

# Cooperation in Hard Times: Self-Restraint of Trade Protection

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## Abstract

Hard times give rise to greater demand for protection, but also amplify the negative consequences of such defections, given the risk of drawing retaliation from abroad that could worsen economic conditions. International trade rules include provisions that allow for raising barriers to aid industries in crisis even while urging restraint in their use. How do states balance these conflicting pressures? This article assesses the effect of crises on cooperation in trade, by looking at whether the prospect of a spiral of defection precisely at a time when such spirals are most costly leads to restraint by states. Our contribution is to analyze variation among crises in terms of their *prevalence* among countries. We hypothesize that governments impose less protectionism during economic crisis when their economic troubles are widespread than when a country faces crisis in isolation. Under conditions of shared hard times, states exercise restraint in their reliance on beggar-thy-neighbor policies. This represents an example of informal governance as countries choose not to exercise legal rights. Empirical evidence from analysis of industry level data on protection measures for the period from 1996 to 2010 provides support for our claims.

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# 1 Introduction

*“What I am saying here is that not only do we need the resolve to respect WTO obligations, but also restraint in exercising WTO rights.”* — Pascal Lamy, July 22nd, 2009.

Why would states exercise restraint in the midst of economic crisis? This paper demonstrates how the relationship between economic conditions at home and abroad influences trade protection. Crises increase the demand for protection, but hard times abroad also lead governments to temper their protectionist response to hard times at home in order to avoid a trade war. Information provided by international economic organizations in the form of monitoring and policy advice encourage restraint.

Even as international trade rules constrain state behavior, they allow countries considerable room to maneuver. States have discretion, for instance, over the extent to which they rely on “flexibility measures” in hard times. These provisions are designed to allow states to temporarily exit their commitments when compliance with an agreement grows politically unfeasible. Since they represent barriers to trade, reliance on such measures comes at a cost to trade partners. Yet owing to the inherent uncertainty of the global economy, flexibility provisions such as trade remedies have become a fixture of all modern trade agreements. Their existence creates policy space where state behavior hinges on the same political factors that would prevail in the absence of any treaty.

Flexibility measures make up the “WTO rights” mentioned in the statement above by Pascal Lamy, the WTO Director General.<sup>1</sup> Given what we know about international law and politics, Lamy’s call on sovereign nations to exercise restraint in self-interested actions unconstrained by

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<sup>1</sup> Lamy was not alone in urging restraint during the Great Recession. Speaking of “buy national” campaigns which were largely in keeping with WTO rules, World Bank President Robert Zoellick said “[i]t seems appealing in countries to buy their own national products. Buy America. Buy Canada. Buy Chile. Buy China. But that’s

any formal enforcement may appear naïve. Whether because of skepticism that states ever restrain their self-interest, or belief that formal rules are necessary to help states coordinate on mutually beneficial outcomes, international relations theory would point to the challenge of informal cooperation among states. Indeed, the purpose of institutions such as the WTO is to address this challenge by providing credible third-party enforcement that ties leaders' hands in an anarchic international environment. Why would we expect restraint on the part of states in their use of flexibility measures, that is, informal cooperation above and beyond compliance with legal rules, precisely at a time when the domestic political cost of mere compliance with the formal rules is highest?

Just as surprising as these informal calls for restraint is the fact that they appear to have been largely heeded by states, who echoed them in turn. In November 2008, a G20 meeting in Washington produced a declaration with the promise of “rejecting protectionism and not turning inward in times of financial uncertainty.”<sup>3</sup> This promise was reaffirmed in April 2009 in London, where states further called on international bodies to ramp up monitoring of protectionist policies. In Toronto, the following year, the G20 again reaffirmed and renewed its promise for a further three years. Most recently, in December 2011, a group of 23 WTO members made “an additional pledge to fight all forms of protectionism in the strongest terms.”<sup>4</sup>

And all available evidence suggests that states *did* refrain from using trade policy as a tool to protect their weakened economies during the crisis.<sup>5</sup> Compliance with multilateral trade rules the road to the problem that exacerbated the downturn in the 1930s and led to the Great Depression.<sup>2</sup> Beyond such exhortatory statements, international economic organizations intensely monitored state behavior. The OECD, World Bank, and WTO released frequent reports on global trade barriers.

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<sup>5</sup>See for example IMF staff position note (Gregory et al., 2010), OECD trade policy study (*Trade and Economic*

appears high; the number of complaints against violations of the rules remains steady.<sup>6</sup> Even with regards to legal flexibility measures, such as trade remedies, the scope of measures was limited, and originated mostly from developing countries, such that the absolute import volumes affected are quite small (Bown, 2009). Ruddy (2010, p. 489) surveys four different sources monitoring trade policies and concludes that there has not been significant increase in protection. The May 2010 OECD Ministerial Council Meeting conclusions note that “[d]espite the crisis, protectionism has not spread as widely as many had feared, not least as a result of our coordinated international efforts.”<sup>7</sup>

This leads us to ask two questions. First, what accounts for the proliferation of *informal and nonbinding* calls for restraint in a regime that is routinely taken as the prime example of international legalization? And secondly, why have states that face unprecedented pressure for import relief not only remained largely in compliance with WTO rules, but also exercised restraint in resorting to *legal* flexibility measures?

