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WORKING PAPER

21-2 The US-China Trade War and Phase One Agreement

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ABSTRACT

The Trump administration changed US trade policy toward China in ways that will take years for researchers to sort out. This paper makes four specific contributions to that research agenda. First, it carefully marks the timing, definitions, and scale of the products subject to the tariff changes affecting US-China trade from January 20, 2017 through January 20, 2021. One result was that each country increased its average duty on imports from the other to rates of roughly 20 percent, with the new tariffs and counter-tariffs covering more than 50 percent of bilateral trade. Second, the paper highlights two additional channels through which bilateral tariffs changed during this period: product exclusions from tariffs and trade remedy policies of antidumping and countervailing duties. These two channels have received less research attention. Third, it explores why China fell more than 40 percent short of meeting the goods purchase commitments set out for 2020, the first year of the phase one agreement. Finally, the paper considers additional trade policy actions—involving forced labor, export controls for reasons of national security or human rights, and reclassification of trade with Hong Kong—likely to affect US-China trade beyond the Trump administration.

JEL code: F13

Keywords: US-China trade policy, tariffs, trade war timeline, phase one agreement, antidumping, countervailing duties, product exclusions, export controls

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1. INTRODUCTION

As a candidate for president, Donald Trump denounced the United States' trade relationship with China. In an important "jobs" speech in Monessen, Pennsylvania, on June 28, 2016, he foreshadowed his policies. "If China does not stop its illegal activities, including its theft of American trade secrets, I will use every lawful presidential power to remedy trade disputes, including the application of tariffs consistent with Section 201 and 301 of the Trade Act of 1974 and Section 232 of the Trade Expansion Act of 1962," he said.[1]

On that, Trump kept his word. His administration imposed tariffs on imports from China under each of the legal authorities mentioned in that speech. However, Trump did not follow through with other policies he promised to implement, including some involving the World Trade Organization (WTO) outlined in that same June 28 speech. He also said, for example, "I am going to instruct the US Trade Representative to bring trade cases against China, both in this country and at the WTO. China's unfair subsidy behavior is prohibited by the terms of its entrance to the WTO, and I intend to enforce those rules." His administration did not bring any meaningful WTO disputes against China, nor did it make any policy progress addressing China's subsidies, even with the US-China phase one agreement, signed to much fanfare in January 2020.

The Trump presidency changed US trade policy toward China.

The Trump presidency changed US trade policy toward China. Measuring that change and identifying its causes and effects will keep researchers busy for years. Doing so will also require carefully distinguishing between the Trump administration's rhetoric and its policy actions. At the same time, making sense of the Chinese government's policy response will prove equally challenging, as its actions were often less transparent and more difficult to measure, albeit for different reasons.

This paper has two main purposes. The first is to clarify how the Trump administration period resulted in new tariffs suddenly covering more than half of bilateral trade. It uses, and makes publicly available, detailed data on the timing and size of trade policy actions (tariffs imposed and trade covered) throughout the trade war, as well as the trade outcomes arising under the first year of the phase one agreement. The second is to characterize other trade policy changes that occurred during the Trump period that have received less attention from researchers to date. Including these changes may be needed to provide a more complete and accurate political-economic assessment of what happened and why.

The paper thus makes four main contributions. First, after establishing the starting point, through a brief description of US-China trade relations before the Trump administration, the paper identifies the timing, definitions, and scale of products subject to the tariff changes affecting US-China trade from January 20, 2017 through January 20, 2021. On the US side, in addition to the Section 301 tariffs, it includes protection imposed via presidential discretion, including the US safeguard law (Section 201) and the US national security law (Section 232). These are the tariffs that most research has focused on when examining their

1 See Politico, "Full Transcript: Donald Trump's Jobs Plan Speech," June 28, 2016.

impact on economic activity. By January 20, 2021, actions under these laws had raised the average US tariff on China to over 19 percent, up from 3 percent before the trade war.

On the Chinese side, the analysis begins with its trade war counter-tariffs. But the first complication to the Chinese story is its significant reductions in applied most favored nation (MFN) tariffs undertaken during the trade war period. Indeed, while China's retaliation to US actions led it to increase its average tariff on US exporters from 8 percent to more than 20 percent over the course of the trade war, China *reduced* the average duty facing imports from the rest of the world from 8 percent to 6 percent by the end of 2020.

