assumes that international income transfers are feasible and hence applies the potential Pareto criterion as its world welfare indicator.

6. For a small country, Lopez and Panagariya (1992) show that reducing the highest tariff can lower welfare if intermediate goods are imported.

The theme that trading blocs may lead to suboptimally large trade between bloc members due to redirection of trade flows reappears in Paul Krugman's demonstration (1991a) that symmetric bloc enlargements may lower world welfare until three blocs exist in a world with strong preferences for variety in consumption.[7] In a comment on this work, T. N. Srinivasan (1993) generates an example where world welfare may decrease or increase from bloc enlargement due to the possibility of changing composition of blocs of different size. Alan Deardorff and Robert Stern (1994), in a related vein, argue that, if trade is due to comparative advantage rather than taste for varieties, then enlargement of even symmetric blocs may raise expected world welfare.[8]

Krugman (1991b, 1993) finds that introducing transport costs into his varieties model may reverse his initial negative finding, and that the formation of "natural blocs," that is, blocs between countries that can trade at low transport costs, will tend to raise global welfare. Jeffrey Frankel, Ernesto Stein, and Shang-Jin Wei (chap. 4 in this volume) demonstrate that a comparison of transport costs between bloc members and nonbloc countries is needed for a full assessment of whether such blocs are welfare improving or not. If the latter costs are relatively low, then it is possible that natural blocs will lower world welfare.[9]

Viner's result has also spurred research on the optimality properties of article XXIV's intraclub free trade requirement. Murray Kemp (1969) argues that free internal trade maximizes members' welfare if their external tariff is optimal, and Takashi Negishi (1972) shows that, if there are positive tariffs on extraunion trade, then world welfare maximization requires a positive intraunion tariff in a two-good world.[10] For the special case of a small union, John McMillan and Even McCann (1981) show that tariff elimination is optimal if the goods traded between club members are separable from those traded with the nonmember. Michihiro Ohyama (1972) and Kemp and Henry Wan (1976) demonstrate that a customs union setting its "compensating external tariff,"

7. The effect of country size on bloc formation is analyzed in Kennan and Riezman (1990).

8. Deardorff and Stern assume that blocs set prohibitive tariffs on trade with each other and that blocs are formed by random drawings of members and combinations of blocs. Haveman (1992) shows that, if extraclub tariffs are not assumed to be prohibitive, then Deardorff and Stern's model also generates Krugman's U-shaped world welfare curve.

Bond and Syropoulos (1996) suggest that a symmetric bloc equilibrium like Krugman's may be unstable since a country will have an incentive to switch blocs to join a (thereby) larger club. They show also that, if interbloc trade becomes relatively unimportant compared to intrabloc trade, then noncooperative Nash external tariffs will tend to fall, and welfare tend to rise, as symmetric blocs are enlarged. However, Krugman (1993) demonstrates that it is not the increase in optimal extraclub tariffs that drives the results in his first paper; rather it is the misallocation of goods across blocs.

9. Frankel (1993) labels the latter type of bloc as "super-natural." Frankel, Stein, and Wei argue that theirs is more than a theoretical anomaly: their preferred estimate of intercontinental transport costs is relatively low.

10. Frankel, Stein, and Wei (chap. 4 in this volume) and Stein (1994) present similar results for a world where asymmetric blocs can form and find that a positive intraclub tariff maximizes world welfare for all transport costs in the Krugman model.

that is, the external tariff that leaves trade with nonmembers unaffected, raises world welfare.[11]

With few exceptions, this work generally does not consider the individual nation's incentive to participate in the proposed reform, whether it is global or preferential. John Kennan and Raymond Riezman (1990) show that large countries and customs unions seeking improved terms of trade through tariffs may refuse to agree to global free trade. Kowalczyk (1990) argues that a similar result holds for a small country, which has the option of membership of multiple free trade areas. Kowalczyk and Tomas Sjöström (1994) derive an expression for side payments, and show how such payments must go from those with much to gain from cooperation to those with little to gain to eliminate all participants' objections to a global agreement whether nations act alone or as members of trading blocs.

Little work considers the dynamics of current rules for preferential trading agreements and their impact on global welfare. Martin Richardson (1995) shows that members of a free trade area may reduce their external tariffs to zero in a competition for tariff revenue. Support for the opposite and conventional view that customs unions are preferable is implied by Kyle Bagwell and Robert Staiger's work (1993a, 1993b), which demonstrates that free trade areas will tend to increase between-club tariffs before and during negotiation phases while customs unions have the opposite effect. Contrary to Richardson's work, which has implications for long-run equilibrium tariffs, their model has the special property that extraclub tariffs, once clubs have been fully implemented, return to their initial level.[12]

This focus on the dynamics of internal tariff reform is very apropos. As we will see shortly, actual trade liberalization, at both global and regional levels, has often been extended in time. We would like to know what determines these time paths, which industries will be liberalized more or less rapidly, and the welfare consequences of these paths.[13] These are the questions discussed in the remainder of the paper.

8.3 Gradualism in the World Trading System

The notion that agreed tariff reductions should happen over several years rather than precipitously is seen both in recent global negotiation results and

11. McMillan (1993) proposes that article XXIV be revised to deem all blocs that do not lower trade with nonmembers as GATT-admissible. Roessler (1993) discusses some difficulties associated with such a proposal. He suggests that it would make the international trading system results- rather than rules-oriented and require that negotiators were able to agree on a methodology for estimating the expected effects on trade flows from various proposals.

12. Ludema (1994) finds that the ability to propose and establish preferential trading areas can affect the distribution of income in a global agreement when bargaining is costly.

13. Bhagwati (1993) has stressed the importance of looking at the dynamics of the problem. Grossman and Helpman (1993) suggest that offering different rates of tariff adjustment or even exemptions may be necessary for gaining political support for a free trade area. Levy (1994) also presents a political-economy model of preferential trading arrangements.

in article XXIV agreements. However, while preferential trade and phase-outs have the same origin in the negotiations of the International Trade Organization, GATT policy and practice toward phase-outs in multilateral agreements have developed differently from those toward preferential phase-outs: global round phase-outs are a relatively recent phenomenon, and the lengths of phase-out periods have shown only limited variation; in contrast, phase-outs were included in the original article XXIV of GATT, and actual periods have varied greatly and have caused controversy.

When negotiating what later became GATT, the United States argued for lower tariffs and proposed, in particular, the elimination of all forms of discriminatory treatment—including a three-year freeze and a ten-year phase-out of Britain's Imperial Tariff Preferences. This was opposed by Britain, whereupon the United States modified its position to favor customs unions and, when article XXIV was under negotiation, free trade areas (Wilcox 1949, 71).

Following this attempt by the United States, the length of a substantive tariff-reduction period was not stated explicitly again until the Kennedy Round. Rather, tariff reductions in early GATT agreements tended to take force almost immediately upon a contracting party's signing of an agreement. Agreed tariffs from the 1947 Geneva Round thus went into effect the following year; the Annecy Round results, completed in 1949, entered into force by late April 1950; the Torquay Round tariffs, agreed to in 1950, were put in place by the end of 1951; and the Dillon Round reductions, negotiated by 1961, were implemented by July 1962 (Hudec 1990, 50; GATT 1949, 1951, 1962).

These early negotiation rounds were mostly over bindings of existing rates rather than over actual rate reductions.[14] With the 1962–67 Kennedy Round the focus shifted to negotiating reductions, with the parties agreeing to a general 50 percent cut in tariffs on nonprimary manufactured products.[15] The parties agreed also to permit members to choose between an immediate rate reduction and a five-year transition period of equal-sized cuts (GATT 1967). The latter period originated with the negotiating mandate in the United States Trade Expansion Act of 1962, and was relatively uncontroversial as a point of reference for the round (Preeg 1970, 199–200). Negotiations were then over exemptions to these two principles.