Research from other fields may offer some clues, suggesting that in the right circumstances, crisis may actually induce *greater* cooperation. In this way, Carter and Castillo (2005) find that individuals who lived through the devastation wreaked by Hurricane Mitch were subsequently more likely to exhibit altruistic behavior in the Dictator Game. Bellows and Miguel (2009) find that victims of war in Sierra Leone then became more likely to engage actively in political and civic *Effects of Responses to the Economic Crisis*, 2010), and World Bank policy research paper (Kee, Neagu and Nicita, 2010).

<sup>6</sup>When examining the formal complaints filed to the WTO dispute settlement procedures, there were an average of 17 complaints filed per year over the three years 2008-2010, which is the same as the average complaints filed per year over the three years 2005-2006. There were only 13 complaints in 2007, and it is unclear whether this has any relationship to crisis or whether this year should be counted as pre- or post- crisis.

<sup>7</sup>OECD, “2010 Ministerial Conclusions” adopted at the Council Meeting at Ministerial Level on 28 May 2010.

participation. Similarly, Blattman (2009) shows how exposure to violence in Northern Uganda increases the odds of subsequent political participation. More broadly, research in sociology suggests that calamities often lead to unprecedented public-spiritedness among victims, rather than self-seeking behaviour (Turner, 1996). Shared adversity can make individuals more rather than less willing to contribute to the public good. But do these insights extend to the level of states?

We develop a theory to explain the conditions under which economic crises promote international cooperation. We contend that while economic hard times increase demand for protection within the country, the *pervasiveness* of hard times across countries induces offsetting pressures through an increased risk of trade war. When hard times are widespread, any sign of a shift to protection is more likely to precipitate retaliatory actions by other countries. Monitoring provided by institutions raises the expectation that protection policies will be observed and met with equivalent response. The consequences of a trade war are also more severe for weakened economies that need trade to restore growth. Information provided by institutions reinforces the lessons of history on these potential negative consequences. As a result, the average country facing an isolated recession uses discretionary flexibility measures to protect industries at a higher rate than it would when facing a similar crisis that is shared by its trade partners.

The institutional design underlying flexibility measures makes their use contingent on injury, which almost by definition is more likely to occur during an economic downturn. We argue this drives the need for self-restraint since there is sufficient “policy space” in multilateral rules during a global crisis to sink the trade regime without breaking a single rule. For this reason, states have little choice but to seek cooperation in an informal fashion. The implication is that flexibility measures in the trade regime were designed for isolated hard times, rather than periods where countries’ need for import relief suddenly coincide; in those cases, states are back to seeking

cooperation without the aid of legal obligation.

The role of institutions in this story is thus not to enforce binding commitments. To the extent that the WTO deserves a share in the credit for avoiding a trade war during the recent crisis, its contribution has been to provide information about other members' action and create a forum in which members can coordinate calls for restraint. Legal rules alone would have been insufficient, and informal cooperation has been the foundation for success. In the current crisis, the WTO has relied less on the hard law that stands as the hallmark of institutional strength, and performed instead as a diplomatic institution.

We test our argument on a large product-level dataset of trade remedy use by WTO members, covering the period from 1996 to 2010. Using several alternative measures of economic crisis, and controlling for a host of factors, we find that hard times correlate with an increasing use of remedies, but that the pervasiveness of crisis abroad reduces the protectionist response to crisis at home.

## **2 A Theory of Conflicting Pressures from Crisis**

Almost by definition, crises arise as an unexpected event. By shaking the status quo, hard times can also lead to unpredictable policy outcomes. While a large literature examines the effect of crises on regime stability and policy reform, our interest lies in the area of trade protection. Here the lessons of past crises motivated states to form rules that would bind their worst impulses but not form a straightjacket of impossible promises they would be unable to keep. The tension between commitments and flexibility lies at the heart of debates about institutions, and crises are the moment that tests how well the design holds up. We examine this grey area of cooperation

where states must balance competing interests under extraordinary circumstances.

## 2.1 Flexibility and Cooperation in Trade

One key function of institutions like the WTO is to alleviate a terms-of-trade prisoner's dilemma (e.g. Bagwell and Staiger, 2002). States can improve their terms-of-trade at the expense of other nations, which produces the familiar pattern whereby individually rational actions result in a suboptimal outcome. The fear of being exploited leads nations to raise tariff barriers, such that even as all countries would be better off under free trade, they are unable to achieve it. For this reason, countries form institutions through which they set up credible enforcement mechanisms, as a way of raising the individual cost of beggar-thy-neighbor policies. If these costs are sufficiently high, cooperation grows more likely.