[T]he first complication to the Chinese story is its significant reductions in applied most favored nation (MFN) tariffs undertaken during the trade war period.

Second, the paper introduces two additional channels through which US and Chinese tariffs imposed on each other changed during this period. These channels are more challenging to measure and have received less attention, despite their potential to affect many avenues of political-economic interest.

One is the temporary product exclusions each side periodically granted to the trade war tariffs imposed on the other. At some point between 2018 and 2020, for example, the United States excluded products covering an estimated 4 percent of its imports from China that it had hit with new tariffs. It refunded, or excluded from tariff application, about 9 percent of the $96 billion of estimated revenue collections for the Section 301 tariffs from 2018 through 2020. China, on the other hand, is estimated to have excluded roughly 16 percent of the US imports it had hit with counter-tariffs. Yet, even these exclusions do not include an important but opaque set of product-specific exemption opportunities the Chinese government created for Chinese firms starting in 2020, in order to perhaps facilitate their purchases under the phase one agreement. The sliding nature and uncertainty of each country's exclusions and exemptions, as well as their potential retroactivity, requires careful consideration of how to interpret them, as well as their implications for economic activity. (The US exclusions may even affect economic analysis, given that the US Census has revised key data series in light of their retroactivity.)

Trade remedies are a second channel through which tariff barriers also changed over this period. Unlike the other policies, use of antidumping and countervailing duties was not new. (Before the trade war, for example, US antidumping covered nearly 8 percent of US imports from China.) US use of such tariffs largely continued on its pre-Trump trend between 2017 and 2021, climbing to cover an additional 2.5 percentage points of imports from China. China also adjusted its tariffs through trade remedies during this period, albeit to a lesser extent. But failure to consider these policy instruments in an analysis of the trade war may lead to mismeasured estimates of the impact of other tariffs on economic activity or mischaracterization of why the United States or China chose to impose trade war tariffs on some products but not others.

Third, the paper provides an initial assessment of the first full year of purchases that China made under the phase one agreement. The deal was announced in December 2019, signed in January 2020, and implemented in February 2020. The headline of the agreement was a Chinese commitment to purchase an additional $200 billion of a subset of US goods and services split over 2020 and 2021. China fell more than 40 percent short of the 2020 targets for goods purchases, and a deeper look at a number of products helps explain why. It is not as simple as blaming the economic crisis caused by the COVID-19 pandemic.

Fourth, the paper identifies some additional policy actions the Trump administration implemented over 2017–21 that could also continue to affect US-China trade into the future. They include banning imports to address forced labor in Xinjiang; no longer considering Hong Kong an independent customs territory for purposes of US imports and exports; and imposing new export controls, including on semiconductors, equipment, and software.

2. THE STARTING POINT

Before January 2017, US-China trade policy was complex, hardly the caricature of free trade described by Donald Trump.[2] US trade barriers for Chinese exporters were relatively low, in the form of MFN tariffs—the same granted to every other WTO member country (or General Agreement on Tariffs and Trade [GATT] contracting party before the WTO was established). Beginning in 1980, the United States applied such tariffs on a provisional basis, subject to a yearly Congressional vote, until China's 2001 WTO accession locked in "permanent" normal trade relations.

China began a period of slow opening to the world in 1978. The 1990s in particular were characterized by significant Chinese trade liberalization, tariff cutting, and opening to foreign direct investment, as China sought entry into the WTO. The result of China's WTO accession in 2001 was to lock in its tariffs at an average rate of roughly 10 percent, 25–30 percentage points lower than what it had applied just a decade earlier.

The 15 years following China's WTO entry had ups and downs. China was never on a path toward becoming a Western-style market economy (Wu 2016). Yet Beijing continued with reforms, at least initially, becoming more market oriented before President Xi Jinping came to power in 2013 and significantly expanded the role of the state in the economy (Lardy 2014, 2019).

It would be a gross mischaracterization to suggest that China's WTO entry in 2001 resulted in "normal" trade relations between the United States and China. The United States continued to treat China very differently from all other WTO members, managing the trade relationship through a variety of WTO–sanctioned policies.

