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JEL Classification: F13

Keywords: Trade War, tariffs, retaliation, WTO

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Introduction

In 2018, the United States suddenly increased tariffs on nearly 50 percent of its imports from China. The new "special tariffs" raised the average US tariff on imports from China from 3 percent to over 12 percent. China immediately retaliated with tariffs on imports from the United States. By the end of 2018, China's new special tariffs covered more than 70 percent of imports from the United States and raised the average Chinese tariff on imports from the United States from less than 10 percent to over 18 percent.

The US-China tariff events of 2018 have drawn attention to what seemed a suddenly fractious trade relationship.[1] Yet, while the tariffs were sudden, the underlying economic policy concerns were not. The continuing buildup of frictions between the two large economies had become increasingly hard to diffuse.

Some conflicts have been painted as simple, others ranged toward the intractable. Most straightforward seemed the US accusation of nonreciprocal trade policies—China charging higher tariffs on US imports than vice-versa.[2] More complicated was concern over China's failure to reform, as its economic evolution had turned increasingly away from markets and involved subsidies that drove global overcapacity in old industrial sectors like steel and aluminum. But the most complex was a newly surfacing concern about China's economic model. American multinational companies complained more and more about being mistreated in China. They alleged that they were being forced to transfer their technology to Chinese firms on noncommercial grounds—or in some cases even having it stolen in state-sponsored actions—in order to assist China's economic development strategy.

US attempts to address problems through the World Trade Organization (WTO) mostly ground to a halt. With the breakdown of the Doha Round of multilateral trade negotiations, the rules-making function had long ceased to provide a useful forum for negotiations. And the United States brought fewer and fewer grievances to formal WTO dispute settlement, the mechanism tasked with preventing bilateral trade spats from escalating into trade wars. Not only did US actions in 2018 bring trade frictions with China to a head but also US strategy deliberately pushed the multilateral trading system to its breaking point.

This paper assesses what happened in 2018 and attempts to explain why.

It begins by constructing a new measure of special tariff protection to put the sheer scope and coverage of the 2018 actions into historical context. New US special tariffs of 2018 covered an even larger share of imports from China than the peak levels of US special protection during the "managed trade" era of the 1980s, which included the Multifibre Arrangement and other voluntary export restraints.[3] And China's 2018 retaliation was itself unprecedented for the WTO period.

More broadly, the process of trade opening that both countries had undertaken since the 1980s is much more complicated than the simple headline result that each made major tariff cuts and increased the

[1] See "America and China are in a Proper Trade War," *The Economist*, September 20, 2018.
[2] See President Donald Trump's tweet of April 8, 2018, "The United States hasn't had a Trade Surplus with China in 40 years. They must end unfair trade, take down barriers and charge only Reciprocal Tariffs. The U.S. is losing $500 Billion a year, and has been losing Billions of Dollars for decades. Cannot continue!"
[3] For a discussion, see Hufbauer, Berliner, and Elliott (1986).

legal certainty of each other's "normal" tariffs. Not captured by that headline are the ebb and flow during this period of various forms of "special" protection. For the United States, there was a spectacular decline in some forms of special protection, including the elimination of trade restrictions on textiles and clothing that had been in place for decades. But since China's 2001 WTO accession, the United States had also begun to apply considerable new protection in a different form, increasingly through the unfair trade laws of antidumping and countervailing duties. For its part, China had begun to use these same special protection policies against the United States, and by the early 2010s, it seemed to deploy them as a tool for retaliation.

Thus, even the initial accusation that US and Chinese trade policies were "nonreciprocal" turns out not as simple as the Trump administration had characterized it. By 2017, each country had built up a considerable amount of other trade barriers beyond normal tariffs.

Next, which key sources of trade friction triggered the 2018 crisis of protection? Some US tariffs were imposed due to concerns over the rising importance of China's state-owned enterprises, industrial subsidies, and its failure to reform and become more market-oriented. As such, tariffs imposed on steel, aluminum, and even solar panels can be viewed as simply an escalation of a pre-2018 trend of US special protection through antidumping and countervailing duties.

But the other US tariffs of 2018 were different. Tariffs imposed on $250 billion of imports from China resulted from a policy decision to confront China's development strategy that the United States argued was too costly for trading partners to continue to accommodate.

Lastly, the change in the US approach toward China in 2018 also shows three important areas of American frustration with the WTO. First, US resort to "national security" tariffs may be an example of what happens when WTO legal rulings overly constrain use of more traditional and acceptable forms of special tariffs. Second, imposing unilateral tariffs on China in lieu of going through formal WTO dispute settlement channels also made clear the US view that litigation over existing rules was insufficient as a means of tackling the systemic problems that the Chinese economic approach created for trading partners. Third, the WTO's failure to facilitate US-China negotiation of any new disciplines or tradeoffs—through the Doha Round or elsewhere—pushed the United States to act unilaterally and break with the old rules governing procedural responses.

Before continuing, a few final points are in order. This paper is an attempt to put a rational framework around the trade policy actions of 2018. By design, there is little focus on the Trump administration's misguided rhetoric and tactics. This is admittedly a major limitation, as such issues are important. Another is the decision not to address the considerable costs associated with the 2018 actions. Indeed, there is a mounting body of evidence that the US approach resulted in both short-term economic costs and long-term costs to the global trading system.

These costs are not unimportant, but because they have been addressed elsewhere at length, including by the author, the focus here is to clarify some of the underlying US political-economic concern with China, as well as the WTO, that triggered the events of 2018.[4]

[4] Fajgelbaum et al. (2019) and Amiti, Redding, and Weinstein (forthcoming) provide model-based estimates of the economic costs of the 2018 tariffs. For the author's own critiques of the Trump administration's costly approach to

1. US-China Normal Tariffs and Trade before 2018

The United States was a founding contracting party to the General Agreement on Tariffs and Trade (GATT) in 1948. The dominant US trade policy strategy since has been to apply nondiscriminatory tariffs on imports from all countries participating in the GATT and its 1995 successor, the World Trade Organization.[5] Over time and through bargaining in the context of numerous multilateral negotiating rounds, the United States reduced its nondiscriminatory tariffs in exchange for other major economies lowering their tariffs on imports from others, including from the United States.

China was not involved in this reciprocal, multilateral negotiating framework for most of the 20th century. Though it was a founding contracting party of the GATT, it exited the agreement in 1949 during its revolution. In 1986, China began the process of seeking reentry into the agreement, but it took 15 years of negotiations to accede as a formal WTO member in 2001. Yet, despite China not being a member of the GATT, beginning in 1980 the United States offered it the same most-favored nation (MFN) tariff granted to US imports from most other major economies, including those of Europe, Japan, and more.[6]

Figure 1 summarizes the baseline tariffs that the United States and China applied on imports from each other over 1989–2017. For each country, the figure presents two series. The first is the simple average applied tariff and the second is the trade-weighted average applied tariff, where the weights are the trading partner's product-level exports to the world.[7] Throughout the analysis, I refer to these as representative of "normal" tariffs.

As of the late 1980s, US tariffs applied on imports from China averaged between 5 (simple average) and 7 (trade-weighted average) percent. The United States agreed to further reduce its tariffs multilaterally beginning in 1995 as part of the outcome of the Uruguay Round of GATT negotiations, which ushered in the WTO. These tariff reductions were thus extended to imports from China as well. The United States then made some additional multilateral tariff cuts when implementing the two information technology agreements that were concluded in 1997 and 2015, respectively. By 2017, normal US applied tariffs on imports from China were at roughly 3 percent.

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trade policy, see the contributions in Bown and Kolb (2019). Other approaches seeking to rationalize the Trump administration's actions in a political-economic framework include Mattoo and Staiger (forthcoming) and Bown (forthcoming, a).

[5] There are two broad exceptions to this nondiscriminatory tariff treatment. The first is that, since 1986, the United has negotiated and implemented free trade agreements with 20 countries whereby it offers lower than MFN tariffs. Second, since the 1970s, it has offered zero tariffs to select developing countries under programs such as the Generalized System of Preferences (GSP).

[6] See GAO (1998). The United States did not offer lower-than-MFN tariffs to China, despite its status as an extremely poor country in the period before the 1990s, under the US GSP program. Under US law, communist countries were not permitted to receive benefits under the GSP program.

[7] The series begins in 1989 as that is the first year the Harmonized System—which allowed for meaningful cross-country comparisons of simple average tariffs—was in effect. The simple average applied tariff is calculated by weighting equally the applied MFN tariff of each of the roughly 5,000 6-digit products in the Harmonized System. The alternative series trade-weights each of the product-level applied MFN tariffs by the exporting country's product-level exports to the world. This is one way to deal with concern over the downward bias of trade-weighting by realized imports—i.e., in the import-weighted approach, products with high (e.g., prohibitive) tariffs are dropped from the calculation because of a zero-import weight.

During the same period, China's "normal" tariffs on imports from the United States were reduced by considerably more. As figure 1 illustrates, this is because China's tariffs began at much higher levels—i.e., in the early 1990s they averaged close to 40 percent. By 2003, China had phased in cuts negotiated through the WTO accession process, and its tariffs had dropped to roughly 10 percent. They continued to decline to an average of 8 percent by 2017.

In summary, while both countries had reduced their tariffs over time, as of 2017, the data on normal tariffs give the impression that the countries' trade policies were nonreciprocal, with China maintaining higher tariffs than the United States. However, this is just the tip of the policy iceberg. Section 2 documents how these tariffs are far from the only policy barrier affecting goods trade between the two countries.

Nevertheless, and before examining such policies in more depth, it is instructive to consider the bilateral trade between these two countries. Figure 2 presents these data for 1980–2018 both in real terms and as a share of each country's total goods imports from the world. The figure can be broken into two periods: pre- and post-2001, when China became a member of the WTO.