Yet a precondition for such institutions is the inclusion of some measure of flexibility, that is, a means for countries to temporarily exit their commitments when faced with an unexpected shock (Downs and Rocke, 1995; Rosendorff and Milner, 2001). A sudden surge of imports, for instance, can cause significant injury to a domestic import-competing industry, and flexibility serves to reduce those costs. It has been shown that the inclusion of flexibility provisions makes states more likely to join international institutions, and allows them to make deeper commitments once they do join (Kucik and Reinhardt, 2008). In this way, large gaps between the maximum tariffs countries can legally set, called bound rates, and the duties actually levied at the border, called applied rates, were tolerated for a great number of countries at the WTO's inception. The WTO itself now views such "binding overhang" alongside traditional trade remedies such as antidumping and countervailing duties, and safeguards, and estimates the rate of usage of binding overhang

ot be approximately similar to that of trade remedies.<sup>8</sup>

The existence of flexibility creates space for free action within the agreement. If they meet the requirements put on the use of trade remedies—usually relating to the threat of injury to an industry—states have to decide whether to exercise this option. Since flexibility measures amount to an increase in trade barriers, their use imposes a cost on trade partners. The result is that flexibility provisions lead to the creation of a circumscribed “state of nature” within an otherwise legalized treaty. Indeed, one observes strong tit-for-tat dynamics in the use of flexibility measures, as industries and states targeted by a particular flexibility measure, such as antidumping, become more likely to use such instruments in turn (Kucik and Reinhardt, 2008). States hold considerable discretion in their reliance on flexibility measures—in the sense that they do not exercise every opportunity of doing so, but rather make strategic decisions based on the expected future behavior of trade partners.

Institutions fulfill a monitoring function to oversee the use of flexibilities. Members have recourse to dispute settlement to challenge those measures that do not conform with the regulations that specify conditions for use of remedies. Nearly one-third of WTO disputes consist of challenges against remedies, but these cases of enforcement action represent a tiny share of overall use of remedies. Beyond enforcement of the weak rules guiding use of remedies, the institution may play a role to reduce their use through naming and shaming. States are requested to report to the WTO all anti-dumping and safeguards measures at an early stage in the process. Trade Policy Reviews often highlight problems with trade remedy procedures and usage and become a venue for

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<sup>8</sup>According to the WTO, between 2005 and 2006, the membership exercised just over 150 trade remedies, while relying on increases of applied tariffs greater or equal to 15 percent 560 times (WTO World Trade Report 2009, 136).



criticism about unfair practices. Nevertheless, such monitoring takes place against the backdrop reality that trade remedies are an accepted part of the contract for liberalization with flexibility.

The potential import relief that can be obtained through WTO-sanctioned flexibility measures is immense. Setting aside widely used trade remedies, the amount of binding overhang alone is such that if countries raised all their tariffs up to the allowable bound levels, it would result in an immediate 7.7 percent drop in world trade, representing \$350 billion in welfare costs, not speaking of any retaliatory measures that would follow.<sup>9</sup> As for trade remedies, its availability only increases during crises, when it becomes easier to satisfy the injury threshold. In other words, the WTO membership could increase global protectionism sufficiently to compromise the trade regime, without ever violating a WTO rule in the process.

## **2.2 Hard Times and Protectionism**

State discretion over flexibility is conditional on there being some observable evidence of hard times. Indicators such as import surges, rising unemployment and dwindling revenue are all used to demonstrate injury that justifies restricting trade as one way to provide relief to an industry. This means that one naturally expects states to use remedies more frequently during an economic downturn because the formal requirements behind flexibility rules are more likely to be satisfied.

Endogenous protection theories link declining fortunes of industry with rising political demand for protection. In this way, scholars have examined how the makeup of political coalitions and institutions amplifies the reaction of some countries (Gourevitch, 1986; Simmons, 1994). Trade policy is an expected response to the demands of narrow interest groups harmed by trade. While shifting comparative advantage accounts for much of the variation in levels of protection by indus-

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<sup>9</sup>Bouet and Laborde 2009; WTO Trade Negotiations Committee (TN/C/M/29, pars. 18889).

try, macroeconomic trends also contribute to demand for protection. In particular, slow economic growth and rising unemployment are generally viewed as leading to an increase of protection. Magee, Brock and Young (1989, p. 186) describes the connection between hard times and protection as a *compensation effect* that occurs when income decline leads factors to shift effort from economic activity to political lobbying that is rewarded by protection. McKeown (1983) presents a political business cycle theory for protection in which leaders can afford liberalization during periods of prosperity, when they enjoy high popularity, and use tariff increases to win favor when unpopular during recessions. He finds that the expected positive relationship between income growth and trade has increased following WWII (McKeown, 1991). Empirical studies of tariff and non-tariff measures commonly control for economic growth and unemployment (e.g. Ray and Marvel, 1984; Mansfield and Busch, 1995). And most directly relevant to our puzzle, macroeconomic downturns have been shown to increase use of antidumping duties and safeguards (Takacs, 1981; Blonigen and Bown, 2003). Importantly, all these studies take a monadic view: the only relevant factor is taken to be a given country's *own* economic situation. By contrast, we argue that other countries' economic situation has a significant effect on how countries respond to domestic demands for protection.

The moderate level of protection during the largest economic downturn since the Great Depression thus challenges conventional wisdom. The historical reference point is the Smoot Hawley tariff of 1930, the greatest breakdown of cooperation over trade in history. Economic hardship provided impetus for diverse groups to join together in a log-roll for higher protection (Eichengreen, 1989). Through this single legislative measure, the US congress created a "made-to-order" tariff for virtually every American industry (Bhagwati, 1989). Itself a reaction to economic crisis, the Smoot Hawley tariff deepened the Great Depression by leading to foreign retaliation amounting

to a global trade war (Conybeare, 1987).