Trade remedies were the US policy of choice for addressing imports. By 2016, the United States had imposed tariffs—often at levels of 100 percent or more—on more than 7 percent of goods imports from China, up from roughly 2.5 percent as late as 2007. Most tariffs arose under US antidumping laws, given a provision in China's 2001 WTO Protocol of Accession that allowed members to treat China as a "nonmarket economy," which made it easier to find that Chinese firms had priced "too low" and could be subject to higher tariffs. In addition, starting in 2006, the United States began to deploy countervailing duties (i.e., anti-subsidy tariffs) on imports from China. The result was often that the United States hit the same imported Chinese product with two different forms of additional tariffs at the same time.

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2 Bown (2019a) and Blustein (2019) provide more complete summaries of pre-2017 US–China trade relations.

The United States attempted to improve its market access into China through the use of WTO dispute settlement. After a five-year grace period during which China phased in its WTO accession commitments, the United States brought 20 formal WTO disputes against China between 2006 and January 19, 2017. Over that period, the United States filed only 12 disputes total against all other WTO members. Given the multiyear nature of prosecuting such cases, the Bush and Obama administrations each turned over a handful of disputes to their successors to pursue. The Trump administration, for example, inherited US challenges to Chinese subsidies to the aluminum and aircraft industries; Chinese export restrictions on raw materials; and two disputes over Chinese policies on rice, wheat, and corn.

Before the Trump administration, the United States used a two-pronged negotiating approach to prod China onto the path to liberalization and market reform. The first was direct and included bilateral investment treaty negotiations. Although left unfinished by the end of the Obama administration, some of its disciplines would ultimately be captured in the 2020 phase one agreement.[3] The United States also brought trade concerns directly to China, through regular, high-level bilateral meetings such as the Strategic Economic Dialogue (SED), under the Bush administration, and Strategic and Economic Dialogue (S&ED), under the Obama administration.[4]

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The second was indirect pressure, to be exerted by the Trans-Pacific Partnership (TPP) the United States had negotiated with 11 other countries. TPP included preferential market access as well as tighter disciplines in areas such as state-owned enterprises and competition. To one day accede to the high-standards agreement and enjoy access to markets where it would otherwise have faced implicit discrimination through tariff preferences and other rules, China would have to become more market oriented.

The Trump administration put a quick end to much of the US strategy, with the exception of trade remedies (discussed below). Its approach toward China was ultimately two-pronged.[5] The first prong involved tearing down the previous bilateral, plurilateral, and multilateral forms of engagement with China on trade. On his first Monday in office, Trump pulled the United States out of the TPP agreement and negotiations. (The remaining 11 countries went ahead with implementation of the agreement.) The administration allowed only two of the previously initiated WTO disputes against China (the ones involving agriculture) to go forward. It scrapped the disputes over raw materials, as well as China's aluminum and aircraft subsidies, and did not use WTO dispute settlement to pry open the Chinese market. (Its tenure was marked by WTO disputes against

3 See the interview with former US Trade Representative (USTR) negotiator Lauren Mandell (Bown and Keynes 2020a).

4 Officials on each side would typically meet in person with their direct counterparts as part of large delegations, often twice per year.

5 Trump's nominee for USTR, Robert Lighthizer, was not confirmed by the Senate until May 11, 2017 (see Soumaya Keynes, "America's Trade Policy Has A New Face, Robert Lighthizer," *The Economist*, May 20, 2017). His confirmation was delayed in part because he required a waiver for having done work for a foreign government on a trade case. Until December 2018, who within the Trump administration had the president's ear on trade policy toward China was a guessing game (Woodward 2018; Davis and Wei 2020). Early on, Commerce Secretary Wilbur Ross attempted to play a leading role (see Wilbur Ross, "Most Favored Nation Rule Hurts Importers, Limits U.S. Trade," *Wall Street Journal*, May 25, 2017).

trading partner retaliation to US exports that arose in response to the Trump administration's own tariffs described below.) The Trump administration's refusal to appoint new members to the WTO's Appellate Body effectively ended the agreed-upon rules for how all countries could resolve trade disputes.[6] Trump left office without seeking to replace the WTO's dispute settlement system with something else.