Panel a shows US imports from China. In 1978, China began to gradually open its economy to the world. While the United States granted MFN tariffs to China's exporters beginning in 1980, the US Congress undertook yearly votes on whether to continue doing so or revert to higher tariffs. Despite evidence that this policy uncertainty dampened some Chinese exports,[8] US imports from China increased to nearly 10 percent of total US goods imports—and over $100 billion annually—by 2001. China's WTO accession reduced the uncertainty of whether its exports would continue to receive normal tariff treatment from the United States. Combined with China's own reductions of normal tariffs, including on imported inputs, the result was an escalation of China's exports to the United States as well as other countries. Imports from China reached more than 20 percent of total US goods imports by 2014 and more than $500 billion annually shortly thereafter.

Panel b documents Chinese imports from the United States. One important similarity with panel a is that, immediately after China's WTO entry, China's imports from the United States increased sharply—from $36 billion per year in 2001 to more than $150 billion by 2017. Nevertheless, two main differences have contributed to political discord. First, the share of US goods in total Chinese goods imports declined from over 10 percent as late as 2001 to under 8.5 percent by 2017. Second, the level of Chinese imports from the United States remained distinctly lower: In 2017, they remained less than a third of the level of US imports from China (which was $503 billion). The result has been a large US bilateral goods trade deficit that has become increasingly challenging to sustain politically.

Despite their salience with politicians, bilateral trade imbalances rarely raise policy concerns among economists, especially when measured from gross imports and exports (as in figure 2) and not in value-added terms.[9] However, finding little merit to base a policy decision on figure 2 does not mean that there were no legitimate sources of concern in the US-China trade relationship.

[8] See Handley and Limão (2017) and Pierce and Schott (2016).
[9] For a discussion of imbalances that account for value-added trade, see Johnson and Noguera (2012).

Yet, the policy problems also cannot be reduced to simple complaints about nonreciprocal levels of normal tariffs captured by figure 1. The next sections thus push beyond such measures to other forms of trade protection in order to shed light on areas of systemic concern.

2. US Special Tariffs and Acts of Protection, 1980–2018

While the United States was steadily reducing its normal tariffs, it was also applying considerable new trade protection, including on imports from China. When confronted with political-economic shocks and demand for new tariffs, the US approach has been to rely on what I refer to collectively as "special" protection—as opposed to "normal" tariffs (figure 1)—through a variety of US trade laws and other ad hoc arrangements.[10]

The United States has applied such special protection to a variety of products, sectors, and countries, and it has remained in place for different lengths of time. Sometimes the protection was applied as a tariff, sometimes as a quantitative limit on imports or negotiated as a voluntary restraint on a trading partner's exports. But overall, special protection has been the general US policy approach toward troublesome imports from various quarters—whether Japan or Europe in the 1960s and 1970s, or other emerging-market economies in Asia, such as South Korea, in the 1980s. The traditional US government response was no different when confronted with demands to change the level of protection toward imports from China.

How much US special protection toward China has there been? Rather than relying on average tariff measures, I construct a new set of import coverage ratios to allow for intertemporal comparisons between actions arising under different laws and policies. The approach builds from Bown (2011) and defines the coverage ratios as the share of US imports from China in each year affected by one or more of the many forms of US special protection described in more detail below.[11] Specifically, it matches US policy actions to imports defined at the product and trading partner levels, and it fixes the coverage ratio from the year prior to the action at that import market share level for the entire period that the trade restriction is in effect.

[10] The United States could have raised its "normal" statutory tariffs in a rules-based manner under the WTO system under GATT Article XXVIII, albeit this would require compensating trading partners with a principal supplying interest in the products facing higher tariffs. For more on the considerable body of research on these and other forms of special protection, see Bown and Crowley (2016).

[11] These estimates are based on a broad database of US acts of special protection implemented over 1974–2018 provided in Bown (forthcoming, b), which includes the Multifibre Arrangement and other various voluntary export restraints. The methodology for construction of the coverage ratios derives from an extension and refinement of Bown (2011), which focused on product-level actions for antidumping, countervailing duties, and safeguards, using data from Bown (2016) at the 6-digit Harmonized System level. The policy data here are matched to product- and trading partner-level import data at the 7-digit Tariff Schedule of the United States Annotated (TSUSA) (1974–1988) and 10-digit Harmonized Tariff Schedule (HTS) (1989–2017) levels for US imports from China and the 6-digit Harmonized System level for China's imports from the United States (e.g., figures 7 and 8 below). In order to address concern of downward bias from using realized imports after the trade restriction is imposed, an assumption is required about what would have been the growth rate of products hit with the trade restriction in its absence. Assuming an unchanged import market share over the life of the policy is equivalent to assuming that targeted imports would have grown at the average (nontargeted) rate of imports, a relatively conservative assumption given that products are frequently targeted because they are growing much more quickly than nontargeted products. The exception to this approach is for products covered under the Multifibre Arrangement and Agreement on Textiles and Clothing, which rely on realized imports.

This approach goes beyond the initial measurement of special tariff protection over 1989–2009 provided by Bown (2011), which focused only on antidumping, countervailing duties, and safeguard policies. My new database expands the time coverage and detail of those policies while also introducing a number of *other* policies described below. Extending policy coverage is particularly important for any comparison with the 1980s, a period when the United States frequently imposed special protection under other laws or via voluntary export restraints and orderly marketing arrangements.

Figure 3 illustrates the full range of US imports from China covered by US special acts of protection implemented over 1980–2018. In 1980, when the United States first granted China normal MFN tariffs, over one-third of total US imports from China were covered by some *other* form of special protection. This special protection peaked at 39 percent of US imports from China in 1986, after which it started steadily declining. The special protection reached a low in 2005—when only 4.3 percent of US imports from China were subject to special protection—before slowly rising and ultimately hitting 8.1 percent again by 2017.

But as figure 3 also documents and as is described in more detail below, the Trump administration's special tariffs of 2018 increased that import coverage considerably. In 2018, over 50 percent of US imports from China suddenly were subject to special forms of protection. This was higher than peak levels from the 1980s, when China was not a member of the GATT/WTO. Another important distinction is the difference in the value of trade being affected. (See again figure 2.) During the height of US special protection in the 1980s, US imports from China were less than $10 billion per year; in 2018 they were more than 50 times that. The 50 percent of imports covered by special tariffs in 2018 thus affected more than $250 billion of trade.

The rest of this section explores the details behind figure 3 by describing the changing nature of the "special" forms of US protection applied toward imports from China over 1980–2018.

2.1 Bilateral Agreements, the Multifibre Arrangement, and Agreement on Textiles and Clothing

Figure 3 also illustrates US special protection toward imports from China by sector. For 1980–2005, most US special protection covered imports of textiles and clothing. In 1980, the United States had negotiated a bilateral arrangement limiting such imports before China became a signatory of the Multifibre Arrangement (MFA) in 1984. The MFA was a system of quotas and voluntary export restraints that governed the bulk of US imports from the world of clothing and textile products over 1974–1994. In 1995, the WTO's Agreement on Textiles and Clothing (ATC) replaced the MFA and slowly phased out volume limits on those products. China's entry into the WTO in 2001 also brought it into the ATC.[12]

As the ATC ended in 2005, the United States negotiated an agreement with China to voluntarily restrain its exports of textile and apparel products until 2008.[13] Under the terms of China's accession to the WTO

[12] For an analysis on the economic impact of the MFA and its termination, see Dean (1995) and Brambilla, Khandelwal, and Schott (2010), respectively.

[13] The WTO's Trade Policy Review of China (WTO 2006, 108–109) explicitly describes the voluntary export restraints that China negotiated with both the European Union and the United States in 2005 toward the end of the ATC: "On 10 June 2005, China and the European Communities signed a Memorandum of Understanding (MOU), placing export restraints on ten categories of Chinese textiles and clothing exports to the EC until 31 December 2007. The growth rates of these exports would be limited to between 8 and 12.5 percent per year. As a

in 2001, WTO members (including the United States) had negotiated access to a number of special safeguards—described in section 2.2—that allowed them to impose higher tariffs on Chinese exports with relatively few institutional constraints. By voluntarily agreeing to restrain those exports, China retained some of the economic welfare—i.e., that associated with the rents of the trade restriction accruing through higher-received export prices. If the restriction had been applied as a US special safeguard tariff instead, that welfare would have accrued to the United States Treasury in the form of tariff revenue.

Since 2008, and perhaps somewhat remarkably, the United States has applied very little special protection to textiles and apparel. The 2018 special tariffs mostly stayed away from such items, despite the considerable US imports from China in those product categories.

2.2 Used and Unused Tools of US Special Protection, 2001–2017

As US imports from China escalated after 2001, the US government had several other laws at its disposal under which to limit potentially injurious imports.[14] Most use of these laws through 2017 was triggered when the US private sector—a group of firms, an industry association, or even a labor union—filed a petition requesting new trade barriers and claiming they were injured due to import competition.

The first two such policies were "safeguards" and were specific to imports from China. One was a special safeguard administered by the Office of Textiles and Apparel (OTEXA) in the Department of Commerce that could be used to restrain imports of clothing and textile products. The United States utilized the safeguard to restrict imports from China 14 times before its availability expired at the end of 2008 (table 1).

The second safeguard that the United States could have applied to imports of any product from China was available through December 2013 under Section 421 of the Trade Act of 1974. Somewhat surprisingly, the United States imposed trade restrictions under Section 421 only once—in 2009, at the height of the global financial crisis—on imports of Chinese tires. As described below, China quickly retaliated. The United States had conducted six other Section 421 investigations between 2001 and 2009; in some cases, the US International Trade Commission found evidence of injury to the US import-competing industry and recommended protection, but in each instance the president declined to impose it.

Nevertheless, requests to impose protection under Section 421 were relatively few partly because US policymakers had relatively easy access to other laws to restrict imports from China. Thus other protection arose after requests brought forward under US unfair trade laws, first with antidumping duties and then, after a landmark decision in 2006, by complementing those with countervailing

quid pro quo, the EC agreed to end its ongoing safeguard investigation on these products and to refrain from adopting measures as permitted under Article 242 of China's WTO Working Party Report, in categories not covered by the MOU. . . . A similar agreement was signed with the United States on 8 November 2005. The restraints on certain categories of textiles and clothing exports from China are effective from 1 January 2006 to 31 December 2008; exports of these products are expected to increase by 8 to 10 percent in 2006, by 13 percent in 2007, and 17 percent in 2008."