Participants in the Tokyo Round of 1973–79 agreed to implement cuts, effectively amounting to an average one-third tariff reduction with larger relative cuts of higher rates, in eight equal-sized annual installments beginning on 1 January 1980 (GATT 1979). The eight-year period was favored by the United States and the EC and was later accepted by other participants (Winham 1986, 201).

Finally, the 1986–94 Uruguay Round led to an agreement to implement most

14. Finger and Holmes (1987) present evidence to this effect.

15. Jackson (1989, 53) reports that, including exceptions, the effective average tariff reduction has been estimated to be about 35 percent.

tariff reductions fully with five equal annual rate reductions beginning on 1 January 1995. The five-year period was put forward by a group of developing countries following an earlier European Union proposal of eight years (Stewart 1994, 428).[16]

While early global rounds implemented the resulting reductions relatively rapidly, there was never such a presumption for the implementation of customs unions and free trade areas. Part of the rationale for the lack of discipline implied by article XXIV's vagueness on standards for interim agreements (as quoted in the introduction to this paper) could be that the alternative—specifying a maximum phase-out period—effectively would have prevented countries with particularly high initial tariffs or high adjustment costs from joining customs unions or free trade areas. In any event, actual agreements have differed greatly in their interpretation of what constituted a "reasonable length of time." Some relatively recent agreements have incorporated periods of adjustment of twenty-two years or even indefinite length while other agreements, including the 1960 agreement establishing the European Free Trade Association (EFTA) and the 1965 free trade agreement between Australia and New Zealand, provided for a maximum ten-year phase-out.[17] As a consequence, it has been a widely held view that article XXIV imposed little discipline on the formation of preferential trading areas.[18]

These difficulties led Japan and India to present proposals to the parties of the Uruguay Round to revisit article XXIV with particular concern for the effects of customs unions and free trade areas on nonmembers and, in Japan's case, to address "the lack of discipline on interim agreements." A draft proposal, supported by the United States and Japan but opposed by the EC, was presented by the chairman of the negotiation group in October 1990. It was included in the Dunkel draft in 1991, and was adopted in the final agreement (Stewart 1994, 1841–42). The resulting "Understanding on the Interpretation of Article XXIV of the General Agreement on Tariffs and Trade 1994" specifies that "any interim agreement . . . shall include a plan and schedule [that] should exceed 10 years only in exceptional cases."[19]

16. GATT (1994, 8–15) offers a discussion of the tariff concessions of the Uruguay Round. Schott (1994, 11, 61) estimates them to average 40 percent, with reductions by the United States and the European Union of about 33 and 37 percent, and reductions by Japan of about 56 percent.

17. Stewart 1994, 1837. Stewart also quotes the Latin American Free Trade Area agreement as stating that "it was impossible to indicate at present the products in respect of which customs duties would not have been abolished at the end of the transitional period."

18. The early test was the two-product European Coal and Steel Community, which obtained an article XXV waiver by GATT (Dam 1970, 290). The WTO (1995) reports that ninety-eight article XXIV arrangements had been notified to GATT by January 1995; six agreements had been stated as conforming with article XXIV, while for the remaining cases "the working parties have . . . never reached the conclusion that the legal requirements had *not* been met. . . . *making no pronouncement on the key matters they were charged to examine has been the rule for Article XXIV working parties*" (16–17, original emphasis).

19. The understanding provides also that "general incidence shall . . . be based upon . . . weighted tariff rates." See Jackson, Davey, and Sykes 1995.

The Canadian negotiator Michael Hart reports that both the 1960 EFTA agreement and the 1965 agreement between Australia and New Zealand were among the precedents and reasons presented in the Canada-U.S. free trade negotiations for a ten-year maximum phase-out. While ten years was eventually incorporated into the 1988 agreement, it did not happen without prior consideration of alternative proposals for more rapid reductions.[20] (The Canada-U.S. agreement provides also for immediate or five-year phase-out periods, as well as exceptional categories; the assignment of industries to phase-out categories was determined through consultation with industry and other potentially affected parties [Bello and Holmer 1992, 425–26].) It was on this background that negotiations of NAFTA—to which we turn in section 8.5—began two years later.

8.4 Some Empirical Results on Tariff Reform

Like theoretical work on tariff reductions, empirical work on the subject is scant. This literature has assumed that the evolution of tariffs responds primarily to distributive considerations and political influence, and it has sought proxies such as labor adjustment and firm concentration within industries to gauge the willingness to accept reform and the ability to oppose it.

An early contribution is John Cheh's study (1974) of U.S. duty reductions in the Kennedy Round. Participants agreed at the outset of the round that manufacturing tariffs would be cut by 50 percent across the board with subsequent bargaining over which sectors should be exempted from this cut and receive less or no reduction. Restricting the sample to the industries receiving exemptions, his dependent variable is industry percentage tariff reduction. Cheh finds that an industry's original level of protection, its growth rate, and its relative use of unskilled and relatively high-age labor significantly affect the size of its Kennedy Round tariff cut. He concludes that the rate reductions were aimed at reducing short-run labor adjustment.

Malcolm Bale (1977) presents further evidence for Cheh's explanation. Defining adjustment costs as lost wages during unemployment plus any wage cut from accepting a new job within one year, he considers 477 legally displaced U.S. workers in six industries and finds that the simple correlation between such costs and the size of the industry's Kennedy Round tariff reduction is negative 0.88.

Expanding on a study by Richard Caves (1976), G. K. Helleiner (1977) studies tariffs and their changes for eighty-seven Canadian manufacturing industries for 1961 and 1970. He finds that his variables seem to explain nominal

20. Hart (1994, 216) mentions how, at the outset, Canada suggested that the United States phase out tariffs immediately while permitting Canada a transition period. This proposal was turned down. Canada then argued that an adjustment period of seven years was "in line" with various precedents; the Tokyo Round cuts had, for example, been implemented over this period.

rather than effective levels, but effective rather than nominal changes. (The latter is in contrast to Cheh [1974], who finds nominal rates and changes in them to be better explained than effective rates.) Helleiner finds further that market concentration (market share of largest four firms) explains reduction (higher concentration implies less reduction), and that the higher the percentage of small firms in an industry the larger is reduction in protection over the period considered. He finds that unskilled labor intensity does not explain changes.[21]

In a study of U.S. Tokyo Round tariff cut offers, Robert Baldwin (1985) finds weak evidence that low tariff cuts tend to be in industries where import penetration (imports divided by the sum of production and net imports) is high (conditional on being a net import industry), and where workers are unskilled and hence earn low wages (share of labor costs to unskilled workers as a fraction of total labor costs); somewhat surprisingly, U.S. tariff levels are not significant. An alternative approach treating the difference between the original U.S. offers of duty cuts and the cuts implied by the round's agreed Swiss formula (which implied larger reductions of higher tariffs) does considerably better. For this specification Baldwin finds that tariff levels and average wage levels are significant, as are changes in industry conditions such as employment growth and import penetration.

Some of these authors mention that trade negotiations involve reciprocity and that rate reductions therefore are an outcome of bargaining between nations (see, e.g., Baldwin 1985, 145). Yet no study conditions one nation's concessions on those of its trading partners. Due to the vast complexity of global rounds, including the tying of seemingly unrelated issues, it could be quite difficult to establish reciprocity between individual nations for such negotiations. Michael Finger (1974), rather than focusing on individual nations, analyzes the results of the Dillon Round as the outcome of a bargain between two groups of countries, developed and developing. He argues that tariff cuts were not as deep for manufactured products in which developing countries might have potential for exporting as in other products since these countries did not have much market access to offer in return.