The Trump administration also ended bilateral engagement with China through the S&ED, instead adopting its own unique approach. In May 2017, for example, Presidents Trump and Xi held a summit in Mar-a-Lago, Florida, at which they announced the formation of US-China Comprehensive Economic Dialogue (CED) as well as a 100-day plan to negotiate. After 100 days, no deal was announced, the talks ended, and engagement was largely abandoned.[7]

The second prong of the Trump approach to China was implementation of considerable new border policies that made it more costly—and sometimes impossible—for the two countries to trade certain products.

The process of increasing US trade protection began in April 2017...

The process of increasing US trade protection began in April 2017, when the Trump administration self-initiated two investigations under Section 232 of the Trade Expansion Act of 1962 into whether imports of steel and aluminum posed a threat to national security.[8] In August 2017, it self-initiated a separate investigation into China's unfair trade practices under Section 301 of the Trade Act of 1974. In May and June 2017, two industry groups asked the administration to look into whether imports of solar panels and washing machines had caused injury to the respective domestic industries, relying on Section 201 of the Trade Act of 1974. Under this safeguard law, the president would decide whether to impose any protection as well as its form.

The rest of 2017 was relatively quiet for US trade policy toward China, overshadowed by other events. Most important was the administration's launching of renegotiation of the North American Free Trade Agreement (NAFTA) in summer 2017, which kept US Trade Representative (USTR) negotiators busy until late 2018. Trade headlines were often drawn away from China, especially when the president would threaten withdrawal from the NAFTA, as well as the Korea–US Free Trade Agreement.[9] However, the five trade policy investigations begun in 2017 set the stage for the president to use executive authority to conduct US trade policy, especially toward China, with little constraint beginning in early 2018.

3. ESCALATION, TARIFFS, AND NEGOTIATIONS

The last three years of the Trump administration can be characterized by periods of tariff escalation with China interspersed with periods of negotiation and then the announcement and implementation of the phase one agreement. The

6 For an historical analysis, see Bown and Keynes (2020b).

7 Davis and Wei (2020, 185) report that Ross pitched signing off on a deal but Trump rejected it when Lighthizer informed him that it was an insubstantial offer. The talks then ended without agreement.

8 See Soumaya Keynes, "The Trump Administration Starts to Turn up the Heat on Trade," *The Economist*, April 29, 2017.

9 For Trump's threat to withdraw from the US trade agreement with South Korea, see Woodward (2018, xxiii).

unprecedented nature and uncertainty of these events cannot be understated. Nothing comparable on trade had happened before, and US law constrained the president's actions in only limited ways. More often than not, presidential Tweets differed from White House announcements, which differed from policy implementation. Headline numbers were often meaningless, and dates of policy changes would often shift considerably or disappear entirely.

3.1 The Pre–Trade War Escalation of Early 2018

More often than not, presidential Tweets differed from White House announcements, which differed from policy implementation.

The Trump administration's tariff escalation began slowly in 2018. Initially, it was in line with WTO norms. China's response—while against norms—also initially followed its pre-Trump playbook.

On January 22, Trump announced that safeguard tariffs on imports of washing machines and solar panels, together covering more than $10 billion of US imports, would go into effect on February 7.[10] The announcement followed determinations by the US International Trade Commission (ITC) in late 2017 that imports had injured the respective domestic industries and recommendations that the president impose protection. Though unutilized since an early 2000s case involving steel, Section 201 is a WTO–sanctioned policy with well-established domestic legal guidelines. Concerns arose that the January 22 decisions would lead to a flood of industry demands for such protection,[11] but such requests did not materialize. In retrospect, these tariffs turned out to be among the *least* controversial trade actions of Trump's tenure.

Nevertheless, on February 5, China telegraphed its initial retaliation plans. Similar to its 2009 response to an Obama administration safeguard tariff on tires, China announced it was self-initiating antidumping and countervailing duty investigations. This time, roughly $1 billion of US exports of sorghum were under threat.[12] (In April, China would temporarily impose tariffs of 178.6 percent on those exports.)