When the collapse of Bretton Woods and stagflation in the 1970s failed to trigger the breakdown of the trading system along the lines of the 1930s, scholars also searched for explanation. International institutions and especially the GATT were credited with helping states to uphold their commitments to free trade and avoid the negative spiral into protection (Keohane, 1984; Winham, 1986; Bagwell and Staiger, 2002). Yet binding institutional commitments alone are inadequate to explain restraint in the area of *legal* escape clauses that are built into institutions exactly for the purpose of gaining relief for an industry that faces hard times.

### **2.3 Pervasive Hard Times**

Given high levels of economic integration, exogenous shocks that threaten to injure domestic industries often extend more broadly, as many countries are suddenly hit by a common shock. What is unique to such periods of regional or global crisis is that the demand to exercise flexibility options increases for a number of actors at once. And because of the way in which flexibility at the WTO is made contingent on need, the total availability of flexibility rises in hard times. The states affected by crisis thus face both a greater incentive to offer import relief, and greater means of doing so. Yet they also confront the heightened likelihood of being targeted by protectionist measures imposed by other states in similar circumstances. The relevant feature of crises for our argument is their pervasiveness, that is, the extent to which they are shared by a large number of countries.

There are two ways in which a pervasive crisis raises the stakes for any single decision to protect domestic industries. First, the presence of common economic hardship in trade partners increases the likelihood of retaliation. These other states facing hard times all independently come

up against the same factors that render them *ex ante* more likely to impose a remedy measure, because their industries suffer injury in a legal sense and mobilize for protection as well. As all actors are credibly on the brink of imposing remedies, any nudge may push them to respond in kind. Second, the consequences of the trade war that could result grow more dire during crisis. In the face of declining domestic demand, states often turn to exports markets as a means of restoring growth. When markets close, this strategy will fail. To the extent that the remedies imposed by trade partners affect other industries, the trade war will spread the economic hardship from the declining industry that sought the remedy to adversely impact the most productive firms engaging in exports. Without any outlet for growth, production levels and confidence will further decline.

Knowledge of this risk is due in part to the occurrence of the Smoot-Hawley tariff itself, a precedent which is systematically cited at nearly every emergency trade meeting as a Damocles' sword hanging over the trade system. *It is difficult to overstate the extent to which this single historic event looms large in the trade regime.* Lamy himself has a picture of the two authors of the legislation displayed in his office, about which he says “[t]his picture is a reminder about rises in beggar-thy-neighbour trade responses which can quickly spiral out of control, as we saw in the 1930s.”<sup>10</sup> Similarly, the U.S. Congress knows its own history: members of Congress made repeated references to Smoot-Hawley Tariff during the debates over responses to the Great Recession. Figure 1 shows the sharp rise in attention to this precedent during the current economic crisis.<sup>11</sup> No politician wants to be villified in the future as the next Smoot-Hawley. More generally, public

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<sup>10</sup>Statement made 24 April 2009 available at [http://www.wto.org/english/news\\_e/sppl\\_e/sppl141\\_e.htm](http://www.wto.org/english/news_e/sppl_e/sppl141_e.htm)

<sup>11</sup>The data were compiled through search of congressional records to count the number of floor speeches and hearings in House and Senate that include one or more reference to Smoot and Hawley for the period January 1, 2006 to August 8, 2011. Sources: <http://www.gpoaccess.gov/crecord/advanced.html>; ProQuest Congressional database, Hearings.

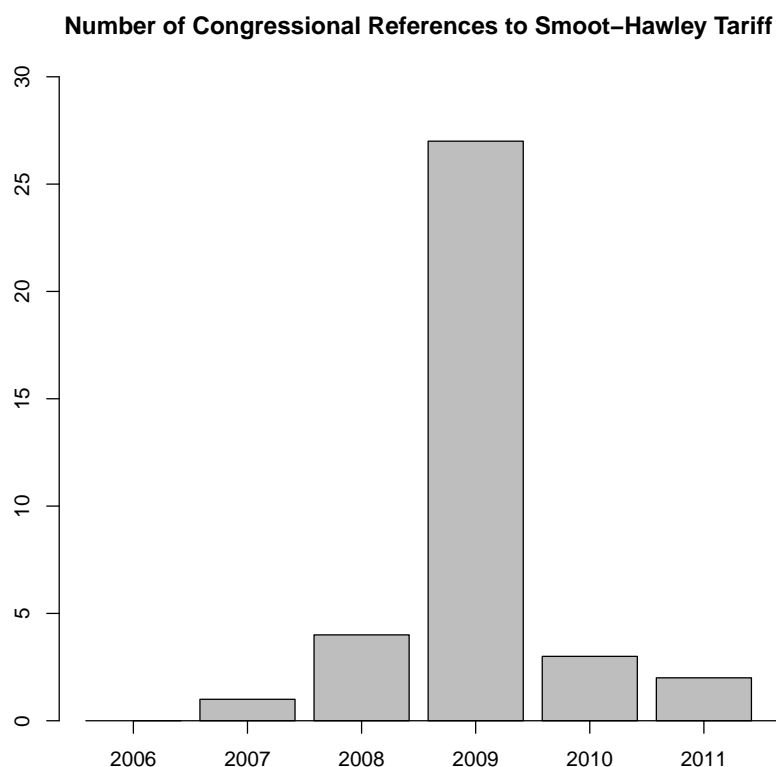


Figure 1: The Lesson of Smoot-Hawley: *The figure displays the number of mentions to Smoot-Hawley during testimony in the Senate and House (both floor and hearings).*

statements by leaders and officials of the international organizations serve to coordinate responses in favor of restraint. These speeches raise the lesson of 1930s beggar-thy-neighbor policies and emphasize the negative impact of protection for growth. Such rhetoric offers no binding authority, but provides information that may lead policymakers to think carefully about the possible wider consequences from protectionist measures.

