CHAPTER 18

THE DESIGN OF TRADE AGREEMENTS

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Introduction

In recent decades there has been an explosion in the number and importance of preferential trade agreements. As of 2012, more than 250 of these agreements are in effect, and dozens more are under negotiation. Every country in the world has signed at least one, while some have signed more than thirty-five. This increase has prompted many economists and political scientists to analyze the design of trade agreements.

These agreements have a common objective—to promote international trade—and all operate independently of the multilateral trade regime. Yet they vary dramatically in their design. Some preferential trade agreements (PTAs) are bilateral, while others are regional. Some impose shallow trade obligations, whereas others impose deep obligations. Some exist only on paper; others have complex institutions. This variation suggests two questions. First, how does the design of a PTA affect the behavior of its members? Second, what designs are optimal for a given political-economic context?

Our primary objective in this chapter is to distill the existing research on PTA design. Most of this research focuses on the treaty level. That is, scholars have examined how the design of individual treaties shapes state behavior. Our secondary objective is to suggest that future research should consider the design of PTAs at the system level. In addition to studying agreements as isolated "observations" or data points, we should also ask how these agreements interact with one another and with the multilateral trade regime, previously manifested in the General Agreement on Tariffs and Trade (GATT) and now in the World Trade Organization (WTO).

A preferential trade agreement creates legal restrictions on its members' trade policies. Such agreements aim to promote economic integration among member countries by improving market access. For example, the North American Free Trade Agreement (NAFTA) creates a free trade area in which trade barriers are reduced or eliminated on

products exchanged among Canada, Mexico, and the United States. In contrast, customs unions like the Andean Community eliminate internal trade barriers and set common tariffs for nonmember countries. Empirical scholars use the term "PTA" in slightly different ways. We use this term to denote any international agreement with limited membership that restricts the trade policies of its members. This inclusive definition covers bilateral and regional agreements, free trade areas, customs unions, common markets, and economic unions (Bhagwati 1993; Krueger 1999; Mansfield and Milner 2012). While these kinds of agreements differ in certain respects, all constrain trade policy in some way.

We adopt a strategic, game-theoretic perspective to examine how a PTA changes the incentives, and hence the behavior, of its members. This perspective allows us to consider the relationship between an institution's design and its effect. We focus on preferential trade agreements because these instruments collectively illustrate broad variation in institutional design. Different design features constrain members in particular ways; we leverage PTA variation to explain their potential effects on countries' behavior. This chapter builds on insights from the literature on the multilateral trade regime. Over time, new design features have been incorporated into the GATT and now the WTO. Scholars have shown how changes in these design elements—flexibility, dispute settlement procedures, scope, and so forth—can influence cooperation among WTO members (Rosendorff and Milner 2001; Rosendorff 2005; Barton et al. 2008; Kucik and Reinhardt 2008). We draw on these insights throughout this chapter, integrating our study of institutional *design* with a discussion of institutional *effects*.

Throughout this chapter we use data from several sources, drawing primarily on the WTO's *Regional Trade Agreements Database*, which includes all preferential trade agreements notified to the WTO between 1951 and 2012. These agreements are reciprocal, meaning that all members commit to granting market access to one another. Because the WTO records the date a PTA enters into force and whether it is active, we are able to approximate the number of agreements in effect at a given time.[1] We supplement this information with data from Mansfield and Milner (2012). In addition, the *Design of Preferential Trade Agreements* data set from Kucik (2012) provides information on many design features—flexibility, dispute settlement procedures, and so forth—for approximately 330 PTAs signed between 1960 and 2008. For a measure of the depth and scope of trade agreements, we refer to two additional data sets: *Reciprocal Trade Agreements in Asia* from Hicks and Kim (2012), which records the depth and pace of trade commitments in sixty-seven Asian trade agreements, and the *World Trade Report 2011*, which is an updated version of the data in Horn, Mavroidis, and Sapier (2010) that documents the scope of a sample of approximately one hundred PTAs.[2]

We begin by focusing on the treaty level. We describe the immense variation in the design of PTAs and examine how this variation shapes the behavior of members. We then step back and examine PTAs at the system level. We show that the proliferation of PTAs has created complex networks of overlapping treaties and ask how these networks might promote or hinder international trade cooperation.

Design Elements

The growing plethora of trade agreements has created immense variation in the design of PTAs. In this section we discuss five major PTA design elements: depth, scope, membership, rigidity, and institutionalization.

Depth

Preferential trade agreements vary in depth, the extent to which a PTA constrains state behavior. Deeper agreements place more significant limits on state behavior. Depth often refers to tariff bindings, which are the highest tariffs that a state can impose while still complying with the agreement. Lower tariff bindings require deeper cooperation because they grant a state less policy discretion.

Depth can also refer to nontariff barriers, including quantitative restrictions. When a state imposes a quantitative restriction, such as an import quota, it limits the quantity of an imported good to protect domestic producers. For example, the United States restricts sugar imports—especially from Mexico and Brazil—to protect US farmers. Many PTAs prohibit quantitative restrictions or limit the circumstances under which they can be used. Deeper agreements impose stricter limits on the use of these restrictions.

Preferential trade agreements also often address regulations that create barriers to trade, such as customs procedures, licensing rules, product standards, and government procurement rules. For example, states often require government entities to purchase goods and services from domestic firms. The American Recovery and Reinvestment Act of 2009 contained a "Buy American" clause that required fund recipients to purchase goods and services from US companies (Uchitelle 2009). Preferential trade agreements often limit government procurement rules like the "Buy American" clause to ensure that foreign firms can compete for government contracts. Nearly 40 percent of trade agreements address government procurement (*World Trade Report* 2011).

In short, deeper agreements have lower tariff bindings and make it more difficult for treaty members to impose nontariff barriers, such as quantitative restrictions and regulations that restrict trade.

Scope

Preferential trade agreements also vary in scope, the number of issue areas covered by the agreement. All PTAs regulate the trade of goods, but not all cover agricultural goods (Davis 2003). Nearly 73 percent of the PTAs in our sample address nontariff barriers on agricultural goods, but these provisions tend to differ significantly from one agreement

to the next, reflecting members' domestic political concerns. In addition, roughly half of PTAs regulate the trade of services, such as accounting and telecommunications (*World Trade Report* 2011).