It seems that preferential trade agreements constitute a promising area for detecting reciprocity, at least at a first pass. The next section considers the recent NAFTA to investigate whether there is reciprocity in the sense that phase-out periods for products in one country can help explain the phase-out periods in the partner country. Admittedly, this takes a narrow view of what were in fact very broad negotiations involving a substantially wider set of issues including tariff snapbacks, domestic content rules, and the inclusion of

21. A study by Lee and Swagel (1994) considers industrial protection (tariffs and nontariff barriers) across forty-one countries. They find that value-added and share of industry output that is exported help explain protection, and that less protection goes to labor-intensive industries and more to capital- and skill-intensive ones.

new sectors such as services. Yet the analysis can still be useful, we hope, by casting some light on what may influence the outcome of a bilateral negotiation between nations.

8.5 A Preliminary Investigation of NAFTA Phase-Outs in the United States and Mexico

Negotiations toward establishing NAFTA began in June 1990 with a meeting of the trade ministers of Canada, Mexico, and the United States. The negotiating parties adopted the general principle of a ten-year maximum for tariff phase-outs, recognizing the ten-year rule in the Canada-U.S. agreement and the existence of a Uruguay Round proposal recommending a maximum phase-out period of ten years for article XXIV agreements. The countries also agreed to a fifteen-year phase-out period for exceptional cases.

An accord was signed in December 1992, and the agreement went into effect on 1 January 1994. It consists of eight parts covering, among other issues, trade in goods and services, technical barriers to trade, and government procurement. It specifies rules of origin, and has supplemental agreements on environmental and labor cooperation. Notwithstanding that Canada is a founding member of NAFTA, the following discussion of NAFTA tariff phase-outs focuses on Mexico and the United States. Their mutual trade is large and significant to both parties, while trade between Canada and Mexico is small.[22]

Some aspects of NAFTA, such as tightened content rules as compared to the Canada-U.S. agreement, constitute a setback for the world trading system. However, the NAFTA agreement also introduces discipline for new issues, including agriculture, textiles, and trade in services, that even GATT did not cover effectively at the time NAFTA was negotiated. The agreement also implies free trade of maquiladoras production into Mexico after a seven-year phase-out of the current 50 percent limit on the share of such production that can be sold in Mexico (Hufbauer and Schott 1993, 152). Finally, NAFTA constitutes itself as an open club with an accession clause stating that NAFTA can be acceded to by all countries in the Western Hemisphere.[23]

Article XXIV issues are addressed in annex 302.2 of the agreement and the associated tariff schedules. The annex identifies five general tariff phase-out categories specifying the number of equal-sized annual cuts to free trade (A, immediately; B, five stages; C, ten stages; C+, fifteen stages; D, continued duty free) and some exceptional categories (B+, seven stages; B6 and B1, five

22. In 1991, about 2 percent of Canada's imports came from Mexico while only 0.3 percent of its exports went to Mexico. For the same year, about 2 percent of Mexico's imports and exports originated in or went to Canada. (Calculations based on IMF 1995.)

23. Bhagwati (1991) has argued in favor of incorporating such a stipulation into the WTO rules. Given the findings of Frankel, Stein, and Wei (chap. 4 in this volume), however, this apparently attractive requirement could be welfare reducing even—or in particular—if customs unions or free trade areas are regional.

stages with small initial reductions versus large initial reductions; C10, nine stages).[24] The tariff schedules list products according to the harmonized system and associate with each product a phase-out category and its 1991 base tariff. Both for the United States and Mexico the base tariff most often quoted is an ad valorem rate; in particular there are few quotas listed for Mexico. This bears evidence of the extent of the tariffication program Mexico undertook in part associated with its 1986 accession to GATT.

Inspection of the schedules does not reveal any exception to the requirement that final tariffs be zero. The majority of tariffs are to be eliminated within ten years, and most fall within categories specifying equal-sized annual reductions of five, seven, or ten years. Citing a 1993 study by the U.S. International Trade Commission, Frederick Abbott (1995) reports that products accounting for less than 1 percent of 1990 U.S. imports from Mexico and about 1.5 percent of Mexican commodity imports from the United States obtained the fifteen-year phase-out. For U.S. imports from Mexico, the study anticipates that about 54 percent would be free on implementation (category A), 8.5 percent within five years (category B), 23 percent within ten years (category C), with about 14 percent of imports already being duty free at the time of the study. For Mexican imports the corresponding estimates in the study are 31 percent in category A, 17 percent in B, 32 percent in C, and 18 percent initially free. The same study estimates that the agreement covers all U.S. imports from Mexico while leaving less than 2 percent of Mexico's imports from the United States uncovered (Abbott 1995, 62).

We are interested in identifying some of the determinants of how products are assigned to different tariff phase-out categories. For that purpose we sampled commodities for Mexico and the United States at the five-digit standard international trade classification (SITC) level, which is the most disaggregate level of trade flows presented in the United Nations *Commodity Trade Statistics*. We sampled first the products that account for relatively large shares of total trade within two-digit categories based on 1991 export and import data for Mexico and the United States.[25] Then, to correct for any problems caused by the possibility that small initial trade flows might be due to trade barriers or the threat of such, we sampled five-digit commodities randomly within the two-digit categories that are not represented among the first set of products.[26] Using the United Nations (1986) concordance between the SITC and the harmonized system, we recorded the implied tariff and staging category—the former as an ad valorem tariff rate, the latter as the number of years equal to the

24. *North American Free Trade Agreement* (1993), annex 302.2, paragraph 2; *1993 North American Trade Guide* (1992), p. I-4.

25. We chose 1991, rather than a later year, to minimize any effects on trade flows from expectations of the free trade agreement.

26. Trefler (1993) demonstrates how accounting for endogeneity of 1983 U.S. manufacturing quotas raises the estimate of impeded imports by a factor of ten compared to when barriers are considered exogenous.

number of tariff reductions.[27] For most categories several tariff items correspond to the given harmonized code, making it necessary to go to six- or eight-digit harmonized code to obtain duty level and phase-out. In these cases five-digit values of base rates and phase-outs are found by unweighted averaging across all relevant six- and eight-digit duties and phase-outs.[28] The procedure resulted in 148 five-digit product lines for the United States and 685 lines for Mexico, with 56 common product categories. These commodities account for 34.6 percent of U.S. imports from Mexico and 15.4 percent of its imports from the world, and 38.5 and 40.1 percent of Mexico's imports from the United States and the world, respectively.

Table 8.1 summarizes the data by presenting overall and one-digit averages for Mexican and U.S. tariffs, *MET* and *UST*, and for phase-outs, *MEPOUT* and *USPOUT*. While Mexico undertook major trade reform in the eighties, it remains a relatively protected economy with its 18.59 percent average import duty. The 5.91 percent U.S. average overestimates U.S. protection on imports from Mexico for two reasons: imports from the maquiladoras are not taxed on full value but only on value-added, and much of Mexico's trade already qualified for duty-free entry under the Generalized System of Preferences.[29] In both countries, categories 0 and 1 (agriculture, and beverages and tobacco), receive high protection. High-tariff categories are also Mexico's category 4 (oils) and U.S. category 8 (miscellaneous manufacturing, which includes clothing and footwear). The table reveals further that, on average, Mexico takes 5.64 years to phase out protection compared to the United States' 1.38 years. At this very aggregate level there is also a tendency for high-duty sectors to receive longer phase-outs than low-duty ones in both countries.

As is the case for empirical work on protection, it would be difficult to distinguish between competing models of tariff phase-outs. The objective of the following analysis is, instead, to identify variables that can provide some explanation of the variation in phase-outs across product categories. Even though commodities at the eight-digit level fall neatly into predetermined phase-out categories, averaging to a lower-digit level usually leads to numbers of years of phase-out that do not correspond exactly to any category. Accordingly, the endogenous variables *USPOUT* and *MEPOUT* can take noninteger values.