[14] See the discussions in Bown (2010). See also the dispute coverage of Hufbauer, Wong, and Sheth (2006).

duties.[15] In addition to showing injury, access to antidumping required evidence of Chinese firms selling at unfairly low prices in the US market, whereas countervailing duties required evidence that Chinese firms benefited from receipt of illegal subsidies.

Between 2001 and 2017, the United States launched 130 antidumping and 69 countervailing duty investigations of imports from China, resulting in 103 and 55 restrictions imposed, respectively (see again table 1). The antidumping and countervailing duties that the United States imposed against China were typically quite high. As table 2 indicates, the average US antidumping duty in force against China in 2018 was 151.5 percent, and the average US countervailing duty was 72.4 percent.

Figure 4 illustrates the share of US imports from China covered by antidumping and countervailing duties in effect over 1980–2018. The share of imports covered by antidumping hovered between 1 and 2 percent between 1983 and 2000; it sharply increased after China's WTO accession to 7.5 percent of bilateral imports by 2017. After the 2006 US regulatory change that allowed imports from China to become subject to countervailing duties, the trade covered by these duties increased, reaching 5.5 percent of bilateral imports by 2017. However, the redundancy of the antidumping and countervailing duty cases against China is worth noting: Virtually all US countervailing duties on imports from China have been accompanied by simultaneously imposed antidumping duties.[16]

The main industries covered by antidumping and countervailing duties during the period of heavy US use against China (2008–2017) were metals (see again figure 3)—i.e., steel and aluminum—as well as plastics. The US steel industry has a long history of receiving special protection under a variety of US laws and ad hoc arrangements. These date back to the 1960s and thus predate China becoming a major global producer and exporter of steel products and stoking the contemporary challenges described below.

Section 4 provides greater detail on how and why the United States and other countries had special procedures for applying trade restrictions under these laws on imports from China during this period. It also explores why that conflict remained an important contributor to the events of 2018.

2.3 US Special Protection Introduced in 2018

The United States considerably increased its special protection toward China in 2018, albeit not through the laws it used to apply most of the protection between 2001 and 2017. As figure 3 again illustrates, the share of bilateral imports covered by US special tariffs increased from 7.5 percent in 2017 to over 50 percent in 2018. Table 3 summarizes the timeline of the key events that culminated in the imposition of new types of special tariffs, under mostly different laws, in 2018.

The first two laws involved the United States applying trade restrictions on a relatively nondiscriminatory basis and thus were not limited to imports from China. In January 2018, under

[15] In 2006, the United States reversed its position adopted after the 1984 *Georgetown Steel* decision, in which US policy had refused to consider petitions under its countervailing duty law regarding imports from nonmarket economies such as China.

[16] There are offset adjustments to the tariffs for the products over which antidumping and countervailing duties are simultaneously applied; i.e., the overall tariff is not simply the sum of the two individual duties. However, China did file a formal WTO dispute over the way the United States was applying tariffs—both antidumping and countervailing duties or "double remedies"—in such cases. For a discussion, see Prusa (2017).

Section 201 of the Trade Act of 1974, the United States announced restrictions on imports of solar panels and washing machines.[17] In March 2018, under Section 232 of the Trade Expansion Act of 1962, the United States imposed trade restrictions on steel and aluminum, arguing imports of each were a threat to national security.[18]

The third law was Section 301 of the Trade Act of 1974, under which the United States imposed tariffs on roughly $250 billion of imports from China.

Figure 5 uses a Venn diagram to illustrate the full panoply of US imports from China subject to special protection in 2018 by policy category. Collectively, special tariffs applied under these laws—as well as the antidumping and countervailing duty laws described earlier—covered more than 50 percent of US imports from China. This estimate accounts for the redundancies inherent in some products being hit with multiple special protection policies. For example, the Section 232 tariffs on steel imposed on March 23, 2018, covered 1.5 percent of US imports from China. However, almost all (1.3 percent of total) of those steel products were already covered by antidumping or countervailing duties. Other products, like solar panels (0.4 percent of total US imports), were covered by three different forms of special tariffs in 2018—tariffs imposed under Section 201, tariffs imposed under Section 301, and earlier antidumping and countervailing duties. Trade flows of products subject to multiple special tariffs are less likely to resume if all of the tariffs are not removed.

Figure 6 further breaks out the US special protection imposed in 2018 by sector (panel a) and product type (panel b). More than 50 percent of US imports from China across almost every sector were subject to special tariffs in 2018. The exceptions were electronics and electrical machinery, minerals, footwear, textiles and clothing, and toys. Much of the *nontargeted* products were final consumer goods, as illustrated by panel b. One important exception was minerals—in that special case, the United States has historically had the opposite concern with China's exports. Worried that China was shipping too little abroad, the United States had earlier filed three formal WTO disputes against China's policy of export restrictions on rare earth metals and other raw materials.[19]

Figure 6b illustrates one other striking feature of the Trump administration's special protection. Nearly 90 percent of US imports of intermediate inputs from China were subject to special protection in 2018, threatening American producers' continued integration with international supply chains. Governments have traditionally shied away from applying protection to imports of intermediate inputs, because access to cheaper inputs improves the global competitiveness of their domestic firms (Bown and Crowley 2016).

[17] The United States had imposed tariffs on China and other countries under this law on several previous occasions in the 1980s and 1990s. But there had been none since 2001–2003 when the George W. Bush administration had imposed a safeguard on imported steel products.

[18] On March 23, 2018, the United States imposed tariffs on steel and aluminum imports from China and all other countries except seven trading partners. The remaining countries, except Australia, were ultimately also hit with tariffs or quotas by June 1.

[19] See WTO disputes over *China—Raw Materials* (DS394), *China—Rare Earths* (DS431), and *China—Raw Materials* (DS508).

3. China's Special Tariffs and Acts of Protection, 1998–2018

Like the United States, China has also deployed special tariffs since entering the WTO, citing many of the same legal justifications. However, much of its special tariffs have been more reactive or retaliatory than driven by the same sort of domestic demands for additional protection arising in countries like the United States. This was the case not only in 2018—when the share of its imports from the United States subject to special tariffs increased from 5 percent to over 70 percent—but also in many instances prior to 2018.

3.1 China's Special Tariffs, 1998–2017

Toward the end of its WTO accession negotiations in the late 1990s, and as it was reducing its "normal" tariffs on imports from the United States as well as other countries (see again figure 1), China implemented and began to use many of the same trade laws that the United States used to deal with injurious imports, including antidumping, countervailing duties, and safeguards. Like the United States, China has used antidumping most often. And when it imposed countervailing duties on imports from the United States, they were typically applied to products also hit with antidumping duties.

Figure 7 provides estimates of the share of China's imports from the United States covered by special protection under these laws over 1998–2018. Two main features of the data stand out. First, by 2017, these special tariffs covered roughly 5 percent of China's imports from the United States. Second, trade coverage of these policies peaked in 2011 when China imposed retaliatory duties on imports from the United States of cars, chicken feet, and other products. This retaliation was against US imposition of the Section 421 safeguard on tires described earlier, as well as other US policy decisions such as filing formal disputes against China at the WTO.[20]

China's average applied antidumping and countervailing duties in effect in 2018 on imports from the United States were 31.4 and 21.3 percent, respectively (see again table 2). These duties were thus far lower than the average duties the United States applied in its cases against China.

3.2 China's Retaliation in 2018

In 2018, China retaliated against the Trump administration's tariffs—on steel, aluminum, and $250 billion of imports from China—by imposing higher special tariffs on imports from the United States. Table 3 again illustrates the timeline of when China imposed its tariffs. By the end of 2018, China's combined retaliation covered roughly $110 billion of US exports, or 70 percent of China's total goods imports from the United States.

Figure 8 is a Venn diagram illustrating Chinese imports from the United States subject to China's special tariff protection in 2018 by policy category. Most of the protection was retaliation against the Trump administration's Section 301 tariffs. Furthermore, some of China's imports from the United States

[20] See, for example, Elizabeth Williamson and Tom Barkley, "U.S. Beats China in Tire Fight," *Wall Street Journal*, December 13, 2010, and John Reed and Alan Beattie, "China set to tax US-made Car Imports," *Financial Times*, December 14, 2011. In disputes brought to the WTO, the US-imposed safeguard was broadly found to be WTO-legal and China's retaliatory antidumping duties on chicken feet and autos were not. For an assessment of the legal rulings in the WTO disputes, see Prusa and Vermulst (2015) on chicken feet, Mitchell and Prusa (2016) on autos, and Charnovitz and Hoekman (2013) on tires.

subject to that retaliation were of products *already* subject to China's antidumping or countervailing duties or to its retaliation to the Trump administration's Section 232 tariffs on steel and aluminum.

4. Tying US Special Tariffs to Specific Concern over China's Policies

This section uses the lens provided by these tariffs to shed light on the policy frictions between the two countries. The first step is to make a more formal comparison of average tariffs across countries. It then explores how most of the US special tariffs on imports from China in 2018 can be traced to broader concerns about Chinese policy, the evolution of the Chinese economic model, and concerns with the current rules of the existing WTO system.

4.1 The Reciprocal Tariffs Comparison

The cross-country comparison of tariff levels was part of the 2018 political debate, just as in similar historical moments. These include the 1980s, when the United States was troubled by Japan's rising economic importance, and the end of the 19th century, when Britain bristled at the end of its hegemonic period (Bhagwati and Irwin 1987). Bagwell and Staiger (2014) characterize contemporary concern over sizeable differences in tariff levels between old (e.g., United States) and new (e.g., China) members of the WTO as the "latecomer's problem."[21]

Nevertheless, economic theory provides little guidance on the value of comparing tariff *levels* across countries. The foundational work on the efficiency-enhancing role of reciprocity in the WTO (Bagwell and Staiger 2002) focused on what has been called "first-difference" reciprocity. As an important principle to guide trade liberalization negotiations, reciprocity involves roughly equivalent *changes* in volumes of trade induced by *changes* in trade policy. But this is not the same as ensuring the equivalence of post-change *levels* of either tariffs (the policy) or trade flows (the outcome).