In the 1930s states could hope that they would get away with protectionism and suffer few adverse consequences from raising tariffs. There was not a multilateral framework for trade rules, and efforts at coordination failed as the London Economic Conference ended without agreement. Each government made decisions on trade policy in isolation. The current crisis differs on many dimensions, such that simple comparison is not possible. Nonetheless one stark contrast between

the two periods is the level of institutionalization at the time of the most recent financial crisis relative to the 1930s.

Institutions play a role in enhancing awareness of both the risk of retaliation and the cost of a trade war. From a monitoring perspective, the WTO promotes transparency about the use of remedies through reporting requirements, and these trigger attention to unusual policy trends. WTO ministerial meetings and trade policy reviews offer fora for members to criticize those who are seen as over-using remedy measures. Improper use of remedies may be challenged in dispute settlement. More generally, the WTO and other economic organizations such as OECD raise awareness about the severity of crisis conditions in other countries and highlight the lesson of Smoot-Hawley to assure that this remains the focal point in the mind of policy-makers. These pressures for restraint represent informal governance given that treaty provisions allow for use of remedies.

Our theory holds testable implications not only for the current period of global crisis, but also for the entire WTO period. Paradoxically, it is precisely during the hard times that motivated the design of flexibility measures that states are likely exercise restraint in their use. This reasoning leads to the following hypothesis:

*Hypothesis: A country facing hard times will be less likely to impose protectionism through flexibility measures when other countries also experience hard times.*

### **3 Analysis of Protectionism in Crisis**

Our outcome of interest is the amount of trade protection countries deliver through flexibility measures. In this paper we focus on the use of trade remedies. These include safeguards, counter-

vailing duties, and antidumping duties. While they differ in their specifics—safeguards are taken purely in reaction to domestic exigency, while antidumping and countervailing duties are taken in reaction to foreign trade actions—all trade remedies share similar pre-requirements. In order to exercise any of the three trade remedies, countries must demonstrate “serious injury or threat thereof” to an industry as a result of trade.<sup>12</sup>

### 3.1 Data

We compiled a large dataset of trade barriers and trade flows from 1996 to 2009, at the industry level (six digit harmonized system).<sup>13</sup> We then restrict this sample to include only countries that are remedy users, meaning they have an antidumping regime (Kucik and Reinhardt, 2008) *and* have used one of the three remedies at least once.<sup>14</sup> In other words, we are interested only in those observations that allow for the potential use of the flexibility mechanism. Using conditional logit to estimate the use of remedy for a given country product line further restricts the sample as the fixed effects specification drops observations where the country-product panel has never experienced use of remedies over the period. This approach allows us to control for much of the

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<sup>12</sup>In terms of the number of affected industries, antidumping actions constitute by far the greatest proportion of remedy usage, representing 78% of investigations in our data. Countervailing duties form 12% of the actions, and safeguards represent the remaining 10%. However, the latter significantly understates the impact of these measures, since safeguards are not targeted remedies, that is, they affect all countries trading a given product. By comparison, both AD and CVD actions single out one or a few countries.

<sup>13</sup>The number of industries with data available varies by country and in any given year. For the United States there are 392 industries included in the estimation sample.

<sup>14</sup>Note that Japan is excluded from the sample even though it meets both criterion because the antidumping dataset does not include product level data for Japan. Japan stands out as an infrequent user of remedies among all OECD members.

heterogeneity at the product and country level (e.g. factor productivity, political organization of the industry) that we know from theory will influence demand for protection but for which we are unable to obtain data to measure as independent variables, given the breadth of the sample. We lag all explanatory variables one year to reduce simultaneity, and estimate the probability that a state initiates at least one remedy investigation to aid the industry. The estimates are for the thirteen year period from 1997 to 2009. We first examine the initiation of investigations by a subset of OECD member countries (no restriction on the sample of target nations), and then the larger sample that includes developing countries.<sup>15</sup> As advanced industrial economies, OECD members have the capacity both to use trade remedies and to exercise restraint. The institution itself also provides extensive information on economic policies and ministerial meetings that offer a venue for communication that can help states coordinate policies.

Our remedies data are from the Bown (2011) Temporary Trade Barriers Database, hosted by the World Bank. It is the most authoritative data source of trade remedy actions today. It comprises data on antidumping, countervailing, and safeguard investigations coded at the country-industry-year level. Remedy actions enter our data as soon as the government responds to a petition for import relief with a formal investigation. We choose this level of government action in the remedy process because investigations depress trade regardless of whether the investigation ultimately leads to a decision to grant import relief. Figure 2 shows the pattern of remedies. Clearly 2001 and 1999 stand out as the worst years for remedy use and make the increase in 2009 look modest in comparison. Why would the relatively less severe downturn of 2001 (burst of dot-

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<sup>15</sup>We have data for Australia, Canada, EU, Korea, Mexico, New Zealand, Turkey, and United States in the OECD sample. Remedies are measured at the EU level, and for national level variables such as polity score we calculate the average of EU members. The larger sample adds Argentina, Brazil, Chile, China, Colombia, Costa Rica, Ecuador, El Salvador, India, Indonesia, Malaysia, Peru, Philippines, South Africa, Uruguay, and Venezuela.