Various consumer, producer, import, and export interests affect a govern-

27. Since the first NAFTA tariff reduction occurred when the agreement went into effect on 1 January 1994, this approach implies that the number of years of phase-outs are counted from 1 January 1993.

28. For Mexico, both imports and exports are stated f.o.b., for the United States exports are f.o.b. but imports c.i.f. A more significant difference between the two countries is that Mexico, until 1992, excluded maquiladoras trade from its merchandise trade and instead tabulated it as services trade, while U.S. exports and imports with Mexico include trade with the maquiladoras. The difference is marked: for example, Mexico listed 1991 merchandise imports from the United States to be $25 billion while the United States listed 1991 merchandise exports to Mexico as $32 billion.

29. On the other hand, since NAFTA invalidates Mexico's Generalized System of Preferences status in the United States, some Mexican products do face higher U.S. import duties during the NAFTA-transition period than they did before NAFTA went into effect.

Table 8.1 **Average Tariffs and Phase-Outs, Overall and for One-Digit SITC Codes**

Category	MET (%)	MEPOUT (years)	UST (%)	USPOUT (years)
All imports	18.59	5.64	5.91	1.38
0 Food and live animals	20.78	7.00	10.65	0.82
1 Beverages and tobacco	34.91	8.44	14.40	5.00
2 Crude materials, inedibles	5.48	3.38	0.60	0.26
3 Fuels, lubricants, etc.	7.45	2.00	0.00	0.00
4 Animal, vegetable oils, fats	43.00	10.00	3.72	0.00
5 Chemicals, related products	11.12	4.83	4.89	0.92
6 Manufactured goods	13.22	6.73	5.42	1.87
7 Machines, transport equipment	14.10	3.28	3.17	0.62
8 Miscellaneous manufacturing articles	17.25	5.11	10.32	2.92

Sources: Calculations based on *North American Free Trade Agreement* 1993 and United Nations 1992.

ment's bargaining stance, as do any preferences held by, in particular, the executive branch of government, which may not be reflected in those of any private group. From the earlier discussion of existing work on tariff phase-outs, we know that analysis of such effects would require industry-level data for, among other variables, labor-adjustment cost, unskilled-labor intensity, and industry concentration ratios. At this first pass we consider only exogenous variables that are directly implied by the tariff and trade data described earlier in this section. This is a serious limitation of the analysis. On the other hand, it does permit us to take full advantage of the highly disaggregate nature of the data at hand. We take, therefore, the approach of summarizing domestic import-competing and other pro-protection pressures by the initial tariff level and hypothesize that, for any level of commodity aggregation, higher values of *UST* are associated with higher values of *USPOUT* (similarly for *MET* and *MEPOUT*), as groups that have been successful at obtaining protection would like to see it extended.[30]

As stated in table 8.2, which lists the variables used in the empirical analysis, we define also (imperfect) measures of import and export interests, *USML(ME)* and *USXL(ME),* given by U.S. imports from or exports to Mexico as a share of total U.S. trade, with *MEML(US)* and *MEXL(US)* being similar variables for Mexico. Our hypothesis is that a large import share may lead to resistance to rapid liberalization, while a large export share induces export interests to lobby their government for rapid opening of a foreign market.[31]

We calculate Grubel-Lloyd indexes of intraindustry trade between Mexico

30. Baldwin (1985) finds that R^2 consistently falls below 0.10 when the U.S. tariff level is excluded from equations explaining the U.S. Tokyo Round proposal.

31. More satisfactory measures of import penetration and export stance would divide imports from and exports to Mexico with U.S. domestic sales or U.S. production of the good.

Table 8.2 **List of Variables**

USPOUT	number of years before free trade is reached in the U.S.
UST	initial ad valorem tariff rate in the U.S.
C	constant
USX(j)	U.S. exports to region *j*, for *j* = Mexico, rest of world, or world
USM(j)	U.S. imports from region *j*, for *j* = Mexico, rest of world, or world
USIIT(j)	Grubel-Lloyd measure for U.S. intraindustry trade with region *j* = $\{USX(j) + USM(j) - \|USX(j) - USM(j)\|\}/[USX(j) + USM(j)]$
USXL(ME)	U.S. exports to Mexico relative to total U.S. trade = $USX(ME)/[USX(W) + USM(W)]$
USML(ME)	U.S. imports from Mexico relative to total U.S. trade = $USM(ME)/[USX(W) + USM(W)]$

Notes: All variables are at the five-digit SITC code level. Exchanging *ME* for *US* throughout defines the similar variables for Mexico.

and the United States, *USIIT(ME)* and *MEIIT(US),* and for each country's trade relative to the rest of the world, *USIIT(ROW)* and *MEIIT(ROW)* (see Grubel and Lloyd 1975). The hypothesis for the former is that larger intraindustry trade between Mexico and the United States will lead to faster market opening in both countries as opportunities due to access to partner markets can offer some compensation even for import-competing firms. Regarding the latter variables, a member's large intraindustry trade relative to the rest of the world may be a sign of a strong industry, which would lobby for rapid access to partner markets. The free trade partner may, on the other hand, perceive this as a threat and try to extend the product's phase-out period. The net effect depends on the relative strength of these forces.

Table 8.3 presents results for the United States for all five-digit product categories combined, and for categories 5, 6, 7, and 8 separately. The coefficient on the initial tariff rate *(UST)* is positive and significant when all products are considered jointly and when they are considered separately, implying that commodities with higher duties, as hypothesized, tend to get longer periods of adjustment. Intraindustry trade with Mexico *(USIIT(ME))* and with the rest of the world *(USIIT(ROW))* enters significantly and is negative when all U.S. products are considered; however, eliminating it does not have much effect on R^2 except for category 8 (miscellaneous manufacturing), where intraindustry trade with Mexico becomes significant and the duty level does not when the two variables are considered jointly. (When *USIIT(ROW)* is dropped from the equation, the tariff level regains significance at the 1 percent level.) *USML(ME)* and *USXL(ME),* both of which are correlated with the Grubel-Lloyd index, are never significant, and sometimes have the wrong sign.

Given our data, we are, unfortunately, not able to distinguish between the several political-economy models that might cause such results. Rather, our finding is the very limited one that some of the underlying forces explaining U.S. levels of protection and phase-outs in global negotiations also seem to be

Table 8.3 **Effects of U.S. Tariffs and Intraindustry Trade on U.S. Phase-Outs across Five-Digit Product Categories**

	C	*UST*	*USIIT(ME)*	*USIIT(ROW)*
Endogenous Variable: *USPOUT* All Categories				
Observations	148			
Coefficient	1.91**	17.26**	−1.42*	−1.49*
Standard error	(0.61)	(2.92)	(0.65)	(0.74)
T-statistic	3.11	5.89	−2.16	−1.99
$R^2 = 0.26$; adjusted $R^2 = 0.24$				
Coefficient	0.28	18.6**		
Standard error	(0.29)	(2.94)		
T-statistic	0.96	(6.31)		
$R^2 = 0.21$; adjusted $R^2 = 0.20$				
Endogenous Variable: *USPOUT* in Category 5				
Observations	31			
Coefficient	−0.67	40.96**	−0.29	−0.83
Standard error	(1.78)	(11.95)	(1.51)	(1.90)
T-statistic	−0.38	3.42	−0.19	−0.44
$R^2 = 0.34$; adjusted $R^2 = 0.27$				
Coefficient	−1.38	42.41**		
Standard error	(0.83)	(10.94)		
T-statistic	−1.66	3.87		
$R^2 = 0.34$; adjusted $R^2 = 0.31$				
Endogenous Variable: *USPOUT* in Category 6				
Observations	37			
Coefficient	0.93	43.37**	−0.19	1.96
Standard error	(1.75)	(16.84)	(1.57)	(1.74)
T-statistic	0.53	2.57	−0.12	−1.13
$R^2 = 0.29$; adjusted $R^2 = 0.23$				
Coefficient	−0.77	52.05**		
Standard error	(0.94)	(14.74)		
T-statistic	−0.82	3.53		
$R^2 = 0.26$; adjusted $R^2 = 0.24$				
Endogenous Variable: *USPOUT* in Category 7				
Observations	31			
Coefficient	−0.71	33.53**	−0.28	0.50
Standard error	(0.68)	(6.79)	(0.70)	(0.67)
T-statistic	−1.03	4.93	−0.39	0.75
$R^2 = 0.48$; adjusted $R^2 = 0.43$				
Coefficient	−0.50	33.34**		
Standard error	(0.28)	(6.51)		
T-statistic	−1.77	5.11		
$R^2 = 0.47$; adjusted $R^2 = 0.45$				