How nonreciprocal were US and Chinese tariff levels? Table 4 provides estimates to underscore additional complexity beyond that introduced in figure 1.[22] First, when considering only the basic statutory and "normal" tariffs that each country applied as of 2017—and no category of "special" tariffs—the United States (3 percent) applied considerably lower tariffs on average than China (8 to 10 percent).

The US special tariffs of 2018 and China's retaliatory tariffs did little to change that relationship. The Trump administration's special protection pushed the US average tariff on imports from China from 3 percent to above 12 percent, but the impact of China's retaliation was to increase its average tariff on imports from the United States to 18 to 20 percent. Thus, the nonreciprocal relationship was left unaffected; the only difference is that both countries had higher levels of tariffs than before.

These estimates, however, do not consider the *other* special tariffs each imposed under antidumping and countervailing duty laws. Most of the special tariffs under those laws had been imposed long before 2018. And as figures 4 and 7 also make apparent, the United States applied these special tariffs to a

[21] Bagwell and Staiger (2014) note that while the scale of the current latecomer's problem may be new, the challenge itself is not unprecedented and was present even in some of the early rounds of GATT negotiations in the 1950s as new countries joined negotiations for the first time. See also Mattoo and Staiger (forthcoming).
[22] Anderson and Neary (2005) develop an alternative approach and provide additional arguments for why cross-country comparisons of average tariffs can be misleading when seeking to understand trade restrictiveness.

larger share of its bilateral imports than did China, and its tariffs were also higher on average (see again table 2). In fact, the nonreciprocal relationship disappears when the comparison considers both countries' antidumping duties in effect in 2018. The United States applied slightly higher tariffs on average on imports from China (20 to 23 percent) than did China on imports from the United States (18 to 20 percent).[23]

Of course, one important political-economic question is whether it is appropriate to include antidumping (or countervailing) duties in such average tariff calculations. The United States, for example, might argue that its antidumping duties should not be included because they are imposed only to "correct" China's market-distorting behavior. Furthermore, it might also point to WTO rulings that indicate China's antidumping duties were imposed simply for retaliatory purposes and not against any market-distorting US behavior.

Given its empirical and policy relevance, the next section explains the sources of concern underlying the escalating use of these policies.

4.2 China as a Nonmarket Economy, US Special Tariffs, and the WTO

The 2018 US tariffs on steel and aluminum imports punctuate the first major American concern with China. After its 2001 WTO accession, China did not fully transform into a market economy. And because of its size, China's system of explicit and implicit subsidies imposed political-economic costs on trading partners.

But steel and aluminum tariffs were imposed for national security reasons also because of US frustrations with the WTO. The WTO had proven incapable of negotiating any new rules to constrain Chinese policies that were the underlying source of some of the US problems. Furthermore, the WTO had also issued several dispute settlement rulings that constrained how the United States was legally able to respond to injurious imports.

4.2.1 Aluminum as an Example

First consider a stylized explanation of how the Chinese economic system operates in nonmarket ways. The basic argument is that, while some domestic Chinese firms compete—perhaps ferociously—with one another, they may all be subsidized relative to foreign firms. Some subsidies are direct transfers from the government, others are implicit. Some industries may have state-owned enterprises (SOEs) that face soft budget constraints and thus are not profit-maximizers.[24] Some firms have Chinese Communist Party officials as part of their leadership (Wu 2016), who thus allocate resources or make production decisions based on state-directed industrial policy goals, such as Made in China 2025, but that conflict with market incentives. Furthermore, downstream producers need not be SOEs or state-directed firms; their receipt of subsidized inputs from upstream firms that fit those criteria may be

[23] This analysis does not consider imposition of countervailing duties but focuses solely on antidumping. Analyzing the application of both requires knowledge of data that are not available in this analysis, are not required to make the basic point of interest here, and are unlikely to change the results given the underlying pattern of countervailing duties documented in table 2.

[24] Lardy (2019) documents the increasing role of SOEs in the Chinese economy, especially since 2013, a reversal in trend from China's earlier period of reform (Lardy 2014).

enough to distort their own output prices. Finally, implicit subsidies are generated by other Chinese government policies, including export taxes and subsidies, as well as the discriminatory and discretionary rebate of value-added taxes.

Aluminum provides an illustrative example. It was the focus not only of US special tariffs in 2018 but also of a recent OECD report (OECD 2019a).[25] First, according to data from the US Geological Survey (2019), world production of primary aluminum nearly doubled between 2005 and 2017. China was the source of most of that expansion, as its share of global production increased from less than 25 percent to more than 54 percent during that period. Second, and paradoxically, China's expansion took place during an extended period in which price signals would have been expected to push its production in the *opposite* direction. World prices for output—as reported by the London Metals Exchange—trended downward over 2011–2015. And Chinese coal prices—the key input cost for energy-intensive primary aluminum production—were elevated during this period. Combined, this suggests that Chinese production was responding to government support and not market signals.

However, the exact form of Chinese government intervention has become increasingly challenging for foreign policymakers to identify and potentially target with existing WTO rules. The OECD (2019a) shows this through an investigation of firm-level disclosures in annual reports, financial statements, sustainability assessments, and bond offerings. In a cross-country study of firms in the aluminum industry, it finds Chinese firms are among the top beneficiaries of direct and indirect government support, including through energy subsidies, below market-rate loans (concessional finance), and tax concessions provided by local authorities. These implicit subsidies are particularly prominent in primary aluminum production. And subsidizing such upstream production is important, given estimates that primary aluminum makes up 75 to 86 percent of the costs of downstream, semifinished aluminum products—a problem facing most of the US aluminum industry.[26]

However, the OECD report also identifies how other Chinese policies—including its discretionary regime for selectively rebating value-added taxes for different products across the aluminum value chain—provide implicit subsidies to the downstream segment of semifinished aluminum. First, China imposes export taxes on primary aluminum to encourage domestic relative to international sales. Thus, while China produced more than 50 percent of world's primary aluminum output, it exported only 2 percent of that in 2016. Second, China has not typically rebated value-added taxes for exports of primary aluminum products. In comparison, downstream and refined aluminum products faced no export taxes and were offered considerable VAT rebates, thereby incentivizing both their production and export.[27] The local inexpensive primary aluminum has thus provided an implicit subsidy for downstream semifinished aluminum products.

The OECD report makes clear that China is not the only country with considerable government involvement in the aluminum sector. However, the estimated magnitudes of subsidies received by Chinese firms are large. And because China is such a large supplier and trader in global markets, its policies likely spilled over and imposed externalities on economic activity in other countries.

[25] For an explanation of how this arises in the Chinese steel industry, see the discussion in Bown (forthcoming, c).
[26] See Bown and Keynes (2018).
[27] See also Gourdon et al. (2019).

4.2.2 Political-Economic Concern with Chinese Subsidies

If markets were competitive and frictionless, economics would likely find the negative US reaction to such Chinese subsidies misplaced, at least on the grounds of aggregate welfare implications. The Chinese subsidies result in lower-priced US goods with benefits to American consumers that are larger than the costs to US producers, with China bearing the fiscal expense. Putting aside distributional implications, the typical economic model suggests the Chinese subsidies confer a net benefit to the US and other aluminum-importing countries.

However, there are several political-economic caveats motivating why the traditional economic response may be incomplete in the case China.

The first is if markets were not frictionless and the resulting adjustment costs were sizeable. Take, again, the example of aluminum production, and assume a negative shock to global demand. If China's nonmarket system did not respond to price signals, China's production would fail to absorb "its share" of the reduction of global demand; the result is that a disproportionately large share of the adjustment burden would be put on workers (unemployment) and firms (bankruptcy) in other countries, including the United States. There is increasing evidence of larger-than-expected costs to the US economy of the failure of countries like China to adjust when confronted by such shocks.[28]

A second concern is whether markets are, or would remain, competitive considering China's actions. China had already shown a willingness to exercise market power to its economic advantage. Its export policies for primary aluminum—relative to downstream, refined aluminum—described above were one example. Another was its imposition of WTO-illegal export restrictions on raw materials and rare earth metals—sectors in which it dominated global production. China's export restraints on key inputs ended up imposing costs on foreign consumers and provided implicit subsidies to domestic Chinese downstream producers.

Other concerns fit less well into basic economic models.

One involves the notion of fairness in the trading system. Workers and firms in one country forced to operate under different rules than those in another country may make it difficult to sustain openness and international cooperation.

A second, and more existential, issue starts to bleed into the broader concern of the future of markets. The growing economic importance of the Chinese system has generated political arguments elsewhere for more state intervention, including in the United States and Germany, to remain competitive with China.[29]

A final concern involves how to overcome the coordination problem of addressing China in a world in which adjustment costs may not be uniform across countries. The 2018 aluminum case—as well as steel and solar panels—provides telling examples.

[28] See, for example, Autor, Dorn, and Hanson (2016).

[29] See Peter Navarro, "America's Military-Industrial Base Is at Risk: And here's what the White House is going to do about it," *New York Times*, October 4, 2018, and "German industrial policy comes back to the fore," *Financial Times* (Editorial Board), February 5, 2019.

As figure 5 again illustrates, the 2018 US tariffs on aluminum, steel, and solar panels were largely redundant. Because the United States had already imposed special tariffs on imports of these products from China under its antidumping and countervailing duty laws, it had mostly arrested their import growth. However, not surprisingly, imports from other countries continued to flow into the United States. This raises the important question: To what extent did China's subsidization and increased exports to third markets shift other countries' exports to the US market? Evidence of arbitrage of this sort via trade deflection (Chinese exports to third markets increasing) and trade diversion (US imports from third markets increasing) has been found in other settings.[30]

American policymakers certainly perceived that this is what happened. Recognizing that tariffs on China alone were insufficient to halt the economic impact of Chinese subsidies on the US economy, let alone fix the underlying problems in China, in 2018 the United States raised tariffs on imports of aluminum, steel, and solar panels from all countries. This response led Canada, the European Union, and others to retaliate against the United States, thus creating a new source of global trade tension. Other countries followed the US action on steel with their own protection to prevent trade from being deflected into their markets. This introduced yet another source of friction—e.g., European tariffs on steel from India or Brazil—between countries quite far removed from the initial conflict (China and the United States).