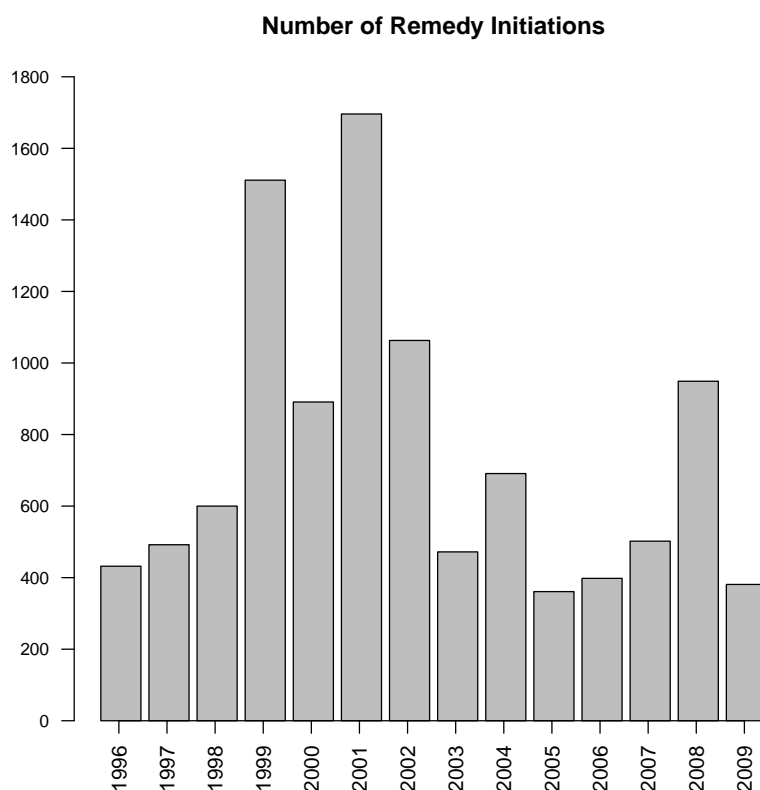


Figure 2: Remedy Investigations: *The figure shows the number of investigations initiated each year for all of the countries in the dataset including antidumping, countervailing, and safeguard investigations.*

com technology bubble) and aftermath of the Asian financial crisis in 1999 be associated with more protection than the global recession? Our hypothesis points to differences in the pervasiveness of the crises.

Our data on crises, which make up our independent variables, come from Reinhart and Rogoff (2009), and cover a range of possible economic hardship. The data include a series of indicator variables for whether a given country-year has experienced a crisis in the realm of banking crises, currency crashes, domestic default (or restructuring), external default (or restructuring), inflation crises, and stock market crashes. Each dimension captures a problem with potential to have a ripple effect throughout the economy with adverse consequences for individual industries as well

as aggregate welfare. Our argument is not linked to a specific form of economic hardship and so we take the simplest approach to treat these forms of crisis equally. We sum these to create a Reinhart and Rogoff “crisis index” with a range from 0 to 6 for any given country year. For example, the United States receives a score of 2 in 2008 for having both banking and stock crisis, and a score of 1 in 2009 for ongoing banking problems. Argentina received a score of 5 in 2002 at the height of its crisis. In future analysis we plan to analyze each type of crisis separately and explore other measures including unemployment data. As a first cut, the index allows for a broad definition of crisis that captures many sources of economic problems.

We then use this crisis index to create a Rest of the World (ROW) crisis indicator, which corresponds to the average level of crisis of all countries (excluding the country under observation). Because the impact of crises on others should be proportionate to market size, we weigh crises by a GDP weight (ratio of a country’s GDP over the largest country GDP of that year). We then construct an interaction term between the local and the (GDP weighted) ROW crises indicators.<sup>16</sup> The trend for this measure shown in figure 3 reveals that as a rough proxy it captures known trends in the level of world crisis. What the three variables allow us to ask is effectively, how does the pervasiveness of a crisis in the rest of the world *qualify* responses to hard times at home?

In addition to the fixed effect at country-product unit in our main conditional logit estimates, we add control variables for time-varying factors at country and product level. Because the compliance in trade literature has devoted considerable attention to the role of regime type, we include the 21 point Polity IV measure of regime type. On the one hand, democracies are thought to attach greater importance to compliance with international law and free trade as a public good. On the other hand, democracies are more vulnerable to interest group pressure. We include

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<sup>16</sup>The local crisis measure is unweighted because we control for GDP separately.