(*continued*)

Table 8.3 (continued)

	C	*UST*	*USIIT(ME)*	*USIIT(ROW)*
Endogenous Variable: *USPOUT* in Category 8				
Observations		26		
Coefficient	4.46*	16.16	−6.21**	−1.65
Standard error	(2.13)	(8.56)	(2.31)	(2.45)
T-statistic	2.08	1.88	−2.68	−0.67
$R^2 = 0.46$; adjusted $R^2 = 0.38$				
Coefficient	0.10	24.68**		
Standard error	(0.96)	(8.28)		
T-statistic	0.10	2.98		
$R^2 = 0.27$; adjusted $R^2 = 0.23$				

Note: All variables are at the five-digit SITC code level.

*Significant at 5 percent level.

**Significant at 1 percent level.

at work in preferential negotiations.[32] (The important exception is the large product category "miscellaneous manufacturing" where tariff levels, somewhat surprisingly, do not explain phase-outs.) Recalling the theoretical results on reform, we also note that permitting high-duty industries long phase-outs might reduce or even disallow the welfare gains that could otherwise be accrued from harmonizing tariffs through, for example, cutting extreme rates the most. (It should be stressed that it need not—rate-cutting rules that raise world welfare when implemented across all the world's trading nations need not raise world welfare when implemented only across a subset of the world's countries.)

A different picture emerges for Mexico where the data do not, at the five-digit level, account for the variation in phase-outs, whether across all product categories or within categories 5, 6, and 7. (As will be discussed below, category 8 is different.) The correlation between phase-outs and tariffs across all products is only 0.03, and it is 0.06 between phase-outs and intraindustry trade with the United States; the correlation between the same variables for categories 5, 6, and 7 is also zero.[33] The variable most strongly correlated with Mexico's phase-outs is Mexico's exports to the United States as a fraction of Mexico's total trade *(MEXL(US))*. It does not, however, enter significantly in regressions, whether across or within categories.

It is remarkable that Mexico's tariffs do not help explain Mexico's phase-outs at the five-digit level. After all, our results for U.S. phase-outs, as well as the work summarized earlier in this paper on the Kennedy and Tokyo Rounds,

32. Such forces could stem from pressure from lobbying groups, or they could reflect social preferences over the distribution of income.

33. The correlation between phase-outs and tariffs for the United States is 0.46.

consistently establish a role for the initial duty level in explaining tariff reductions, at least for the United States. In the remainder of the paper we will investigate this finding for Mexico's five-digit duties and phase-outs. We will focus on two candidate explanations. One is that the Mexico-U.S. negotiations may have favored U.S. concerns regarding phase-outs either because of strong U.S. pressure or because phase-outs were not critical to Mexico's NAFTA strategy because of other objectives including ensuring access to the U.S. market and establishing credibility of policy reform through international commitment.[34] Another possibility is that the averaging of eight-digit rates and phase-outs required for five-digit values may obscure a correlation at the eight-digit level. These are not mutually exclusive explanations.

Concessions, and hence reciprocity, could be broad-based and could involve comparing overall duty reductions (Mexico's 18.59 percent versus the United States' 5.91 percent), imports covered ($24 billion for Mexico versus $31 billion for the United States), or tariff revenues ($5 billion for Mexico versus $1.8 billion for the United States). At the other extreme, reciprocity could be narrow. The tariff negotiations between Mexico and the United States could be conducted at the eight-digit level with the presumption that identical products in the two countries, at that level, would receive identical phase-outs.

Table 8.4 hints at the possibility that U.S. preferences may have affected Mexican phase-outs in a negotiation with narrow reciprocity. Category 8 is the only one where Mexican tariffs hold some explanation for phase-outs, and they do so significantly, at the 1 percent level. Intraindustry trade with the United States is not significant *(MEIIT(US))*; however, intraindustry trade with the rest of the world *(MEIIT(ROW))* is, sometimes at the 1 percent level. The positive sign of this coefficient implies that larger Mexican intraindustry trade with the rest of the world is associated with slower Mexican NAFTA phase-outs. One explanation for this could be that Mexico wanted to soften the impact from free trade with the United States for industries involved in these products. An alternative, and more plausible, explanation is that the United States may have desired slower U.S. phase-outs for products that Mexico trades extensively with the rest of the world. The United States would thereby delay Mexican producers' shifting sales from Mexico or from third markets to the United States. If narrow reciprocity was assumed, this would in turn imply slower Mexican phase-outs for these products.

To investigate further whether the U.S. stance influences Mexico's phase-outs, we consider the fifty-six five-digit categories that are common for the two countries in the data. Since U.S. and Mexican phase-outs are jointly determined in the NAFTA bargain, we approach the problem by two-stage least

34. Associated with this explanation is that Mexican tariffs may not be as strong indicators of strength of import-competing interests as are U.S. tariffs. Mexico undertook extensive reforms in the 1980s, and traditional import-competing interests may have lost influence in the process of implementing the associated tariff structure.

Table 8.4 **Effects of Mexico's Tariffs and Intraindustry Trade on Mexico's Phase-Outs for Five-Digit Products in Category 8**

	Endogenous Variable: *MEPOUT* in Category 8			
C	−5.53**	−3.19**	−3.03**	−2.92**
	(2.24)	(1.35)	(1.37)	(1.36)
	−2.46	−2.35	−2.20	−2.14
MET	44.79**	41.28**	42.89**	43.80**
	(9.06)	(8.69)	(8.77)	(8.65)
	4.94	4.75	4.88	5.06
MEIIT(US)	0.68	−0.10	1.05	
	(1.73)	(1.62)	(1.54)	
	0.39	−0.06	0.68	
MEIIT(ROW)	4.24**	4.23**		
	(2.08)	(2.09)		
	2.03	2.02		
MEML(US)	2.83			
	(2.19)			
	(1.39			
R^2	0.23	0.22	0.19	0.19
Adjusted R^2	0.20	0.20	0.18	0.18
Observations	110			

Notes: Numbers in parentheses are standard errors; *t*-statistics are listed below.
**Significant at 1 percent level.

squares. Table 8.5 reports results from regressing Mexican phase-outs on a number of variables including the predicted value of U.S. phase-outs *(USPOUTF)* from stage 1 of the procedure. The table reveals that U.S. phase-outs enter significantly and with the expected sign.

Table 8.6 reports analogous results for U.S. phase-outs for the same fifty-six categories using Mexico's phase-out as instrument. The coefficient on the predicted value of Mexico's phase-out *(MEPOUTF)* is significant in only one specification. Also, the coefficient estimate is smaller than the coefficient estimate for the predicted value of the United States' phase-out *(USPOUTF)*.

Viewed together, these results suggest that Mexican phase-outs have less bearing on U.S. phase-outs than vice versa. They suggest also that reciprocity with respect to tariff phase-outs is at work. This, in turn, breaks the expected positive link between product tariff level and length of phase-out period for one of the participants unless the countries' initial duty levels happen to covary positively in a very particular pattern.