Thus, another important worry is that Chinese subsidies trigger not only one round of protection but also follow-on policies that destabilize international cooperation, leading to friction even between countries that have the same political-economic concern with the Chinese system.

4.2.3 US-China Conflict over Subsidies, Antidumping, and Countervailing Duties at the WTO

Even before the Trump administration imposed special tariffs on imports from China of aluminum and steel in March 2018, or of solar panels in January 2018, more than 90 percent of US imports from China of such products had already been covered by US antidumping and countervailing duties.

These tariffs were mostly permitted under the rules of the WTO. Upon China's accession in 2001, the existing WTO membership was granted the right to treat China as a nonmarket economy in its antidumping investigations. In practice this has meant that government authorities have considerable discretion to find evidence of dumping. Because data on Chinese firm costs are unreliable indicators of how their "true" costs would compare with costs of US firms (due to the explicit and implicit subsidies described above), other data are needed to identify whether there is unfair pricing. Treating China as a nonmarket economy under US law allowed investigators the discretion to rely on the costs of a firm in a "surrogate country"—say a higher-cost country like India—to estimate the costs of aluminum, steel, or solar panel firms in China.

Second, after the 2006 regulatory change described earlier, the United States also began to consider petitions that Chinese firms were receiving subsidies and thus could face tariffs under the US countervailing duty statute. In countervailing duty investigations, the United States used a "surrogate input" approach instead of the blunter "surrogate country" approach under antidumping. For example, if the subsidy arose due to below-market-rate loans from Chinese state-owned banks, investigators relied on average interest rates from countries at comparable levels of development. If coal from Chinese state-dominated energy providers was being subsidized, investigators relied on energy prices in

[30] See Bown and Crowley (2007).

other countries. For other key subsidized inputs—say primary aluminum or hot rolled steel provided at subsidized rates from an SOE to downstream firms—government investigators might turn to alternative benchmarks, such as world prices.[31] Combining on an input-by-input basis was another way to construct estimates of Chinese firm costs.

However, several formal legal disputes have arisen with the potential to curb the WTO-consistency of the US approach. First, China's interpretation of its protocol of accession was that the US ability to continue to treat it as a nonmarket economy in antidumping investigations expired on December 11, 2016. China has thus filed a formal WTO dispute challenging the United States on this issue.

Second, China has also disputed how the United States conducted its countervailing duty investigations. A key legal issue involved the definition of a "public body"—or who within a country can grant subsidies. While governments obviously fit the criterion, the United States has argued that the definition should be expanded to deal with China. It should include upstream, state-owned enterprises such as banks, energy companies, other key input providers, and perhaps even firms with Chinese Communist Party officials in key management positions, as they may be susceptible to instruction from the government. The argument is that such companies implicitly subsidize downstream firms in ways that are economically equivalent to direct government subsidies.

Third, the United States may have also decided against utilizing a formal dispute to convince China to end its subsidy-like policies, the first-best result, out of belief that the WTO was not well-equipped to constrain Chinese-style subsidization.[32] The WTO's subsidy disciplines can easily capture direct payments from a government agency to firms. However, as the aluminum example illustrates, Chinese subsidies arose instead from a nuanced and complex combination of policies that were not necessarily WTO-illegal when viewed in isolation.

Overall, US tariffs against China alone were insufficient to address the larger systemic concerns with Chinese subsidies. Yet, several WTO rulings had constrained—or were on the verge of constraining—the ability of the United States and other WTO members to address the first order effect of China's policies by restricting access to special tariffs under antidumping and countervailing duty laws. The WTO had already made a series of legal rulings that had constrained the ability of WTO members to access safeguards and impose tariffs on a nondiscriminatory basis.[33] This was another likely reason why the United States resorted to the destructive "national security" justification for tariffs under Section 232 instead.

Thus, the broad US political concern with the WTO involved how it was threatening to further weaken the United States' already limited defenses. The United States argued that it imposed the 2018 tariffs

[31] However, even world prices may be inaccurate if China is so large that its subsidies affect the world price. Under that scenario, the procedure would need to rely on model-based estimates of a counterfactual world price arising in the absence of the subsidies.

[32] The Trump administration has not pursued a WTO dispute against China's aluminum subsidies filed by the Obama administration at the end of 2016.

[33] See, for example, the critique of the WTO decisions in Sykes (2003).

because something needed to be done, even if it led to a crisis, because other WTO approaches were not addressing the underlying China subsidy problem.[34]

4.3 Foreign Investment in China, Forced Transfer of Technology, and US Special Tariffs

The other major 2018 US tariffs concerned unfair treatment of American firms after they had invested to establish production in the Chinese market. This argument formed the core of the Trump administration's tariffs on roughly $250 billion, or 47 percent, of US imports from China, under Section 301 of the Trade Act of 1974 (figure 5).[35]

Consider a stylized explanation of the US concern over investment in China and the forced transfer of technology. First, because of China's relatively high import tariffs (see again table 4), many foreign companies found it economically viable to serve the Chinese consumer market only by locating production in China, instead of exporting from the United States. However, to satisfy various regulatory requirements to produce in China, foreign firms had to form joint ventures with local partners, many of which were Chinese state-owned enterprises. The allegation was that, by forcing the joint venture relationship, the American companies could then be more easily held up or coerced into turning over their technology involuntarily, or on noncommercial grounds, to maintain access to Chinese consumers.

Concerns over foreign investment and the "forced" transfer of technology may have been just as critical as those on industrial subsidies, state-owned enterprises, and China's nonmarket evolution. However, even more grey areas and informational asymmetries were involved, which made any rules-based approach to cooperation even more challenging.

First, China's tariff commitments were negotiated as part of its WTO accession, in which the United States took part. While China's tariffs were relatively higher than those imposed by the United States (see again table 4) and may have helped incentivize foreign investment, they did not violate WTO rules.

Second, China had been phasing out its joint venture requirements, and limits on foreign investment remained in fewer sectors. And yet, while elimination of most joint venture requirements could help stem coercion of foreign technology, the remaining sectors with limits—e.g., internet and e-commerce, artificial intelligence—were likely to be a continued area of conflict. These sectors were of critical economic importance to American and other foreign companies but also areas of national security concern to the Chinese government.

The third issue involved the legal question of how, in the presence of informational asymmetries, to define, monitor, and enforce rules around the forced transfer of technology. Some technology would be transferred due to knowledge spillovers under normal conditions; it is hard to distinguish between what has been forced by policy versus what would have occurred naturally. It is also a challenge to distinguish between a legitimate claim from one firm whose technology was stolen and a bogus claim from a second firm that shared technology voluntarily but regretted after it underperformed, perhaps due to new competition from rival Chinese firms that naturally improved over time.

[34] For more on WTO dispute settlement, see also the discussion in Bown (forthcoming, a).

[35] See USTR (2018a, 2018b) as well as Branstetter (2018), OECD (2019b), Andrenelli et al. (2019), and Jiang et al. (2018). Lovely and Liang (2018) explain how the 2018 tariffs disproportionately affect US imports from foreign-owned companies in China and not Chinese domestic firms.

Fourth, the conflict wouldn't necessarily be resolved even if the Chinese government lifted *formal* requirements that foreign firms must partner with local firms. Other policies could continue to incentivize joint ventures, leading to the coerced transfer of technology. As one example, USTR (2018b) pointed to Chinese draft regulations, which it suggested would continue to incentivize foreign automakers to partner with Chinese firms to meet requirements involving new energy vehicles in order to remain competitive with established Chinese suppliers.

The Trump administration used these core issues to justify its imposition of Section 301 tariffs on $250 billion of imports from China. In addition, the United States initiated one formal WTO dispute challenging Chinese laws that don't allow foreign patent holders to enforce their rights against a Chinese joint venture party after termination of a technology transfer contract (USTR 2018c). And the European Union filed a formal WTO dispute against China's practices that force the transfer of technology (European Commission 2018).

4.4 Other US-China Trade and Investment Issues

There were several other important conflict areas in the bilateral trade relationship that, for space constraints, can be mentioned only in passing. For example, the United States has also had longstanding concerns over China being relatively closed to trade in services, including financial and payments services, as well as in the realm of digital trade and e-commerce.

The Section 301 reports (USTR 2018a, 2018b) also detail US concerns about piracy, industrial espionage, and state-sponsored cyber-hacking and cybertheft of American firms' intellectual property. Furthermore, the United States has changed its screening procedures for inbound foreign investment under the Committee on Foreign Investment in the United States (CFIUS) via the Foreign Investment Risk Review Modernization Act (FIRRMA). It is also revising its export control regulations under the Export Control Reform Act (ECRA), which may significantly impede US ability to export products containing critical and emerging technologies to China.[36]

5. Conclusion

The special tariffs of 2018 have shone a spotlight on the US-China trade conflict. This paper has attempted to put the US actions in a rational framework to allow for a more productive discussion of its frustrations with both China and the rules-based trading system.

First, the US view of the overall trend was that China had continually pursued policies that operated in grey areas of the WTO, a system with rules better built to mediate trade cooperation between market economies. China was no longer on a path toward transforming into a market-based economy, and it continued to deploy explicit and implicit subsidies. And in the area of intellectual property, its development strategy was creating conflicts abroad. China would entice foreign firms to invest locally, but it would couple that with other, nontransparent policies to hold up those firms once their investments were sunk. Foreign firms would be coerced to share their technology with local Chinese companies on noncommercial terms or risk losing access to the Chinese market.

[36] For a discussion, see Chorzempa (2019).

While similar policies had undoubtedly arisen unchecked elsewhere in the trading system, China's economic size imposed unsustainable political-economic costs on trading partners.

Second, the existing WTO system could no longer address the political-economic costs that China's system imposed on others. The tools that the United States had traditionally deployed to shield its own import-competing firms and workers from the economic effects of Chinese policies were becoming increasingly ineffective. To make matters worse, in its view, WTO dispute settlement was further threatening to take away even the few (and inadequate) policies available to address unfair imports from state-driven economies. In ongoing WTO disputes, the uncertainty over China's nonmarket economy status and the US-preferred definition of a "public body" endangered future access to antidumping and countervailing duties.