These agreements can also address nontrade issues. Approximately half of PTAs have intellectual property provisions (*World Trade Report* 2011), which typically require members to recognize and protect copyrights, patents, and trademarks. Similarly, many PTAs regulate competition policy (53 percent) by prohibiting monopolies and cartels and protect foreign investment (42 percent) by, for example, requiring expropriating countries to provide compensation to foreign investors. Trade agreements also increasingly address noneconomic issues, such as human rights and environmental protection (Hafner-Burton 2005; Steinberg 2002).[3]

On average, the scope of PTAs has increased over time. Whereas the average PTA in the 1970s regulated nine trade and nontrade issues, the average PTA in the 2000s covers fifteen issues (*World Trade Report* 2011). There is some ambiguity in the empirical literature about the difference (if any) between the depth and scope of a PTA (Horn, Mavroidis, and Sapier 2010; Baccini, Dür and Elsig 2012). From a theoretical perspective, agreements with a broader scope place more constraints on state behavior and therefore require deeper cooperation. We thus consider scope to be one specific form of depth.

Membership

Trade agreements vary in the size of their membership. The majority of PTAs are bilateral, but there are also many important multilateral trade agreements (Mansfield and Milner 2012). These vary dramatically in size. While NAFTA has only three members, the Global System of Trade Preferences among Developing Countries has forty-five. Most multilateral PTAs are regional—they include members from the same geographical area (Baccini and Dür 2012). This is not particularly surprising, because countries tend to trade most with their neighbors.

Some scholars argue that there is a fundamental trade-off between the depth of a treaty and the size of its membership. When an agreement has more members, they argue, it will demand less because the agreement must be acceptable to the state least willing to cooperate. Agreements with more members may thus be shallower than agreements with fewer members (Downs, Rocke, and Barsoom 1998; Gilligan and Johns 2012). Agreements like the Association of South-East Asian Nations (ASEAN) PTA—which has many members and is very shallow—support these arguments. However, many other trading agreements, like the European Union's single market program—which also has many members and is relatively deep—do not. There is thus mixed evidence about whether agreements with fewer members lead to deeper commitments.

The relationship between membership and depth is likely to be influenced by the design of treaty commitments. When a PTA requires all members to commit to a common policy, then more members may lead to shallower commitments following the logic stated above. However, when a PTA allows different members to commit to different policies, then treaties with many members can generate deep cooperation, because the states least willing to cooperate can accept shallow commitments without hindering those states that want to make deeper commitments (Gilligan 2004).

Rigidity

There is also tremendous variation in the rigidity of trade agreements. Flexible agreements sometimes allow states to violate their trading obligations without abrogating the treaty, while more rigid agreements allow few (if any) opportunities for temporary escape. For example, most PTAs contain safeguard rules that allow states to restrict trade if an import surge harms a domestic industry. Preferential trade agreements also often contain antidumping rules, which allow members to impose an additional tax—an antidumping duty—if a domestic industry is harmed by an import that is sold below its normal value. Similarly, roughly 28 percent of PTAs allow states to impose a countervailing duty if a subsidized import harms a domestic industry (Kucik 2012). All three of these mechanisms reduce the rigidity of a PTA.

Even among those treaties that do contain flexibility mechanisms, treaty rules vary dramatically in the criteria and procedures that states must use to restrict trade and in the limits on the duration and magnitude of these restrictions. In the case of safeguards, some treaties require consultations between the importer and exporter before safeguards can be used, whereas others allow states to take unilateral action. In addition, many (but not all) PTAs place strict constraints on the duration and magnitude of safeguard measures (29 percent and 66 percent, respectively). For example, the US-Australian PTA only allows safeguards for two years and limits the size of the safeguard on certain products. By contrast, the Pacific Island Countries Trade Agreement allows four-year renewable safeguard measures and does not limit the size of these safeguards.

Some PTAs—often called "fair trade" agreements—also give states the discretion to restrict trade to accommodate competing values. For example, many European PTAs allow trade restrictions that are "necessary to protect human, animal or plant life or health."[4] Similarly, some PTAs promote labor protection through rules on minimum wages, child labor, and occupational safety (Kim 2012). These provisions all give countries flexibility to balance trade liberalization with other social objectives.

Institutionalization

Finally, PTAs vary widely in their institutionalization. Some treaties simply articulate goals for cooperation, while others create complex bureaucracies and dispute settlement procedures (DSPs).

When PTAs have bureaucracies, members can delegate the authority to modify and create rules (Johns and Pelc 2014). Bureaucracies can also monitor compliance with the treaty. For example, the European Union (EU) is a highly institutionalized customs union with a bureaucratic entity—the European Commission—that monitors policy implementation. The commission publishes annual implementation reports and can file lawsuits against a state that violates its treaty obligations.

Most PTAs also contain DSPs, which are rules for trade disputes among members. These DSPs play a vital role in providing information about state behavior and coordinating informal enforcement of treaty rules (Johns and Rosendorff 2009; Johns 2012).[5] Few scholars have examined DSPs in a comparative context, so there is no standard method for measuring their institutionalization. Some DSPs are relatively informal and only require states to conduct good faith negotiations to resolve their trade disputes. Others allow members to refer disputes to the International Chamber of Commerce—which oversees international arbitration—or the International Court of Justice.

Approximately 70 percent of PTAs currently in force contain formal dispute settlement procedures (Kucik 2012). They usually allow an individual or panel to hear arguments from affected parties and then issue some form of opinion. The DSPs used vary in the selection of individuals or panels, as well as the legal status of the opinion. Some DSPs only allow the individual or panel to make nonbinding recommendations; others allow legally binding rulings. The latter sometimes have implementation procedures to ensure the disputants adopt the decision in a reasonable period of time.

Most scholars believe that more formal DSPs make a treaty more rigid, but they disagree about how the *existence* of DSPs affects rigidity. We believe that this confusion stems from differences in how scholars conceptualize dispute settlement in the absence of formal procedures. Some scholars believe that treaties without DSPs are sustained using grim-trigger punishment, which leads to the total collapse of a treaty if any state commits a single violation. For these scholars, the existence of DSPs reduces rigidity because it provides opportunities for states to violate their substantive treaty obligations without abrogating the agreement (Rosendorff 2005; Rosendorff and Milner 2001). Dispute settlement procedures are therefore more "forgiving" than anarchy. Other scholars assume (usually implicitly) that a treaty without DSPs continues to be in force even if a state violates it. For these scholars, the existence of DSPs increases rigidity because it allows for the punishment of treaty violations that would otherwise be ignored (Goldstein et al. 2000; Smith 2000; Guzman 2002). They believe that DSPs are therefore more "punishing" than anarchy.