We investigate, finally, the fifty-six common five-digit categories for reciprocity at the eight-digit level, and follow two procedures: an exclusive one where we record a product as a concordance only if both countries' tariff schedules list identical eight-digit codes for the product; and an inclusive one where we add to this list products where we can assign one country's six-digit duty and phase-out to the other country's corresponding eight-digit categories.

Table 8.5 **Two-Stage Regressions of Mexico's Phase-Outs with the United States' Phase-Outs as Instrument**

Endogenous Variable: *MEPOUT* for Common Categories				
C	2.84	3.63*	2.69	3.70*
	(2.25)	(2.11)	(2.22)	(2.18)
	1.25	1.71	1.21	1.69
MET	2.93	6.03	2.88	6.16
	(13.76)	(13.54)	(13.67)	(13.69)
	0.21	0.44	0.21	0.45
MEIIT(US)	1.99	1.59	1.81	1.63
	(1.77)	(1.74)	(1.73)	(1.77)
	1.12	0.91	1.04	0.92
USPOUTF	0.68**	0.69**	0.74**	0.67**
	(0.26)	(0.24)	(0.24)	(0.26)
	2.58	2.88	3.06	2.53
MEML(US)	3.06		2.65	
	(2.19)		(2.06)	
	1.39		1.28	
USXL(ME)	−6.13			−1.51
	(10.43)			(9.98)
	−0.58			−0.15
R^2	0.24	0.21	0.24	0.21
Adjusted R^2	0.17	0.17	0.18	0.15
Observations	56			

Notes: Numbers in parentheses are standard errors; *t*-statistics are listed below.

*Significant at 5 percent level.

**Significant at 1 percent level.

The exclusive approach yields a correlation between *MEPOUT* and *MET* of 0.43, and between *MEPOUT* and *USPOUT* of 0.41. The inclusive approach implies correlation coefficients for the same pairs of variables of 0.35 and 0.27, respectively. For either approach, the correlation between *MET* and *UST* is only 0.16.

These findings lend some support to the view that there was an attempt at establishing narrow, that is within eight-digit category, reciprocity in the negotiations. They also suggest that averaging can make it difficult to detect political-economy effects from tariff levels to phase-outs as well as signs of narrow reciprocity.

8.6 Conclusion

This paper has discussed tariff phase-outs in both a multilateral and a preferential context. The theoretical literature demonstrates that reducing the dispersion of tariffs tends to be welfare-improving. Empirical work on U.S. tariff reductions shows, on the other hand, a tendency toward reducing high tariff rates by less, or more slowly, than would be implied from theory.

Table 8.6 **Two-Stage Regressions of the United States' Phase-Outs with Mexico's Phase-Outs as Instrument**

Endogenous Variable: *USPOUT* for Common Categories				
C	−0.91	−0.64	0.15	−1.36
	(2.04)	(1.75)	(1.80)	(2.07)
	−0.44	−0.37	0.08	−0.65
UST	8.23	11.88**	9.99*	11.05*
	(5.30)	(4.99)	(5.07)	(5.18)
	1.55	2.37	1.97	2.13
USIIT(ME)	−2.40*	−1.93*	−2.55*	−1.77
	(1.19)	(1.14)	(1.19)	(1.17)
	−2.00	−1.69	−2.13	−1.51
MEPOUTF	0.52*	0.37	0.39	0.44
	(0.29)	(0.27)	(0.26)	(0.29)
	1.80	1.38	1.48	1.52
USML(ME)	−5.20*		−4.39	
	(2.88)		(2.79)	
	−1.80		−1.57	
MEXL(US)	1.41			0.82
	(1.27)			(1.25)
	1.10			0.65
R^2	0.47	0.44	0.46	0.44
Adjusted R^2	0.42	0.40	0.42	0.40
Observations		56		

Notes: Numbers in parentheses are standard errors; *t*-statistics are listed below.

*Significant at 5 percent level.

**Significant at 1 percent level.

In a very preliminary investigation of the agreed tariff phase-outs between the United States and Mexico in NAFTA, we find evidence that U.S. phase-outs tend to be long for high-duty product categories. We find also that intraindustry trade between partners may induce shorter phase-outs, while a member's intraindustry trade with outside countries could slow tariff elimination.

Mexican tariff phase-outs do not seem to be explained by Mexican protection, at least not at the five-digit SITC level. For a subset of product categories we find, instead, that they are correlated with U.S. phase-outs. This may suggest some product-level reciprocity and that other issues, including the overriding one of obtaining free trade in the near future with its northern neighbors, were given higher priority by Mexican negotiators than the question of how to phase duties out. Furthermore, and as stressed in Kowalczyk 1990, since integration between a large and a small country implies gains in favor of the small country, our finding may also reflect an attempt by the parties to make the agreement more attractive for the United States, which otherwise might not stand to gain much from the agreement, at least in the short run.

As a final note, we stress again that this paper is only a first pass at starting

to investigate empirical features of tariff bargaining. The analysis, as presented, has many serious limitations, including that we have focused exclusively on trade data and not included industry data that earlier contributions on political economy, both theoretical and empirical, have found to be potentially helpful in explaining protection and its changes.

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Comment

Arvind Panagariya

The first three substantive sections of this paper provide an extremely useful discussion of the relevant theory and past experience. From the relatively small size of the paper, it may not be immediately obvious, but the authors have encapsulated a vast amount of information on analytic results from the piecemeal-reforms literature, various GATT rounds, and the empirical literature on the determinants of tariff liberalization. In addition, in the last substantive section, they have managed to give us an original econometric analysis of the political economy of the tariff phase-out in NAFTA.

Because the empirical section is the most interesting part of the paper, I will concentrate my comments on that section. But before doing so, let me make one point that relates to the theoretical section of the paper. According to a large body of the literature reviewed in the paper, preferential trading has an ambiguous effect on welfare. Yet, during the NAFTA debate, the view gained ground—even among many well-informed economists—that *any* liberalization was a good thing and that free trade areas (FTAs) were essentially equivalent to nondiscriminatory free trade. The original version of this paper, by adopting the title "On Intrabloc Tariff Reform," which conveys the sense that intrabloc tariff elimination is necessarily a good thing, seemed to fall into the same trap. I am glad, however, that the authors have decided to adopt a more neutral title in the final version.

Let me take a moment to dispel the notion that preferential trading, in general, and NAFTA, in particular, is necessarily a good thing. Recently, Jagdish

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The author thanks Carsten Kowalczyk for suggestions on an earlier draft.

Bhagwati and I (Bhagwati and Panagariya 1996; Panagariya 1996) have argued that if a high-tariff country (Mexico) forms an FTA with a low-tariff country (the United States), the static welfare effect of the union on the former (Mexico) is likely to be negative. To explain, note that when Mexico eliminates tariffs on the United States but retains them on the outside world, unless imports from the outside world are eliminated entirely, a substantial part of the tariff revenue collected on imports from the United States is transferred to exporters in the United States in the form of better terms of trade. The larger the imports from the United States and the higher the initial tariffs in Mexico, the larger the transfer. Because tariffs in the United States are initially low, the tariff-revenue transfer to Mexican firms from the preferential access to the United States' market is low. Thus, the net tariff-revenue redistribution goes against Mexico. Moreover, because redistribution effects are rectangles whereas trade-creation and trade-diversion effects—the main focus of the traditional theory—are triangles, the presumption is that the static welfare effect of NAFTA on Mexico will be negative.

The empirical part of the paper carries out an econometric investigation of the determinants of tariff liberalization in different sectors in the United States and Mexico. At first glance, it may seem that, since all tariffs on within-union trade are to be eliminated, what intersectoral differences are there to explain? But here the authors bring in the important point that the timetable for tariff phase-out is not uniform across sectors. Tariffs in some sectors will be eliminated faster than others. Therefore, we can sensibly ask why some sectors got placed on the fast track while others were placed on a slow track.