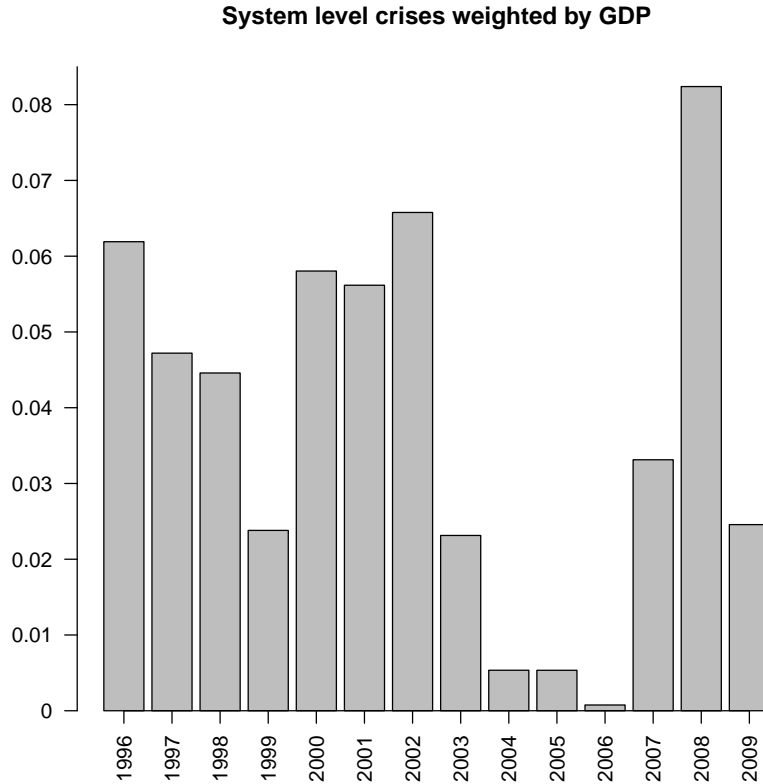


Figure 3: World Crisis Tally: *The figure shows the average level of our measure of crisis among all countries in our data sample, when the crisis index is weighted by the relative GDP size of the country in crisis.*

the applied tariff rate for the country-year-product under observation, as a proxy for existing protection. We also include the log of country-year-product level imports, which both proxies for the size of the industry and whether rising imports justify prima facie case for remedies.

### 3.2 Findings

As a first plausibility test of our findings, we examine the conventional wisdom. Scholars expect that when hard times hit, governments will be more likely to offer import relief to beleaguered industries. Table 1 shows exactly this: in the year following a local crisis, the odds of observing trade remedy actions grow significantly. In other words, local crises increase the likelihood of

Variable	Coefficient	(Std. Err.)
Domestic Crisis	0.149**	(0.036)
Log GDP	-1.782**	(0.394)
Log Income	0.887*	(0.427)
Regime Type	0.091	(0.100)
Applied Tariff	0.126**	(0.021)
Log Imports	0.267**	(0.052)
<hr/>		
N	13,178	
Log-likelihood	-3221.661	
$\chi^2_{(6)}$	123.836	
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Significance levels:	† : 10%	* : 5%    ** : 1%

Table 1: Effect of Domestic Hard Times on Trade Protection (Model 1): *Conditional logit estimation results for remedy investigation by OECD members testing the impact of local crisis.*

protection.

Having found evidence in our data that supports the conventional wisdom, next we examine whether the pervasiveness of crisis abroad counteracts this tendency. Table 2 shows the estimates including the three terms to assess our hypothesis: local crisis, rest of world (ROW) crisis, and interaction of local and ROW crisis. The findings offer support for our hypothesis. As expected, the interaction term between foreign crises and local crises is strongly and significantly negative. Controlling for conditions at home, the more prevalent a crisis, the less likely we are to see a remedy investigation. Note that in both these first estimations, we include fixed effects for country-product, which has the result of restricting our sample to only those industries within each country that have at some point filed a petition and met positive government response to initiate a remedy investigation. This approach is useful as a conservative test of our hypothesis, but the conditional logit coefficients are difficult to interpret.<sup>17</sup>

<sup>17</sup>To avoid the incidental parameter problem, we use the conditional logit model which estimates all the coefficients but the fixed effects. The disadvantage of this model, however, is that it lacks a baseline for the country-product effect and hence we cannot calculate marginal effects. The coefficients are useful primarily to test for direction of effect.

Variable	Coefficient	(Std. Err.)
Domestic Crisis	0.366**	(0.090)
ROW Crisis	7.887**	(1.591)
Domestic X ROW Crisis	-4.866**	(1.334)
Log GDP	-0.596	(0.461)
Log Income	0.775 <sup>†</sup>	(0.425)
Regime Type	-0.021	(0.104)
Applied Tariff	0.115**	(0.021)
Log Imports	0.258**	(0.052)
<hr/>		
N		13,178
Log-likelihood		-3209.369
$\chi^2_{(8)}$		148.42
<hr/>		
Significance levels: † : 10% * : 5% ** : 1%		

Table 2: Effect of Foreign Crises on Trade Protection Restraint (Model 2): *Conditional logit estimation results for remedy investigation by OECD members testing the interaction of economic conditions at home and abroad.*

For these reasons, next, we perform a less restrictive test. We relax the country-product fixed effects to estimate a random effects probit model. This substantially increases the sample by including those products that never experience a remedy investigation. We also expand the sample to include all countries with data available on remedies. In this larger sample, we include an indicator variable for OECD membership. The findings are presented in Table 3. Here too, the results are strongly supportive of restraint induced by the pervasiveness of hard times. The base effect of local crisis loses significance somewhat, while the base term of ROW crisis remains strongly positive.