Impact of Design on State Behavior

Because the primary objective of trade agreements is to promote international trade, most trade scholars care inherently about the causal effect of PTAs: the extent to which

trade agreements actually increase international trade. As Martin (2013, 605) notes, "[a] causal effect is stated as a counterfactual: how does state behavior in the presence of an institution differ from the behavior that would have occurred in the absence of the institution?" Because it is very difficult, if not impossible, to measure something that has not happened—for example, how much a PTA member would have traded if it were not a PTA member—we must rely on theoretical tools like game theory, which allows us to compare state behavior both with and without a PTA to understand the impact of PTA design on state behavior.

The design of a PTA determines the extent to which a treaty requires a state to change its behavior. Ceteris paribus, a PTA will be more effective when it imposes deep obligations for a broad scope of issues on many members. However, rules can only be effective if member states actually change their behavior. In the short term, PTAs will be more effective when members comply with treaty rules. In the long term, PTAs will be more effective when they create stable regimes that endure over time. In this section we provide a summary of previous research that examines the impact of treaty design on compliance and stability.[6]

Domestic Political Pressure

The study of trade agreements cannot be divorced from domestic politics (Goldstein and Martin 2000). While trade agreements can generate aggregate economic benefits for a society, they have a distributional impact: some domestic groups benefit from trade liberalization while others suffer. This distributional impact means that trade agreements have political implications. When governments negotiate treaties and choose trade policies, they must balance the competing interests of three domestic groups: import-competing industries, exporters, and consumers. Import-competing industries are harmed by trade liberalization because free trade increases market competition. They therefore want their government to impose high tariffs on imported goods. Exporters are not directly affected by their own government's tariffs, but they support trade liberalization if it leads to lower tariffs in other countries, because exporters want to compete in foreign markets. Finally, consumers care about the price of goods and services in their country. Consumers are not directly affected by the tariffs of other countries, but they benefit from the market competition that is created by free trade. Of course the real world is considerably more complex than this simple account, but this basic framework provides insight into the interests competing over trade policy.

The relative political power of these three groups will fluctuate over time. As discussed elsewhere in this volume by Rosendorff, economic factors, such as import surges and changes in foreign production technology, can increase pressure to protect an import-competing industry from foreign competition at the expense of consumers and exporters. Similarly, political factors, such as a closely contested election, can affect the willingness of a government to meet the demands of an import-competing industry. Finally, random and unexpected events—such as floods, droughts, and

earthquakes—can also lead governments to temporarily protect domestic industries by imposing trade barriers.

These changes in domestic political pressure from import-competing industries, relative to consumers and exporters, ensure that a leader's incentive to cooperate fluctuates over time. When states negotiate trade agreements, they know that domestic political pressure from import-competing industries will fluctuate in the future. But states cannot perfectly anticipate the amount of future domestic political pressure; they will always be at least somewhat uncertain about the future difficulty of trade cooperation.

PTA Components

Trade agreements must therefore contain at least two elements. First, a treaty must create primary rules that specify appropriate behavior. Some examples of primary rules are tariff bindings, the maximum tariffs that are permissible under the treaty; the prohibition of quantitative restrictions; and government procurement rules. In the following discussion we focus on tariff bindings, but our arguments apply to any primary rule that constrains a government's trade policy. The deeper the treaty, the more it constrains its members. When treaty members follow these primary rules, there is first-order compliance with the treaty.

Second, a treaty must create secondary rules about how members will respond when a member violates its primary obligations. These secondary rules are usually created by dispute settlement procedures.[7] When secondary rules are relatively lax, the treaty is flexible. As secondary rules grow stricter, the treaty becomes more rigid. In the international system, states cannot be compelled to follow a treaty's secondary rules. For example, a state that violates a tariff binding can either abide by a regime's secondary rules or leave the treaty altogether. When treaty members follow these secondary rules, there is second-order compliance with the treaty.

In the following discussion we conceptualize DSPs as imposing a penalty for treaty violations. Penalties can come in many forms, including trade retaliation, equivalent concessions, technical assistance, reputational costs, and even the cost of negotiations and litigation. The specific design of a DSP will affect a state's expected cost of second-order compliance. Rather than modeling specific DSPs, scholars have focused on the underlying concept of rigidity; namely, more rigid treaties make it more costly for a state to violate first-order rules and remain a member of the regime. We therefore model the rigidity of a PTA by the size of the penalty that it imposes for first-order violations.

Equilibrium Behavior with and without a PTA

Absent a cooperative agreement, a leader's optimal action in each period is to choose the tariff that maximizes his or her own one-period utility. This "defection tariff" increases as the domestic political pressure to protect grows larger. Leaders have little incentive

to choose low tariffs, because these will harm their import-competing industries without benefiting their exporters. Consumers prefer low tariffs that reduce the domestic price of goods and services, but they usually exert less influence than import-competing industries, which can lobby the government for protection.

When states write trade agreements, they are implicitly "trading" benefits for exporters. When state *A* lowers its trade barriers, it helps exporters in another state, *B*, and harms its own import-competing industries. State *A* is only willing to do this if, in exchange, state *B* lowers its trade barriers, thus benefiting *A*'s exporters. Cooperation is therefore conditional: one country is only willing to make trade concessions if other members do so as well. Members may want to allow treaty violations when a state faces high pressure to protect, but a treaty must impose a penalty for a rule violation, or members will dissemble about their true political pressure and the treaty will collapse (Rosendorff and Milner 2001).[8] So a treaty member must make two decisions: (1) Will it comply with the treaty? and (2) If it does not comply, will it accept the penalty to settle the dispute or leave the treaty regime?