And the United States deemed the WTO incapable of the first-best solution of providing a forum to directly tackle the conflict areas with China. Dispute settlement was no longer effective. There was considerable uncertainty as to whether any one-off dispute was even winnable, given that China's policies did not always seem to clearly violate WTO rules. And even if some disputes were winnable, the long-run strategy risked being ineffective, given that it would have tasked WTO dispute resolution with solving a systemic conflict between China and market-based economies. Finally, and outside of dispute mediation, using the WTO to facilitate direct US-China negotiations had also been ruled out. The lingering failure of the Doha Round meant countries deemed the WTO unable to convene negotiations that could lead to acceptable tradeoffs or add new rules. The WTO's moribund negotiating function was unable to address US concerns or solve the problem of the incompatibility of different economic systems.

Thus, the United States chose policies in 2018 to instigate a crisis.

The interpretation here of the US actions has been, admittedly, quite charitable. But it was motivated out of concern that any future attempt to create new, enforceable, and sustainable rules to re-assert international cooperation meant grappling with where the old rules may have failed. Thus, future research is needed to more critically evaluate these US arguments as well as its actions. Empirically, how costly were the Chinese policies for the United States? Theoretically, what new rules could address systemic conflicts between market and nonmarket economies? Would such rules be motivated out of efficiency concerns, or were they only motivated for political purposes? How would new rules be sustained? How would enforcement need to be different?

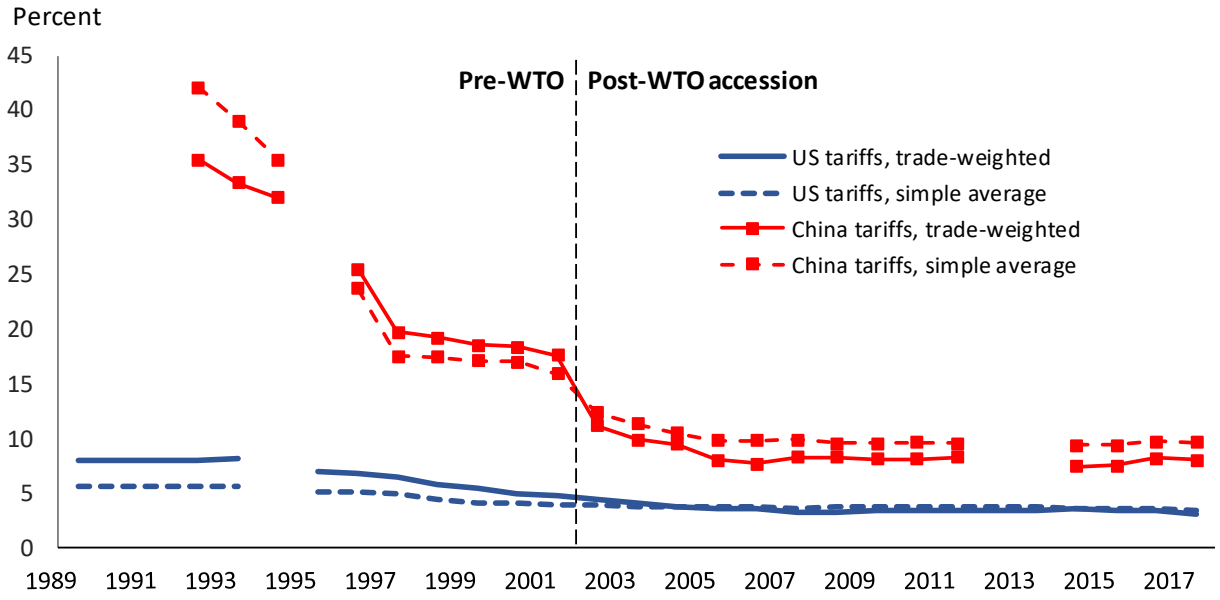
At the time of writing,[37] it was still unknown whether or how US and Chinese policymakers would address these issues. The two countries began negotiations in late 2018 to tackle some of the bilateral concerns. Separately, the European Union, Japan and the United States had also been engaged since late 2017 in a trilateral process that could develop new plurilateral rules in the areas of industrial subsidies and state-owned enterprises, as well as the forced transfer of technology.[38] Perhaps one of these approaches would emerge to put in place a long-run, rules-based, and sustainable resolution to the systemic concerns behind the special tariffs of 2018.

[37] The time of writing was April 2019.

[38] See the January 9, 2019 joint statement (USTR 2019) as well as the discussion in Bown (2018).

The Trump administration provoked a crisis in 2018, and its destructive tactics have resulted in considerable short-run economic costs. But of greater concern are the long-run implications associated with destroying the rules-based system that had successfully mediated multilateral trade for nearly 70 years. An assessment of those costs will ultimately depend on how the trade war is resolved, as well as an evaluation of any system that arises to replace it.

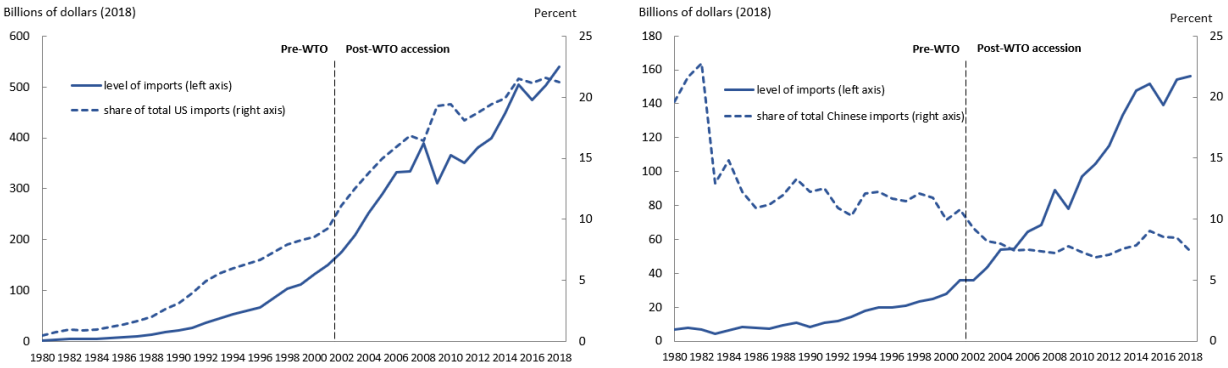
Figure 1. US and China's bilateral applied tariffs, 1989–2017



Source: Constructed by the author with applied MFN tariff and export data at the 6-digit Harmonized System level made available from World Bank *World Integrated Trade Solutions*.

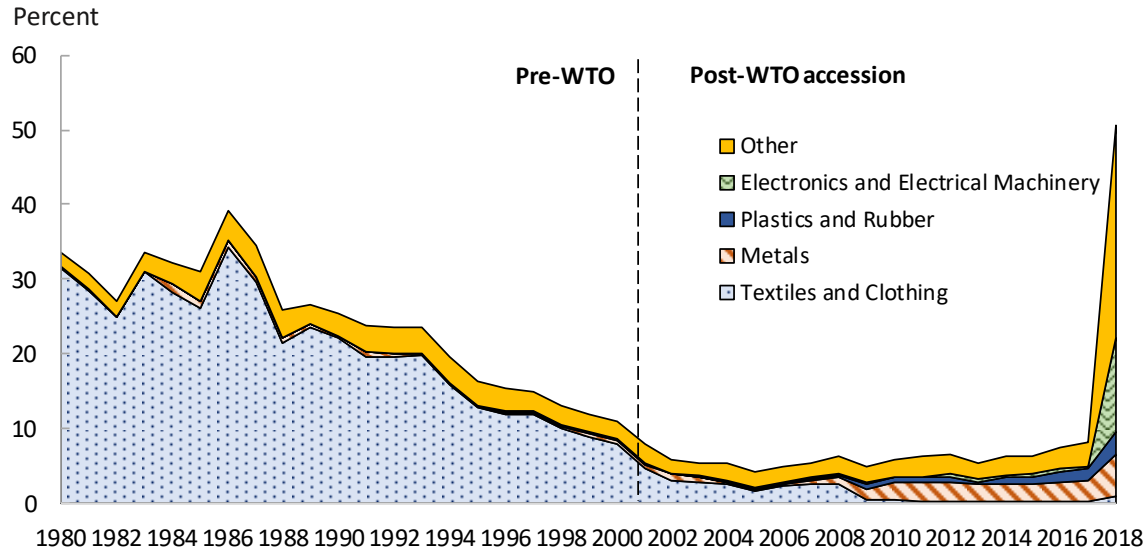
Figure 2: US-China trade in goods, 1980–2018

a. US imports from China **b. China's imports from US**



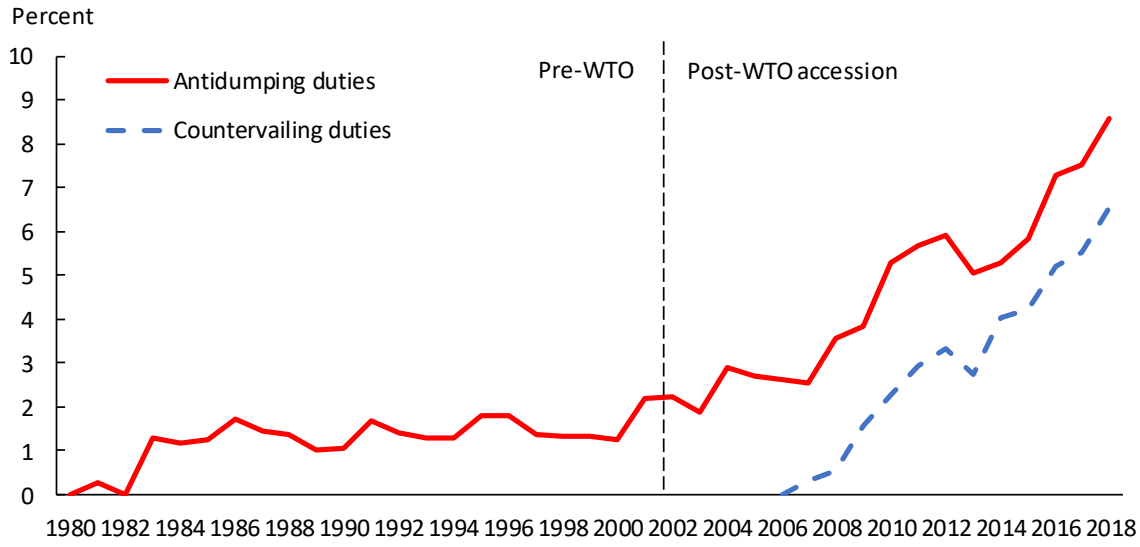
Source: Bilateral trade data derive from the IMF *Direction of Trade Statistics*. Converted to 2018 constant dollars using import and export price indices from Bureau of Labor Statistics.