The positive coefficient on the ROW crisis as a base term remains puzzling. The coefficient is positive even when we omit the local crisis variable and the interaction term. Since there is no variation at the country-product level, this variable may be capturing unmeasured heterogeneity over time. Alternatively, from a substantive perspective, one can speculate that the industries of other countries in crisis engage in behavior that increases demand for remedies, whether through

<b>Variable</b>	<b>Coefficient</b>	<b>(Std. Err.)</b>
Domestic Crisis	0.051*	(0.022)
ROW Crisis	2.453**	(0.279)
Domestic X ROW Crisis	-1.748**	(0.278)
Log GDP	0.147**	(0.008)
Log Income	-0.043**	(0.014)
Regime Type	0.054**	(0.003)
Applied Tariff	0.005**	(0.000)
Log Imports	0.087**	(0.004)
OECD	-0.496**	(0.038)
Intercept	-8.281**	(0.226)
<hr/>		
N	1,065,947	
Log-likelihood	-19029.209	
$\chi^2_{(9)}$	1298.57	
<hr/>		
Significance levels:	† : 10%	* : 5%    ** : 1%

Table 3: Effect of Foreign Crises on Domestic Trade Protection (Model 3): *Random effects probit regression estimation of remedy investigations by full sample.*

dumping excess production or reducing imports—growth of a bilateral trade deficit at home can prompt more political attention for protectionist action against foreign imports. Countries under duress may send their “distress goods” to those countries in better shape where demand remains high. As a result, the non-crisis country faces more genuine cases of dumping as crisis spreads elsewhere. In sum, this variable may be picking up factors abroad that drive the legal case for remedies at home.

Across all three models, control variables generally support expectations. Market size consistently corresponds to lower rates of remedy use, but income with higher rates. Omitting the income control variable affects the magnitude of GDP but not its direction or significance, and other variables are unaffected. The positive correlation between democracy and remedy usage is weakly significant in the OECD sample where there is low variation on this measure, but reaches high significance for the full sample in table 3. As expected, products that display higher tariff rates and higher import volume are associated with more frequent remedies investigations.

Membership in the OECD reduces the frequency of remedy investigations even when controlling for GDP and income. The information provided by the organization and pressure on members to support free markets appears to have some effect. We would like to explore whether WTO members are more restrained in their policies, but unfortunately lack product level remedy use data for sufficient countries to make the comparison - the null category of non-WTO countries in our sample is limited to China in the years prior to accession when it was in some ways under heightened scrutiny as applicant. There are simply very few countries left outside of the WTO, which makes it difficult to make inferences about the influence of membership on state behavior. We think the information rich environment supported by institutions such as OECD as well as WTO are important conditions for states to exercise the kind of restraint that we observe, but are unable to directly test this claim.

We conduct several robustness checks. First we consider alternative estimation strategies. While we use a binary indicator for remedy usage, some country-products actually feature more than one investigation in a given year. To capture such intense remedy usage, we rely on a panel poisson model, which offers highly consistent results to the ones above. Secondly, and following Brambor et al. (2006), we also verify in all our specifications that the marginal effect of local crises on domestic protection is negative and statistically significant for all positive values of foreign crises. Finally, restricting our modifying variable, the rest of the world crisis measure, to a measure of crises across a given country's top five trade partners only amplifies the magnitude and significance of the restraint effect.

In sum, we highlight that crises generate two opposing state incentives: the incentive to offer import relief in hard times, and the incentive to avoid doing so when the risk and cost of a trade war grow forbidding. What distinguishes these two cases is the interaction between problems at

home and circumstances in the rest of the world. When crises are widely shared, the likelihood of cooperation actually rises, as seen in the restraint we have observed in the area of trade remedies.

## 4 Conclusion

Political economy theory would lead us to believe that as the cost of trade cooperation increases during hard times, we should expect rising trade protection. Yet empirical evidence on this count has been mixed. Some studies find a correlation between unemployment and protection, but the worst recession since the Great Depression has generated surprisingly moderate levels of protection. We explain this apparent contradiction. Our statistical findings show that under conditions of pervasive economic crisis at the international level, states exercise more restraint than they would otherwise, when facing crisis alone.

Government decisions to impose costs on their trade partners, by taking advantage of their legal rights to use flexibility measures, are driven not only by the domestic situation, but also by circumstances abroad. When hard times are widespread, government leaders fear the repercussions that their own use of trade protection may have on the behavior of trade partners, at a time when they cannot afford more economic hardship from a trade war. Institutions provide the information to reinforce expectations that any move to protect industries will trigger similar moves in other countries. This dynamic helps to account for why we observe states not only respecting their WTO obligations, but also showing restraint in the exercise of their WTO *rights*. In some cases, hard times breed more, not less, international cooperation.

While the empirical puzzle examined here concerns a narrow facet of trade policy, it falls under a broader question of theory, namely: which actors are empowered by crises, and which actors



are constrained by them? Specifically, do crises represent an opportunity for leaders to rise above interest group demands to pursue national interest as member of global economy? Or do crises increase the mobilization of domestic groups demanding protection so that it becomes politically unfeasible for leaders to resist their demands? Our findings suggest that the former effect looms larger. Conditional on the existence of institutions that provide reliable information about the behavior of states, hard times in trade privilege the international level over the domestic level.

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