Many theoretical models generate the equilibrium behavior shown in Figure 18.1.[9] The horizontal axis represents domestic political pressure to protect, and the vertical axis represents the tariff. The dotted horizontal line shows the tariff binding that is

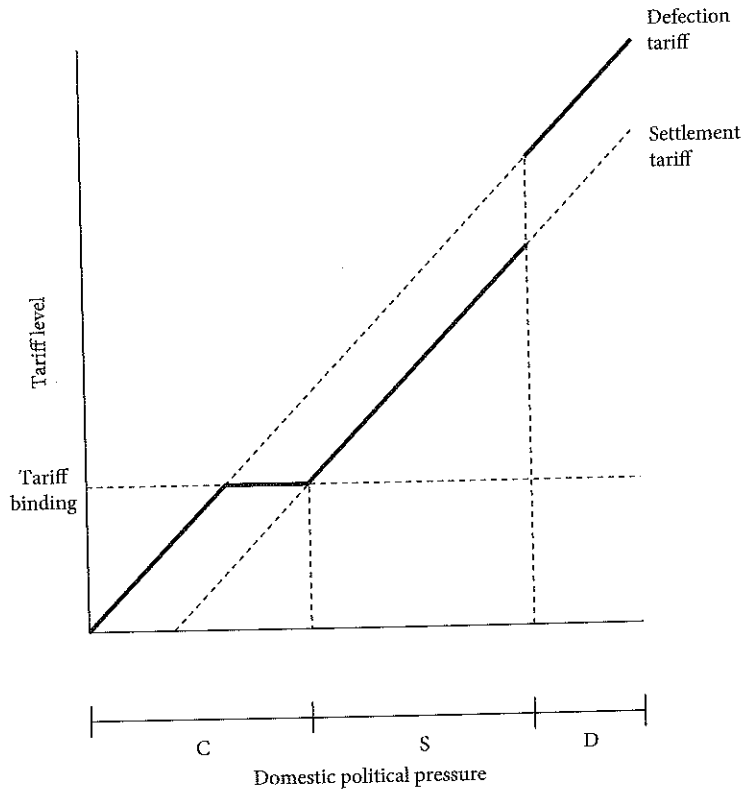

FIG. 18.1 Equilibrium Tariffs under a Trade Agreement.

mandated by the trade agreement. The "defection tariff" line shows the state's optimal tariffs when the PTA is not in effect. The "settlement tariff" line shows the optimal tariffs if a state violates a PTA but then accepts the penalty to settle the resulting dispute and remain a member of the PTA in future periods. The "settlement tariff" line is therefore the "defection tariff" line shifted downward by the penalty amount. The bold line denotes the tariffs that a leader will choose in equilibrium under the trade agreement.

Suppose that domestic political pressure is low. If a leader were to choose the optimal tariff without regard to the country's international obligations, then the tariff he or she would choose (the "defection tariff") is lower than the treaty binding. In such situations, a leader's trade policy is unconstrained by the treaty, and he or she complies. However, as domestic political pressure increases, the defection tariff breaks the binding. To comply with the treaty, the leader will need to choose the tariff binding, as shown by the flat portion of the bold line. The full compliance region is shown in the bottom portion of the figure by region *C*.

As domestic political pressure grows even larger, leaders are better off violating the binding and then settling under the treaty's dispute settlement procedures. The optimal tariff in these circumstances, the "settlement tariff," rises with the level of domestic political pressure. However, the settlement tariff is always less than the defection tariff, because the treaty's violation penalty tempers the magnitude of treaty violations. The more rigid a treaty is, the larger the violation penalty. The settlement interval is indicated by region *S* of Figure 18.1.

Finally, if domestic political pressure grows very large, leaders will no longer be willing to settle trade disputes to remain within the treaty regime. It is instead optimal to defect by reverting to the defection tariff and leaving the trade regime altogether. This occurs in region *D* of the figure.

To understand how depth and rigidity affect the likelihood of full compliance and stability, we must investigate how the design of the treaty affects regions *C* and *D*. As region *C* expands, the likelihood of full compliance increases, because leaders are more likely to choose tariffs at or below their binding. As region *D* expands, stability decreases because a treaty member is more likely to defect by violating the treaty terms and exiting the regime.

Impact of Depth on State Behavior

When a trade agreement grows deeper, it imposes stricter constraints on its members. For example, a deep tariff binding requires lower tariffs than a shallow binding. As a treaty grows deeper, it thus becomes more difficult for members to comply and, not surprisingly, the likelihood of compliance decreases. This is the primary reason we should not confound the concepts of compliance and effectiveness: if a treaty places few constraints on states, it is unlikely to change behavior, even if we observe

high compliance rates (Downs, Rocke, and Barsoom 1996). In addition, by requiring more from its members a deep treaty makes it more difficult for a state to temporarily violate its obligations and then settle the resulting dispute. If a state breaks its binding, the magnitude of any violation—the difference between the chosen tariff and the binding—increases as a treaty grows deeper. This in turn makes it more costly for a state to settle its dispute within the DSP. Accordingly, deeper treaties are inherently less stable than shallower treaties, because states are more likely to exit deep treaties.

Figure 18.2 shows the effect of lowering the tariff binding from a shallow to a deep binding. This makes the agreement more demanding on the member states, because the treaty requires deeper cooperation. The solid line denotes equilibrium tariffs under the shallow binding, and the dashed line shows equilibrium tariffs under the deep binding. As the bottom portion of Figure 18.2 indicates, when the tariff binding grows deeper, the region of full compliance shrinks from *C* to $\overline{C}$ and the region of instability (defection) grows from *D* to $\overline{D}$. A treaty regime is stable if there is either full compliance or settlement. Trade agreements that demand deeper cooperation thus lead to less compliance (region *C*) and less stability (regions *C* and *S* combined).

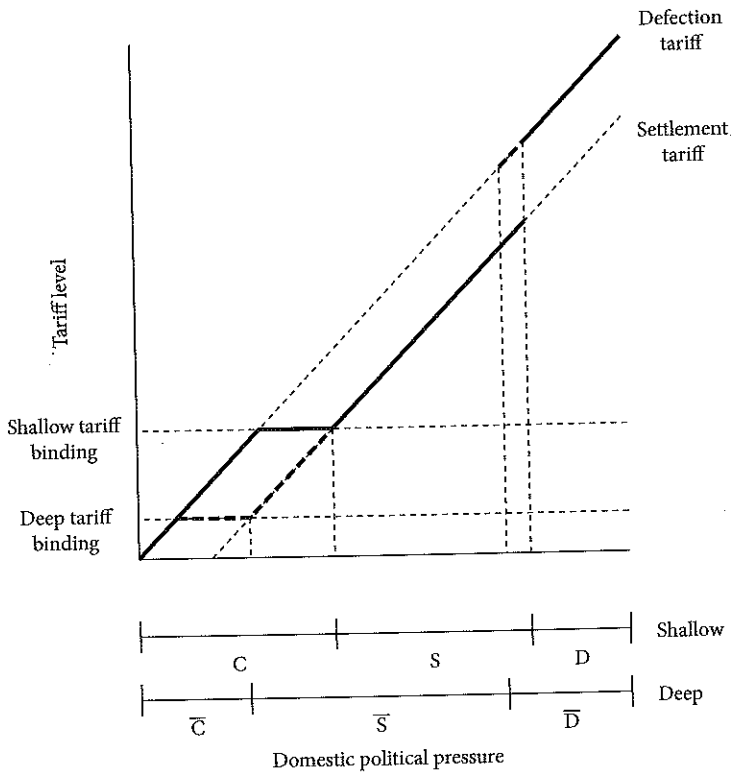

FIG. 18.2 Deep Agreements Reduce Compliance and Stability.