Figure 3. US imports from China covered by special protection by sector, 1980–2018



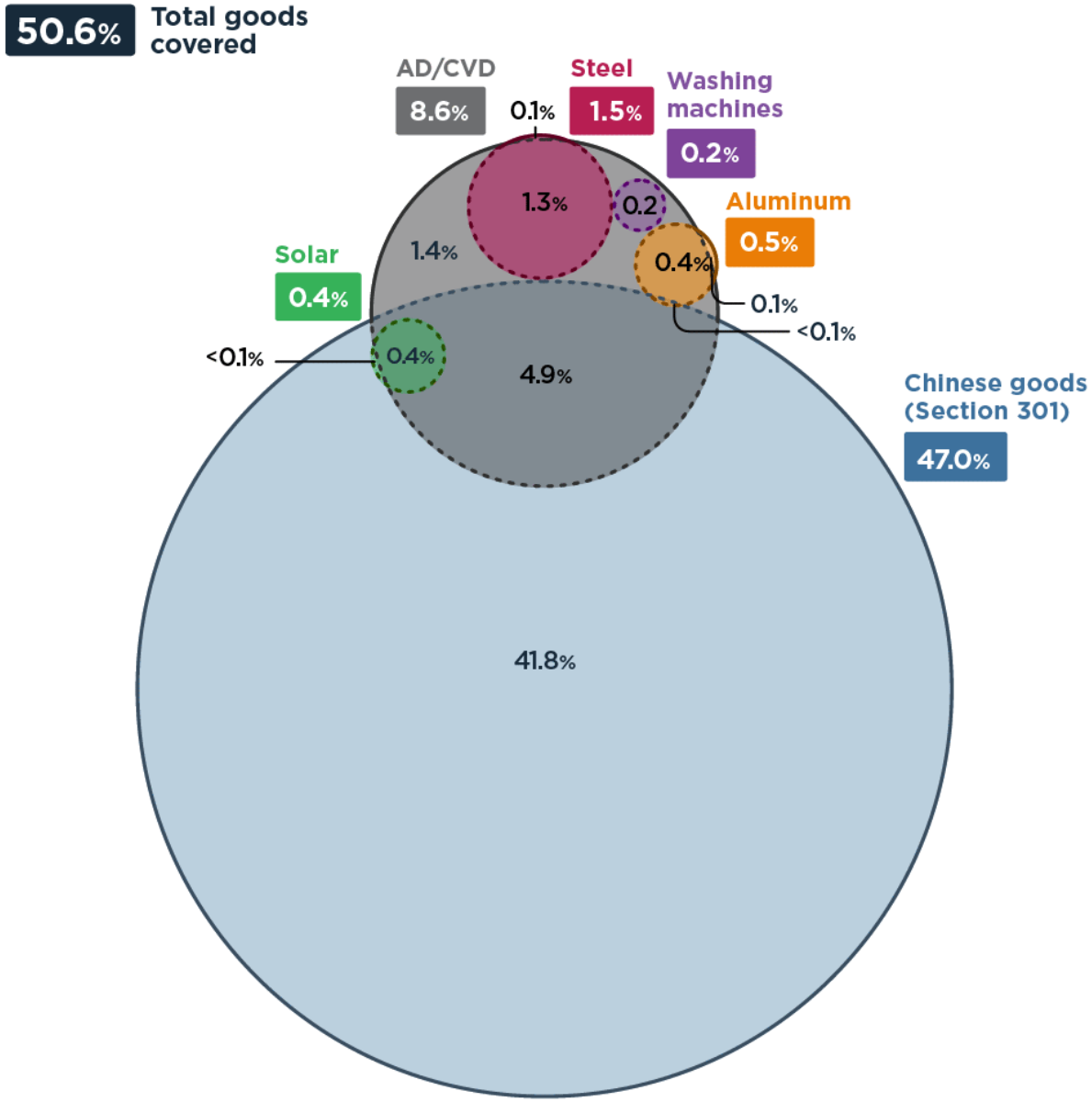
Source: Share of US goods imports from China covered by special forms of protection in effect each year. Computed by the author from product-level import data based on methodology described in the text. Sectors defined as in Bown and Crowley (2016).

Figure 4. US imports from China covered by antidumping and countervailing duties, 1980–2018



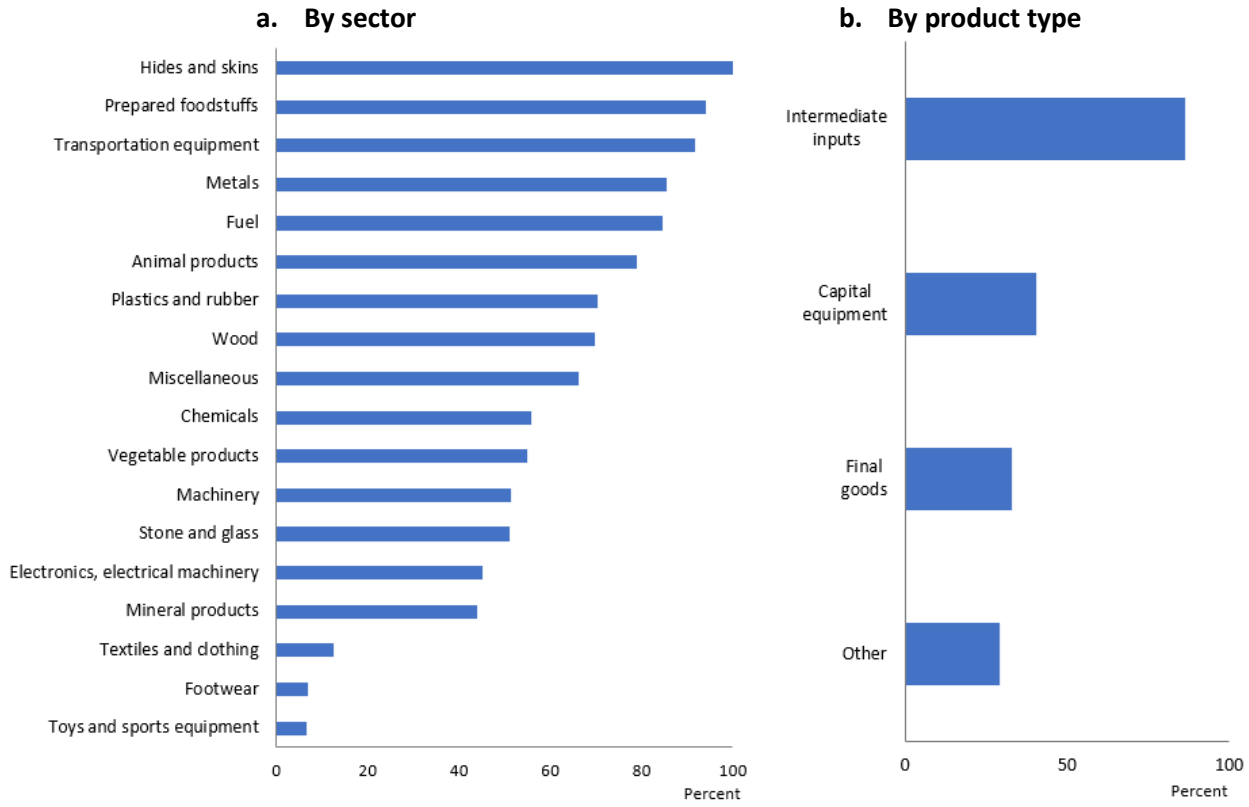
Source: Share of US goods imports from China covered by antidumping or countervailing duties in effect each year. Computed by the author from product-level import data based on methodology described in the text.

Figure 5. US imports from China covered by special tariffs in effect in 2018 (percent)



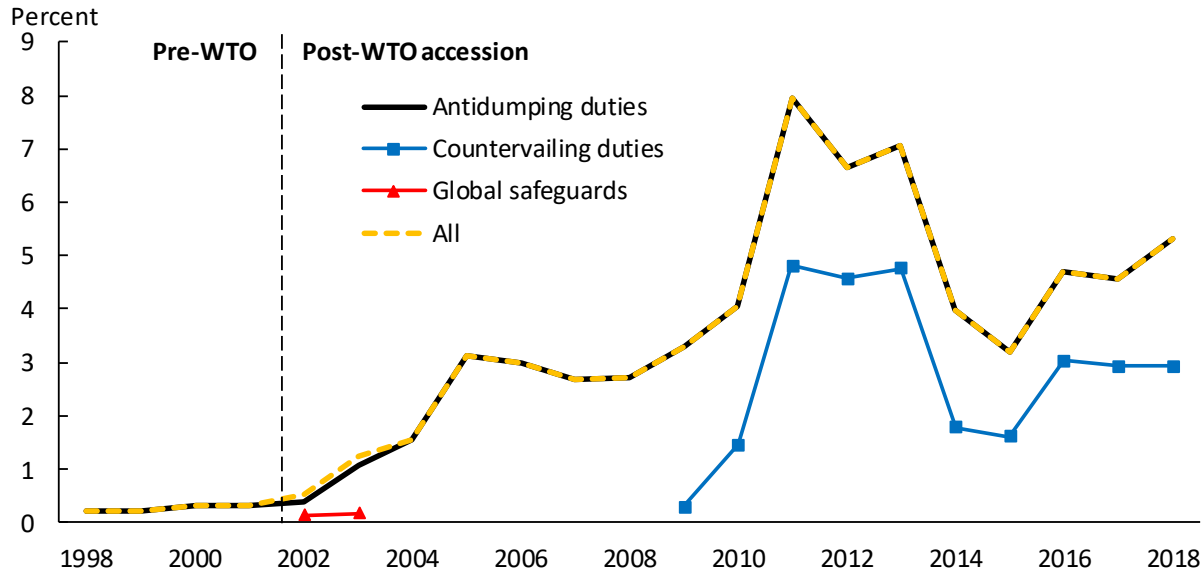
Source: Share of US goods imports from China covered by special forms of protection in effect in 2018. Computed by the author from product-level import data based on methodology described in the text. Special tariffs refer to antidumping/countervailing duties (AD/CVD) and President Trump's five tariff actions of 2018 on: Chinese goods (Section 301), steel (Section 232), aluminum (Section 232), solar panels (Section 201), and washing machines (Section 201). AD/CVD includes duties in effect in 2018. Totals for each tariff group and all goods covered are based on unrounded data.