To answer, the authors take the length of time allowed before the elimination of the intra-NAFTA tariff at the sectoral level as the dependent variable and initial U.S. and Mexican tariff rates and the extent of intraindustry trade in the sector as the main independent variables. Remarkably, the authors find that the United States' initial tariff rate is a statistically significant explanatory variable in the equation of not only the United States but also Mexico. Thus, the greater the initial tariff protection in a sector in the United States, the longer the time allowed for the removal of the tariff in that sector not only in the United States but also Mexico. Equally interestingly, initial tariffs in Mexico are not statistically significant even in its own equation.

I have three comments on this very interesting section. First, I found the average tariff of 5.9 percent on Mexican goods in the United States, estimated by the authors, to be on the high side. Imports of many goods from Mexico enjoyed preferential treatment under the Generalized System of Preferences (GSP) even prior to NAFTA. Moreover, the overall U.S. tariff averages 4 to 5 percent. Revenue collection on imports from Mexico is between 3 and 4 percent of the imports. Based on these facts, the average tariff rate applying to Mexico should be substantially lower than 5.9 percent.

Second, though the current tariff rates in Mexico do not explain the tariff

phase-out under NAFTA, the rates imbedded in the GATT bindings may. Presumably, the structure of GATT bindings reflects better the structure of the current political power of producer interests than the actual tariff structure.[1]

Finally and most importantly, in their empirical work, the authors seem to take the view that whatever explains the nature of trade liberalization in a multilateral context (i.e., the GATT rounds) also explains trade liberalization in an FTA context. But one should expect the theory of preferential liberalization to be different from that of nondiscriminatory liberalization. I can think of at least three political-economy models of preferential liberalization.

Thus, casting the problem from Mexico's standpoint, we can first hypothesize that Mexican producer lobbies are the dominant force in Mexico. In this case, products likely to lead to trade diversion will be liberalized first and those leading to trade creation will be liberalized last. Domestic producers will accept tariff reductions affecting outside countries more readily than those affecting themselves. Second, we can imagine that the chosen sequencing of the phase-out was determined by a welfare-maximizing Mexican government. In this case, products associated with trade creation will be liberalized first while, among products leading to trade diversion, those likely to result in large tariff-revenue transfer to U.S. firms will be liberalized last. Finally, it is entirely possible that once Mexico agreed to go through NAFTA, given the large economic size of the United States, it lost all bargaining power. In this model, all shots will be called by the U.S. lobbies, and products whose liberalization serves U.S. export interests are likely to placed on the fast track.

Anecdotal evidence suggests that the phase-out of Mexico's tariff was indeed influenced by the U.S. producer interests.[2] If this is correct, the authors' finding that the higher the initial U.S. tariff in a sector the longer the time allowed for liberalization in Mexico has the implication that U.S. export interests in Mexico are represented by precisely those sectors that enjoy a high degree of protection within the U.S. market. That, in turn, implies that NAFTA may well have been an instrument of extending protection for U.S. firms to Mexico in sectors where they had to be protected domestically and, hence, did not enjoy a high degree of comparative advantage vis-à-vis outside countries. The likelihood of trade diversion in the Mexican market as a result of NAFTA then is high.

1. Mexico has undergone major tariff reforms in recent years, which may have led to a reconfiguration of political power of producer interests. GATT bindings rather than actual tariff rates may better represent this new configuration of political power.

2. For example, some U.S. auto manufacturers were already manufacturing automobiles in Mexico and faster tariff reduction on automobiles imported from the United States would have affected their operation in Mexico adversely. Therefore, liberalization of auto imports was placed on a slow track.

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Comment

Robert W. Staiger

Introduction

Carsten Kowalczyk and Donald Davis have written a paper that asks two largely separable but very important questions. First, can the form in which the world trading system permits preferential trading arrangements, as embodied in GATT's article XXIV and now incorporated in its successor, the World Trade Organization (WTO), be explained by economic theory? And second, do the staging rules that determine the speed with which the United States and Mexico eliminate tariffs on their bilateral trade under NAFTA reflect some notion of "reciprocity"?

To provide an answer to the first question, the authors survey recent theoretical arguments and conclude that economic theory at present provides only mixed support for article XXIV. To provide an answer to the second question, the authors examine whether either country's product-level staging decisions help predict those of its trading partner. They find that U.S. staging decisions help to predict the staging decisions of Mexico but not vice versa. They interpret this as evidence of "narrow reciprocity," in the sense that Mexico appears to have adjusted its own staging decisions to achieve a degree of product-by-product reciprocity with the staging decisions of the United States.

The first portion of their paper provides a useful synthesis of existing work on the theory of preferential trade agreements. However, the original contribution of the paper lies mainly in the authors' attempt to utilize data on NAFTA staging decisions to study the importance of reciprocity in trade negotiations, and it is to this portion of their paper that I will direct my comments.

Reciprocity

While much has been written about the principle of *reciprocity* as a pillar of GATT, the authors rightly point out that there is little in the way of hard empiri-

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cal evidence as to whether any notion of reciprocity is actually borne out in the negotiated outcomes under GATT.[1] This is not to say that reciprocity as a negotiating principle of GATT is in doubt: there is ample evidence that achieving an overall balance of offers is an important goal of negotiators.[2] But how close negotiators come to achieving their goal of reciprocity in any given negotiation is still an open empirical issue. After making this point, the authors then observe that the staging rules under which preferential agreements are phased in may be a good place to look for evidence of reciprocity, and the staging rules adopted by the United States and Mexico in implementing NAFTA become the focus of their empirical exercise.

But is the same reciprocity principle that forms a pillar of GATT likely to be reflected in the staging rules of a preferential agreement such as NAFTA? I am skeptical that it is. My doubts are based on two observations. My first observation concerns the theoretical underpinnings of reciprocity under GATT, and whether we should *expect* the logic of reciprocity to extend to preferential agreements negotiated within the context of a broader multilateral agreement such as GATT. My second observation concerns the actual implementation of GATT's principle of reciprocity and, if it *did* extend to preferential agreements, how it would apply in the specific case of two countries of vastly different size such as the United States and Mexico. I will elaborate on each observation in turn.

Should we expect the same principle of reciprocity to be applied consistently across multilateral and preferential settings? To begin to answer this, I first need a theoretical framework that can explain the role of reciprocity in a multilateral agreement such as GATT. Only then can I assess whether the logic of reciprocity is likely to extend to a preferential agreement negotiated within the context of the broader multilateral agreement.

The very notion of reciprocity suggests that governments consider reductions in their own tariffs a price to be paid for increased access to foreign markets. Indeed, this mercantilist orientation is imbedded in the language of GATT itself, where a government's decision to open its markets to imports is viewed as a "concession" that is deemed worthy only for the export benefits that a reciprocal concession from a trading partner would generate. This perspective is hard to reconcile with standard economic arguments, which hold that free trade is the best *unilateral* trade policy.

Nevertheless, theoretical underpinnings can be given to the principle of reci-

1. Throughout my comments I will follow Kowalczyk and Davis in referring to reciprocity as the balance of concessions that governments seek to obtain through negotiations. For further analysis of the meaning of reciprocity in GATT and its economic interpretation, see Bagwell and Staiger (1997a).