Impact of Rigidity on State Behavior

When a treaty is flexible, it is relatively permissive of occasional defections and imposes only small penalties on treaty violators. As a treaty grows more rigid, it becomes less permissive of these violations and imposes larger penalties on treaty violators. Increasing the rigidity of a treaty thus makes it more costly for a state to violate its binding and then settle the resulting dispute. When a leader faces relatively low domestic political pressure to protect, increasing rigidity makes full compliance more desirable relative to settlement. However, when a leader faces high domestic political pressure, rigidity makes defection more desirable relative to settlement. Rigidity—which makes it more difficult for a state to temporarily violate and then settle—thus increases the probability of full compliance and decreases the stability of the regime.

Figure 18.3 shows the impact of moving from a flexible to a rigid design. The solid line denotes equilibrium tariffs under a flexible agreement, and the dashed line shows equilibrium tariffs under a rigid agreement. The first thing to note is that states choose lower settlement tariffs under the rigid regime: if a state is going to be more severely penalized for a violation, then it will violate less by choosing a lower tariff. For the settlement (*S*) region of the figure, states do not fully comply with either treaty, but the magnitude of

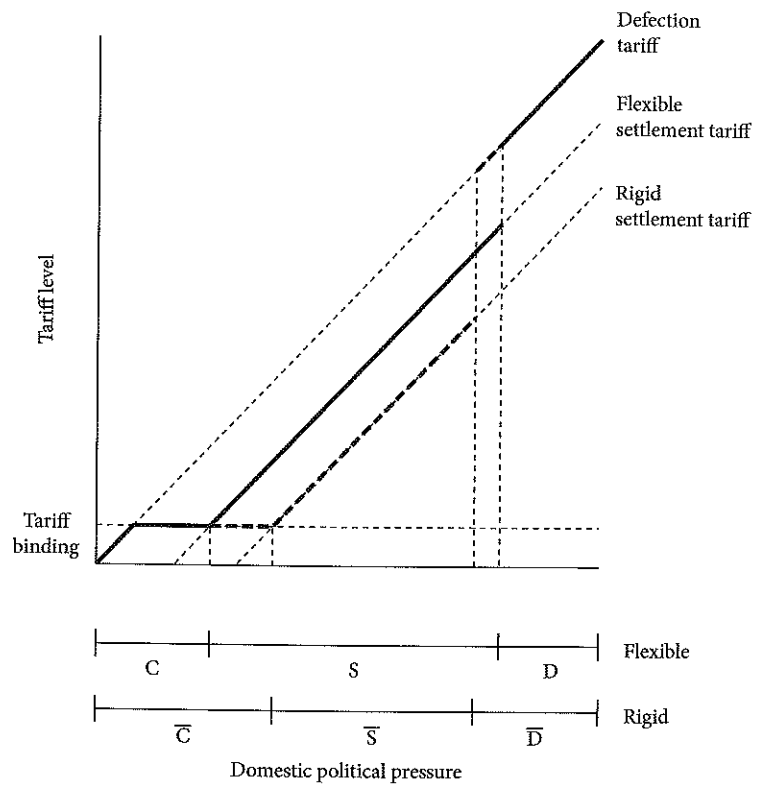

FIG. 18.3 Rigid Agreements Increase Compliance but Decrease Stability.

violations—how much the chosen tariff varies from the tariff binding—is larger under the more flexible treaty. In addition, as rigidity increases, the zones for both full compliance and instability increase (from *C* to $\overline{C}$ and *D* to $\overline{D}$, respectively), which demonstrates that rigidity increases the likelihood of full compliance (region *C*), but decreases stability (regions *C* and *S* combined).

The specific design of a trade agreement changes the way its members behave. The overall effectiveness of a treaty in reducing trade barriers is thus determined by the treaty's rules and how states respond to changes in domestic political pressure. This framework does not provide clear predictions about which specific designs will be optimal in promoting trade liberalization. However, it does suggest that the design of a trade agreement should be conditioned, at least in part, on the cost of leaving the treaty regime (Johns 2015).

When a state leaves a treaty, it can no longer expect to receive the benefits of cooperation. Yet some trade agreements are nested in political environments that increase the cost of exit even further. If treaty membership is linked to a multilateral organization, such as the WTO or the EU, exit should be more costly. In such situations treaty designers can worry less about the impact of the treaty design on stability and write trade agreements that are both deeper and more rigid. However, when trade agreements are not nested in such a political context, stability is a greater concern, and treaty designers should thus be more likely to write shallow and flexible treaties.

Networks and Complexity

In this section we move to a system-level analysis of trade agreements. As the number of PTAs has increased, an overlapping and complex network has emerged. We examine the interaction among PTAs and ask how this complex network of agreements affects trade liberalization.

PTA Proliferation and Expansion

Preferential trade agreements have proliferated over time. As shown in Figure 18.4, the first PTAs began to appear in the 1950s, and the number of PTAs in force grew at a steady pace until around 1990. After 1990 the number of PTAs exploded. Figure 18.4 also shows that the number of countries participating in at least one PTA has increased over time.[10] European countries have contributed significantly to the proliferation of PTAs, but as of this writing, almost every country is a member of at least one PTA.