Figure 6. US imports from China covered by special tariffs in 2018, by sector and by product type



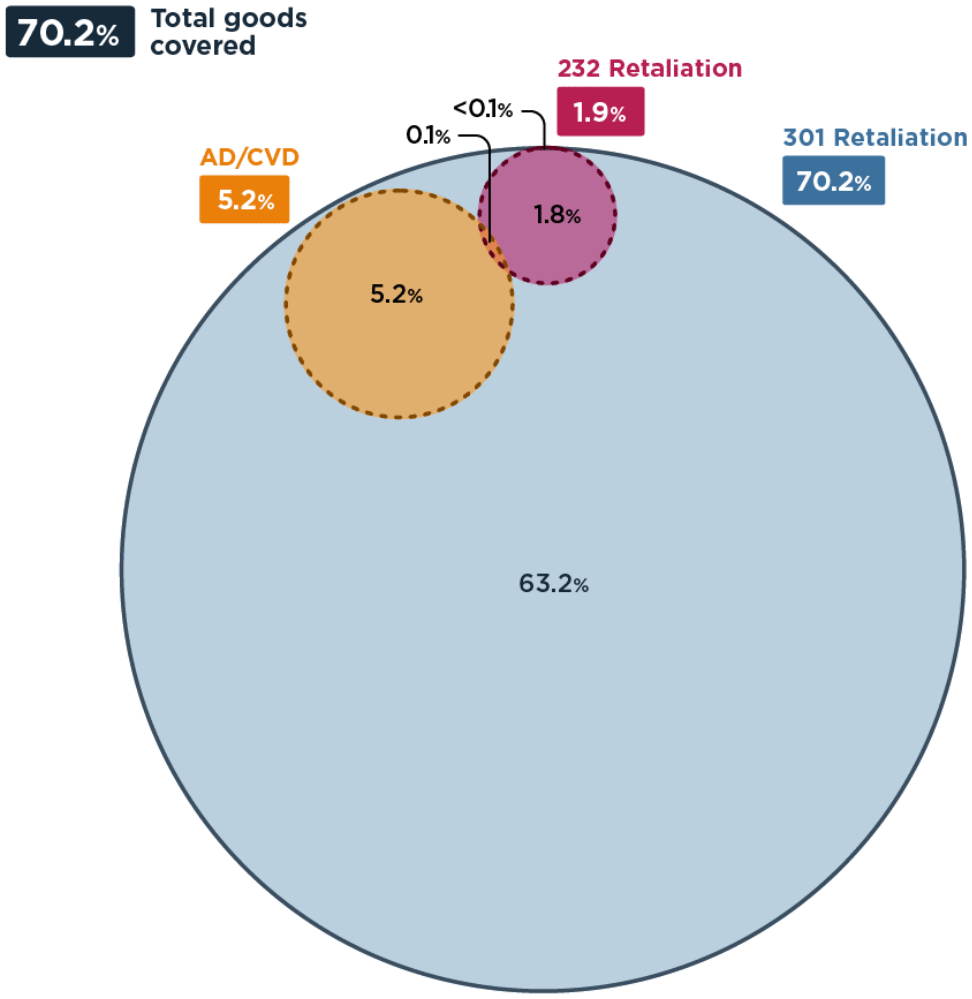
Source: Share of US goods imports from China, by sector and product, covered by special forms of protection in effect in 2018. Computed by the author from product-level import data based on methodology described in the text. Sectors defined as in Bown and Crowley (2016), and product types defined by UN Broad Economic Categories.

Figure 7. China's imports from US covered by antidumping, countervailing duties, and safeguards, 1998–2018



Source: Share of China's product-level imports from US covered by antidumping, countervailing duties or safeguards in effect each year. Computed by the author based on methodology described in the text. "All" precludes double counting of the same product affected by simultaneously imposed antidumping and countervailing duties.

Figure 8. Chinese imports from US covered by special tariffs in effect in 2018 (percent)



Source: Share of China's goods imports from the United States covered by special forms of protection in effect in 2018. Computed by the author from product-level import data based on methodology described in the text. Special tariffs refer to antidumping/countervailing duties (AD/CVD) and China's 2018 tariff retaliation against US tariffs on: Chinese goods (Section 301), as well as steel and aluminum (Section 232). AD/CVD includes duties in effect in 2018. Totals for each tariff group and all goods covered are based on unrounded data.

Table 1. US and Chinese use of special trade protection toward each other, 2001–2017

Number of	Antidumping (Section 731)	Countervailing duty (Section 701)	China-specific safeguards (Section 421)	OTEXA safeguard
US investigations of China	130	69	7	38
US trade restrictions imposed on China	103	55	1	14
China's investigations of US	44	5	--	--
China's trade restrictions imposed on US	36	5	--	--

Source: Constructed by the author.

Table 2. US and Chinese average bilateral antidumping and countervailing duties in effect in 2018

	Number of cases	**Average duty** (percent)
US antidumping duties imposed on China	123	151.5
US countervailing duties imposed on China	52	72.4
China's antidumping duties imposed on US	23	31.4
China's countervailing duties imposed on US	3	21.3

Source: Constructed by the author.

Table 3. Timeline of key events for US and China special tariffs arising in 2018

Date	Event
April 20, 2017	US self-initiates Section 232 investigation into steel (Presidential memorandum)
April 27, 2017	US self-initiates Section 232 investigation into aluminum (Presidential memorandum)
May 23, 2017	US initiates Section 201 investigation into solar panels
June 5, 2017	US initiates Section 201 investigation into washing machines
August 18, 2017	US self-initiates Section 301 investigation into Chinese unfair trade practices
January 22, 2018	US announces Section 201 tariffs on washing machines
January 22, 2018	US announces Section 201 tariffs on solar panels
March 1, 2018	Trump announces he will impose Section 232 tariffs on imports of steel and aluminum
March 22, 2018	Trump indicates forthcoming Section 301 tariffs on up to $60 billion of imports from China, USTR releases Section 301 report
March 23, 2018	US imposes Section 232 tariffs of 25 percent on imports of steel from China
March 23, 2018	US imposes Section 232 tariffs of 10 percent on imports of aluminum from China
April 2, 2018	China imposes tariffs of 15 to 25 percent on $2.4 billion of imports from US in retaliation to US steel and aluminum tariffs
April 3, 2018	US announces list of Chinese products worth $50 billion over which it will impose Section 301 tariffs of 25 percent
April 4, 2018	China announces list of US products worth $50 billion over which it will impose tariffs of 25 percent in retaliation to US Section 301 tariffs
April 5, 2018	Trump instructs USTR to consider whether an additional $100 billion of imports from China should be subject to Section 301 tariffs, instructs US Department of Agriculture secretary to examine possibility of subsidizing US farmers hurt by tariff retaliation
June 18, 2018	Trump instructs USTR to identify an additional $200 billion of imports from China that would be subject to a 10 percent tariff under Section 301
July 6, 2018	US imposes Section 301 tariffs of 25 percent on revised list of $34 billion of imports from China
July 6, 2018	China imposes tariffs of 25 percent on revised list of $34 billion of imports from US in retaliation to US Section 301 tariffs of July 6
July 10, 2018	US announces list of Chinese products worth $200 billion over which it will impose Section 301 tariffs of 10 percent
August 3, 2018	China announces list of US products worth $60 billion over which it will impose tariffs of 5 to 25 percent if US imposes Section 301 tariffs on $200 billion of imports from China
August 23, 2018	US imposes Section 301 tariffs of 25 percent on revised list of $16 billion of imports from China. Combined with July 6 action, this completes imposition of tariffs on the first $50 billion of Chinese imports
August 23, 2018	China imposes tariffs of 25 percent on revised list of $16 billion of imports from US in retaliation to Section 301 tariffs of August 23.
September 24, 2018	US imposes Section 301 tariffs of 10 percent on $200 billion of imports from China. Tariffs will increase to 25 percent on January 1, 2019.
September 24, 2018	China imposes tariffs of 5 to 10 percent on $60 billion of imports from US in retaliation to US Section 301 tariffs of September 24
December 1, 2018	Trump and Xi announce commencement of negotiations. Scheduled US tariff increase from 10 to 25 percent on $200 billion of imports from China put on hold for 90 days.
February 24, 2019	Trump tweets he will delay the tariff increase from 10 to 25 percent scheduled to go into effect on March 1, 2019, and is planning a summit with Xi.

Source: Constructed by the author. See also Bown and Kolb (2019).

Table 4. US and China's bilateral tariffs before and after the 2018 acts of protection (percent)

	MFN tariffs, 2017		MFN + 2018 special tariffs**		MFN + antidumping duties		MFN + antidumping duties + 2018 special tariffs	
Country	**Simple average**	**Trade-weighted***	**Simple average**	**Trade-weighted***	**Simple average**	**Trade-weighted***	**Simple average**	**Trade-weighted***
United States	3.4	3.1	12.5	12.4	10.4	13.6	19.5	22.9
China	9.6	8.0	18.1	19.6	9.8	8.5	18.3	20.1

*Trade-weighted average tariffs are weighted by partner's exports to the world in 2017.
**Not including antidumping duties.
Source: Constructed by the author.

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