2. Even in GATT negotiating rounds where formula cuts were adopted, as in the Kennedy Round, a great deal of effort was put into developing adequate measures to define and judge the "balance of advantages" or "reciprocity" resulting from the negotiations (see, for example, Preeg 1970, 130–34).

procity in multilateral negotiations if one adopts the view, as in Bagwell and Staiger (1996), that GATT's central purpose is to prevent governments from exploiting their ability to shift costs of trade intervention onto trading partners when making trade-policy decisions in pursuit of domestic objectives. Observing that such cost shifting will occur through the terms-of-trade implications of intervention, we find that the terms-of-trade implications of trade-policy intervention imply that governments face less than the full cost of protecting their import competing sectors and exaggerated costs of stimulating their export sectors. As a result, whatever governments might seek to achieve through the national price effects of their trade policies—whether acting as national income maximizers or as agents for politically powerful interest groups, and whether motivated by complex distributional concerns or simply by the desire to create jobs in certain sectors—they will have a tendency to oversupply policies directed toward import protection and undersupply policies directed toward export promotion relative to the efficient intervention levels given their objectives. The principle of reciprocity can be readily interpreted within this framework as the desire of governments to exchange reductions in trade restrictions, so that more efficient outcomes may be realized: under reciprocity and the balance of concessions that it demands, the terms-of-trade implications of each country's own liberalization are neutralized, thereby removing an obstacle that prevented each country from unilaterally liberalizing in the first place. Therefore, *reciprocity facilitates the removal of inefficient trade restrictions that arise as a consequence of terms-of-trade motivations.*

Could reciprocity in the staging decisions of a preferential agreement negotiated within the context of a broader multilateral agreement also be explained on the grounds that it facilitates the removal of inefficient trade restrictions that arise as a consequence of terms-of-trade motivations? It seems unlikely. First, staging rules are by nature transitory, and their determination is more likely to be driven by a desire on the part of governments to mitigate the adjustment costs of achieving regional integration than by the efficiency concerns that can explain the principle of reciprocity in GATT. Second, explaining reciprocity in a preferential agreement on efficiency grounds is made difficult by a simple observation: any set of national prices achieved through the discriminatory tariffs associated with a preferential trade agreement could be achieved in the absence of the preferential trade agreement by a set of nondiscriminatory most-favored-nation (MFN) tariffs that generate the same country-by-country pattern of *multilateral* trade flows.[3] Hence, the desire of countries to negotiate preferential trade agreements within the broader context of GATT (and GATT's willingness to accommodate these desires under certain circum-

3. Strictly speaking, this statement is only valid in a partial equilibrium setting where income effects are absent. More generally, the income effect in moving from discriminatory tariffs might require changes in multilateral trade flows to maintain constant national prices (see Bagwell and Staiger 1996).

stances) is not easily explained as the result of a search for trading arrangements that yield more efficient outcomes.[4] Instead, regional integration initiatives are more likely to reflect broader objectives such as military security or political stability (and GATT's acknowledgment that such objectives can be served by deeper integration among a subset of its members).[5]

This suggests to me that the central purpose of preferential agreements within a multilateral framework is likely to be fundamentally different than the purpose of the multilateral agreement itself, and therefore that the logic of reciprocity in the multilateral context will not generally apply to preferential agreements negotiated within the broader multilateral framework. As a consequence, I am skeptical that we can learn much about the reciprocity principle that forms a pillar of GATT by looking at the staging rules under which preferential agreements are phased in.

Nevertheless, suppose the same principle of reciprocity that is found in GATT *did* extend to the staging rules for the United States and Mexico in implementing NAFTA. What would we expect to see in the data? If the principle of reciprocity as found in GATT were applied consistently to preferential agreements, I would expect to find *very little* evidence of reciprocity in the staging rules that implement a free trade agreement between a large and small country such as the United States and Mexico under NAFTA.[6] This is because the reciprocity principle of GATT is effectively applied only among the major industrialized countries. Small countries are extended the tariff reductions negotiated among their larger trading partners on an unconditional MFN basis, and are therefore not required to reciprocate with tariff reductions of their own. This is true in GATT rounds in which negotiations have proceeded under a *principal supplier* rule (whereby requests for concessions on a particular product are made only by the exporter of the largest volume of that product, with the negotiated outcomes then extended to all GATT member countries on an unconditional MFN basis), an approach that was used explicitly in the GATT rounds prior to the Kennedy Round (see, for example, Dam 1970, 61–62) and partially returned to in the most recent Uruguay Round. But it is also true of rounds such as the Kennedy Round and the Tokyo Round, where negotiators adopted a common tariff-cutting rule.[7]

The fact that small countries have generally not been asked to offer recipro-

4. A qualification to this statement is warranted. Weak enforcement mechanisms at the multilateral level may prevent countries from achieving efficient policies under GATT, in which case stronger enforcement possibilities among a subset of GATT-member countries could allow further preferential liberalization toward efficient policies. (See Bagwell and Staiger 1997b, 1997c, 1997d; Bond and Syropoulos 1996a, 1996b; Bond, Syropoulos, and Winters 1996.)

5. Or, in the case of customs union formation, an enhanced negotiating position within GATT (see, for example, Ludema 1992).

6. For my argument, what is relevant is that Mexico is small in the sense of its ability to affect world prices.

7. See Dam (1970, 68–78) and Preeg (1970, 130). For example, in assessing the implications of adopting a common ("linear") tariff-cutting rule for the principle of reciprocity in the Kennedy Round, Dam observes:

cal concessions to large countries in GATT negotiations suggests to me that, if there *is* strong evidence of reciprocity in the particular staging decisions of the United States and Mexico under NAFTA, it is *not* driven by the same underlying forces that have made the reciprocity principle a pillar of GATT.

Conclusion

What, then, does looking for evidence of reciprocity in the staging rules of preferential agreements mean? I am not exactly sure. Yet the authors do find some evidence of reciprocity in the staging rules of NAFTA, in the sense that U.S. staging decisions help to predict the staging decisions of Mexico but not vice versa. They interpret this as evidence of "narrow reciprocity," in the sense that Mexico appears to have adjusted its own staging decisions to achieve a degree of *product-by-product* (five-digit SITC level) reciprocity with the staging decisions of the United States. While this reciprocity appears to be operative in only one direction, it is nevertheless noteworthy that it holds product by product: compared to the traditional notion of an *overall* balance of concessions that characterizes the reciprocity principle under GATT, this is a particularly strong form of reciprocity (see, for example, Dam 1970, 58–61).

The authors have therefore provided an interesting empirical finding, but for the reasons given above I am not convinced that it reflects reciprocity in action. What could it reflect, if not reciprocity? I can think of at least one possibility. It seems plausible that the pattern of political support and/or the degree of adjustment cost across sectors is an important determinant of the staging rules in each country. It also seems plausible that these variables would be highly correlated across countries, that is, the lists of industries that enjoy strong political support or suffer major adjustment costs are likely to look very similar across countries. And finally, the existing tariff structure in the United States is likely to strongly reflect these industry characteristics (see, for example, the empirical evidence in Baldwin 1985) but, as a result of the major liberalization of Mexico's trade policy that has occurred in the context of broader reforms instituted since the mid-1980s, the existing tariff structure in Mexico may well not. Under this interpretation, U.S. tariff levels would help predict U.S. staging patterns while Mexican tariff levels would not predict Mexican staging patterns (as the authors find) and, by serving as a proxy for measures of the pattern

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Interestingly enough, the shift from the product-by-product method to the linear method was not accompanied by a deemphasis of the principle of reciprocity. The first principle in the 1963 Resolution was:

> *A significant liberalization of world trade is desirable, and . . . for this purpose, comprehensive trade negotiations, to be conducted . . . on the principle of reciprocity, shall begin at Geneva on 4 May 1964, with the widest possible participation.* (Basic Instruments, 12th Supplement, 1964, p. 47.)

Only in the fourth principle was the linear method mentioned for the first time. (69)

Later, Dam writes: "The Kennedy Round experience suggests that rules alone cannot determine the content of tariff negotiations, particularly so long as the principle of reciprocity exercises such a powerful influence on negotiators" (77).

of political support and/or adjustment costs across sectors of the Mexican economy, U.S. staging patterns would help predict Mexican staging patterns as well.

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