Several factors drive the global proliferation of PTAs. These agreements reduce trade barriers and thereby lower the price of imports from member countries, which benefits both exporters and consumers at the expense of import-competing industries. However, PTAs can generate negative externalities for exporters in nonmember

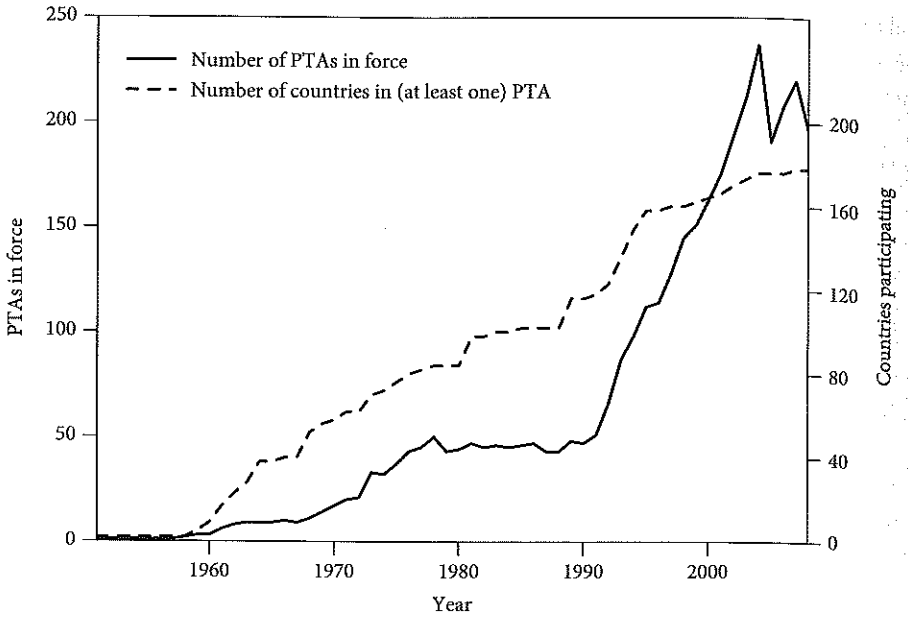

FIG. 18.4 Proliferation of PTAs over Time.

Source: Data from Kucik (2012) and the World Trade Organization Regional Trade Agreements Database.

states (Chang and Winters 2002). All else being equal, a PTA lowers the profit of nonmember exporters because they face higher tariffs than their competitors from member states. Preferential trade agreements with deeper commitments or broader scope magnify this effect. Economists have shown that such trade diversion—to members and away from nonmembers—encourages PTA membership (Grossman and Helpman 1995; Krishna 1996). Moreover, the tariffs applied by PTA members against nonmembers may be even higher than they were in the absence of the PTA (Panagariya and Findlay 1996). By granting benefits to members and generating losses for nonmembers, countries have an incentive to either create new PTAs or join existing ones.

Some scholars argue that when the membership of a PTA expands, incentives to join intensify because larger PTAs magnify the trade diversion effect (Hoekman and Kostecki 2009, 499). Remaining outside the regime becomes more costly. So each time a country joins a PTA, the pressure on other countries to join increases, creating a "domino effect" (Baldwin 1995). The more countries are involved in a PTA and the more effective that PTA is at generating in-group advantages, the more appealing it is for nonmembers to accede (Baldwin 2006). The EU exemplifies this "domino effect" of PTA expansion. Originally a trade agreement among six countries, the European Economic Community went through successive enlargements. By 2007 there were twenty-seven members and several other countries undergoing the accession process.

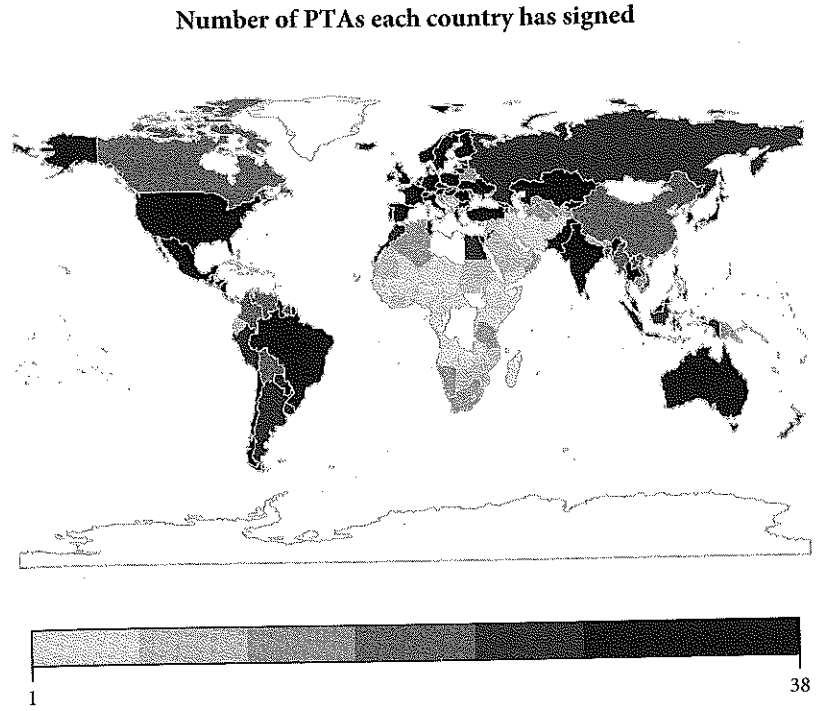

FIG. 18.5 Density of PTA Membership.

Source: Data from Kucik (2012); image created with R package "rworldmaps." We only show PTAs in force and notified to the WTO.

As PTAs proliferate and expand, nonmembers also encounter stronger incentives to form their own trade blocs. Some scholars argue that PTA members might limit accession of new members, prompting outsiders to create separate trade agreements (Panagariya 2000). By cooperating with one another, these other countries strengthen their multilateral bargaining position. For example, a primary objective of Mercado Común del Sur (MERCOSUR) was to improve the bargaining power of its members vis-à-vis NAFTA and the EU (Whalley 1998, 72; Bevilaqua, Catena and Talvi 2001, 153). Its members enjoy more bargaining leverage as a group than they would as individuals. Some empirical studies show that MERCOSUR is not a unique case; countries' decisions to form PTAs are highly interdependent (Egger and Larch 2008; Baccini and Dür 2012). Thus membership limits, an important design choice, can affect PTA proliferation.

Network Complexity

As PTAs have proliferated and expanded, a complex network has emerged. While some countries enter only one or two trade agreements, others join many. Figure 18.5 shows global PTA density by country. Darker colors indicate that a country has signed more

PTAs. The most active users of PTAs to date are the European countries, Singapore, India, and Chile.

Much of the recent growth in PTAs is through "hub and spoke" agreements, in which an established trade regime (the "hub") creates separate agreements with other countries outside the regime (the "spokes").[11] These agreements usually vary in the benefits and obligations created for the "spoke" members. For example, the EU functions as a "hub" of members that have committed to a common market. Over time the EU has signed many preferential trading agreements with non-EU countries, including Chile, Korea, and Mexico. These "spoke" arrangements vary widely in their depth, scope, and rigidity, but none impose the same terms as the "hub" agreement. In addition, PTAs sometimes bind together two existing "hub" regimes, like the 2008 agreement between the EU and CARIFORUM, a group of Caribbean countries that have committed to regional integration.

Because each country can be a member of multiple agreements, and some of these agreements are linked to other trade regimes, countries usually have complex and overlapping trade commitments. Figure 18.6 shows the PTA connections for four major ("focal") PTA signatories: the European Union, India, Japan, and the United States. Each of these four members has numerous trade agreements with other countries. For example, the United States has PTAs with Australia, Chile, Israel, and many others. In addition, many nonfocal countries have trade agreements with multiple focal countries. For example, Chile has PTAs with all four of the focal members shown in Figure 18.6. Individual countries often have overlapping treaties with multiple trade partners, and PTAs as a whole create a complex network of trading obligations.

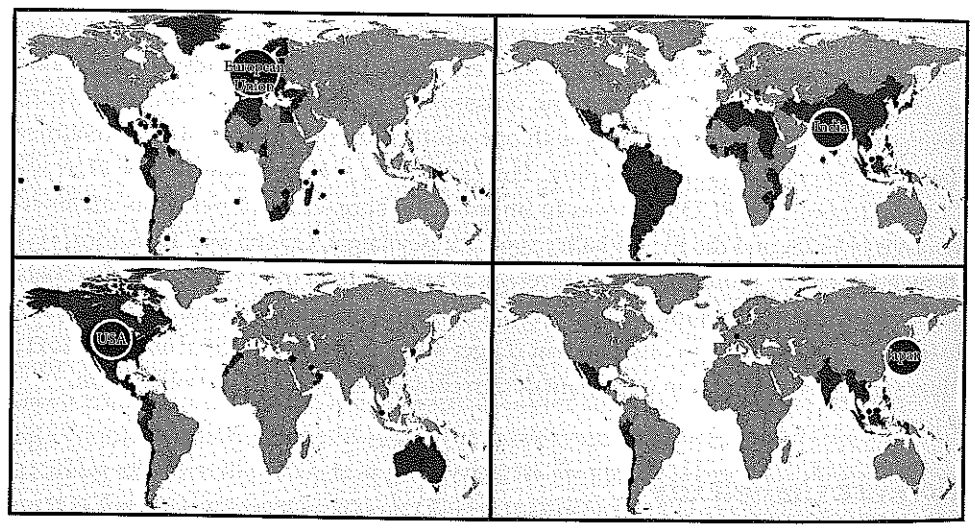

FIG. 18.6 Overlapping PTA Networks.

Note: Each panel shows the PTAs between the focal countries (labeled) and their trade partners (black dots).
Source: World Trade Organization Regional Trade Agreements Database.

Perils of Complex Networks

While PTAs individually should increase trade cooperation, a network of overlapping PTAs can hinder trade cooperation by creating conflicting legal obligations. These conflicts can be most easily seen in the WTO, which has heard several cases over conflicting WTO and PTA rules.[12] For example, all WTO members are required to adhere to the most-favored nation (MFN) principle, which requires that if a member extends a benefit to another WTO member, it must extend the same benefit to *all* other WTO members. Yet Article XXIV of the GATT allows members to sign PTAs, which implies that benefits provided to PTA members do not have to be extended to all WTO members. There is thus a tension between a core tenet of the multilateral trade regime—the MFN principle—and the proliferation of PTAs. One WTO panel report noted that this relationship between the MFN principle and Article XXIV "has not always been harmonious" and has led to numerous trade disputes.[13]

For example, Turkey has signed multiple trade agreements with the European Communities (EC) since 1963 that gradually developed into a Turkey-EC customs union.[14] As part of this process, Turkey negotiated new agreements with its trading partners in the early 1990s so that its textile rules would match those of the EC. India, a major textile exporter, refused to participate in these negotiations, and Turkey imposed unilateral restrictions on textile imports from India in 1996. India quickly filed a WTO dispute against Turkey, arguing that Turkey had violated multiple WTO rules.[15] Turkey argued that it should be exempt from these rules under Article XXIV because it was changing its laws to form a Turkey-EC customs union. Both the WTO panel and Appellate Body ruled against Turkey, stating that "Article XXIV does not allow Turkey to adopt, upon the formation of a customs union with the European Communities, quantitative restrictions . . . which were found to be inconsistent with" WTO rules.[16] This created a legal quandary: Turkey violated WTO rules by changing its policies to match those of the EC, but Turkey would have violated its agreement with the EC if it had not changed its policies.

This example illustrates one of the perils of using PTAs to promote international trade: they create complex and often contradictory networks of legal obligations. The multilateral trade regime—first under the GATT, then under the WTO—has created detailed legal obligations for its members, which now include almost every state. The growth of PTAs has created complex sets of rules that overlap with the multilateral regime and even with other PTAs. Overlapping rules can create uncertainty about legal commitments and prompt trade disputes, which hinder international cooperation (Gilligan, Johns, and Rosendorff 2010). This complexity and uncertainty may be an inevitable, but acceptable, cost if PTAs promote aggregate international cooperation. However, if PTAs merely divert trade, rather than increase it, the cost of PTAs may outweigh their benefits. A network of overlapping bilateral and regional agreements may be less beneficial than shallower multilateral cooperation or even no agreements whatsoever.

Complexity may be an inevitable result of the growing PTA network, but the ill effects of conflicting and uncertain legal obligations can be mitigated through the design of PTA DSPs. While DSPs can clarify ambiguous or conflicting legal commitments, the proliferation of PTA-specific DSPs could be problematic if they adopt conflicting jurisprudence. Some recent PTAs allow members to choose which DSP they will use when a conflict arises, effectively "outsourcing" dispute settlement to another institution, most commonly the WTO.[17] We believe that this trend is promising because it increases the likelihood that trade disputes will be adjudicated under common legal principles and jurisprudence. If more PTAs were designed to share dispute settlement capacity, then conflicts over mismatched commitments might be more easily resolved. It may even be optimal for states to create a single dispute settlement mechanism with jurisdiction to hear all trade disputes involving the WTO and PTAs.

In addition, we suspect that more specialized PTAs could avert problems that arise from overlapping commitments by restricting their obligations to a narrow domain. For example, new PTAs could be designed with narrower scopes that focus more precisely on particular trade issues like agriculture, intellectual property, and technical barriers. Moreover, specialized PTAs could be designed to account for issue-specific cooperation problems, such as lenient safeguard measures for agriculture and greater institutionalization for technical issues like intellectual property. We find little evidence, however, of any such specialization; most recently signed PTAs have tended to be broader in scope than their earlier counterparts.

Steppingstones or Stumbling Blocks to Multilateralism?

As the network of PTAs becomes increasingly tangled, many scholars question whether these agreements promote or hinder multilateral trade cooperation.[18] We unfortunately lack a clear answer. Preferential trade agreements may foster multilateralism if their initial reciprocal tariff cuts allow export sectors to expand and thereby change the balance of political power between import-competing industries and exporters (Baldwin and Freund 2011). In addition, many policy experts believe that successful PTAs may persuade nonmembers to support deeper multilateral cooperation by demonstrating the benefits of international trade.[19]

On the other hand, PTAs may hinder multilateralism. Members can leverage their market power and increase their tariffs against the rest of the world, which makes multilateral cooperation less attractive (Saggi and Yildiz 2010). Some scholars argue that the economic context of a PTA determines whether it becomes a steppingstone or stumbling block for multilateral cooperation.[20] However, this scholarship reaches no clear conclusions, because its results are highly contingent on assumptions about the structure of the member economies. The impact of PTAs on multilateral cooperation is important but understudied. We hope that future scholarship, particularly in political science, will address this topic.

Conclusion

Existing research has provided many insights into PTA design variation and its impact on state behavior. This treaty-level analysis shows that PTAs must carefully balance their impact on compliance and stability. Agreements that are nested in political-economic contexts that make exit infeasible can impose deep and rigid constraints and create institutions with the authority to monitor behavior and enforce obligations. However, agreements that are nested in contexts that do not constrain exit must be more carefully calibrated to the trade-off between compliance and stability. Deeper concessions must be paired with less rigidity in order for these agreements to survive over time, and weaker institutions are best suited for promoting cooperation.

We know relatively less about the effects of PTAs at the system level. The proliferation and expansion of PTAs has created an increasingly complex network of overlapping legal obligations. These agreements must also operate in the shadow of the WTO. While it is reasonable to expect that more PTAs will lead to more cooperation, complexity comes with costs. Overlapping PTAs can create ambiguous and even contradictory legal obligations that provoke trade disputes. These disputes reduce the efficiency of the system as a whole and reduce stability. This suggests that PTAs with more members can have a multiplier effect on cooperation because they create more consistent—and hence more precise—rules than can be created by a network of overlapping bilateral and regional agreements. Multilateralism is more than just the sum of its parts.

Notes

1. This is the most comprehensive current list of PTAs available, since almost all countries are members or observers of the WTO.
2. Most PTAs in the *World Trade Report 2011* data set involve the United States or European Union as a member and have a large volume of trade.
3. See also the chapters in this volume by Aaronson and Barkin.
4. Some of these PTAs include: EC-Mexico 2000, EC-CARIFORUM 2008, and EC-Eastern and Southern Africa 2012 Interim Agreement.
5. See also the chapters in this volume by Rosendorff (chapter 8) and Busch and Pelc (chapter 5).
6. These arguments come from Johns (2014), which builds on Rosendorff (2005) and Rosendorff and Milner (2001).
7. Like any institution, a trade agreement must create common beliefs about how members should respond to first-order noncompliance, even if the treaty does not contain formal DSPs (North 1990). The law of treaties, as articulated in the Vienna Convention on the Law of Treaties, creates secondary rules for those trade agreements that lack formal DSPs.
8. Pelc (2009) provides an alternative account in which states can violate a treaty without any penalty whatsoever. However, this account relies on the assumption that a treaty creates an adjudicative body that can perfectly observe each state's domestic pressure to protect and

impose punishments on states that cheat. This account is therefore more compelling for understanding a well-developed institution, like the WTO, than PTAs generally.

9. See Johns (2014, 2015). Rosendorff (2005) and Rosendorff and Milner (2001) present similar models, but do not allow settlement tariffs.
10. The occasional decrease in PTAs is due to EU enlargements in 2004 and 2007.
11. This term refers to any arrangement in which one partner has "a network of radial bilateral PTAs with some of these trading partners but these trading partners do not have PTAs with each other" (Baldwin and Freund 2011, 129).
12. For example, *Argentina—Poultry* (DS241) and *Mexico—Taxes on Soft Drinks* (DS308) both addressed jurisdictional conflicts for dispute settlement. In other cases, countries invoking safeguards excluded their PTA partners, contrary to WTO obligations: for example, *Argentina—Footwear* (DS121), *United States—Wheat Gluten* (DS166), and *United States—Line Pipe* (DS202).
13. See the panel report for *Turkey—Restrictions on Imports of Textile and Clothing Products*, DS34, para. 2.3. WTO Document WT/DS34/R.
14. This case summary is based on WTO records.
15. India invoked claims from both the GATT and the WTO Agreement on Textiles and Clothing.
16. See the Appellate Body report for *Turkey—Restrictions on Imports of Textile and Clothing Products*, DS34, para. 64. WTO Document WT/DS34/AB/R.
17. Those PTAs that allow members to use the WTO's dispute settlement body to resolve conflicts include NAFTA, the Australia-Chile PTA, the Israel-Mexico PTA, and the CARICOM-Costa Rica PTA. See also Busch (2007) on forum shopping in dispute settlement.
18. For example, see Bagwell and Staiger (1998); Baldwin and Freund (2011); Bhagwati (1991); Bhagwati and Panagariya (1999); Krueger (1999); Kono (2002); Limão (2006); and Limão (2007).
19. Remarks by Robert Zoellick, former US Trade Representative, at Princeton University on November 29, 2012.
20. For example, see Bagwell and Staiger (2001); Freund (2000); Goyal and Joshi (2006); and Saggi (2006).

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