The Trump administration did not bat an eye. On February 16, the Commerce Department publicly released the two reports stemming from the separate Section 232 investigations begun the previous April. They found that imports of steel and aluminum threatened national security by causing capacity underutilization in the US industries, and Secretary Wilbur Ross recommended that the president impose import restrictions.

The February release was also noteworthy because, for the first time, the administration publicly defined what it meant by steel and aluminum. Under the safeguards, antidumping, and countervailing duty laws, the product scope was publicly established at the beginning of the investigation. In contrast, in these national security cases, it was unknown for nearly a year whether the administration was considering tariffs covering trade of a few million dollars or a hundred billion dollars. (This issue was not just rhetorical; statutory discretion

10 For consistency, references to dollar values of trade or shares of trade covered by tariffs involve a process in which product codes are matched to 2017 trade statistics, unless stated otherwise.

11 Chad P. Bown, "Donald Trump's Solar and Washer Tariffs May Have Now Opened the Floodgates of Protectionism," *Washington Post (Monkey Cage)*, January 23, 2018.

12 Chad P. Bown, "China's Latest Trade Maneuver Is Worrying. Here's the Story," *Washington Post (Monkey Cage)*, February 6, 2018.

allowed the administration to change the scope of product coverage in January 2020 to also include downstream steel- and aluminum-using industries.) The February 2018 reports drew the line at imports of $29 billion of steel and $17 billion of aluminum, which together accounted for roughly 2 percent of US goods imports.

Under this statute, the president had the authority to decide how protection would be applied. Trump used the discretion to create uncertainty. Even his sudden announcement on March 1 of forthcoming tariffs of 25 percent on imports of steel and 10 percent on imports of aluminum did not settle the issue.[13] Initially, he exempted seven trading partners—Canada, Mexico, the European Union, Australia, Argentina, Brazil, and South Korea—from the duties to be imposed on March 23; with these partners, he sought to negotiate voluntary export restraints and extract other concessions, such as a quick renegotiation to the NAFTA with Canada and Mexico on his terms.[14] Eventually, all except Australia faced US tariff or nontariff protection of some form.

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The fundamental inconsistency for US-China policy was that Beijing had been a source of the political-economic problem, underlying the two national security investigations, but the new US tariffs hit relatively few Chinese steel or aluminum products. Much of the glut of global steel and aluminum was linked to a sharp increase in Chinese production over the previous decade, fueled by subsidies and growth of its state-owned enterprises. But US antidumping and countervailing duties imposed under the Clinton, Bush, and Obama administrations had already halted most direct US imports of the metals from China. The result was increasing imports of metals from third countries (trade diversion). As a result, Trump's "national security protection" mostly affected imports from military allies such as Canada, Europe, Japan, and South Korea.

Nevertheless, China responded to the steel and aluminum duties with tariff retaliation. Like other WTO members, such as the European Union, China claimed that Trump's national security tariffs were disguised safeguard tariffs and that, under the WTO rules on safeguards, it was therefore due immediate "rebalancing" compensation. On April 2, China applied retaliatory tariffs of 15–25 percent on $2.4 billion of US exports, rebalancing roughly the amount of its steel and aluminum exports affected by the US tariffs of March 23.[15] But even that Chinese retaliation was soon overshadowed by a bigger set of events.

13 For a recounting of the surprise of the steel announcement—apparently organized by White House official Peter Navarro and Secretary Ross, against the wishes of others, including National Economic Council Director Gary Cohn—see Woodward (2018).

14 Argentina, Brazil, and South Korea would agree to a form of voluntary export restraint (VER) straight away. Canada and Mexico did not initially do so and were hit with tariffs starting June 1; each retaliated against US exports. However, they accepted a form of VER in May 2019, as part of the process of implementing the United States-Mexico-Canada Agreement (USMCA), the revised NAFTA. The European Union never accepted a VER, was hit with US tariffs on June 1, and retaliated shortly thereafter.

15 The timing of the April 2 retaliation led to minor confusion because it came on the heels of a separate Trump administration announcement on March 22 (as described next) of forthcoming US tariffs under Section 301. The fast and furious tit-for-tat nature of the dueling announcements—and fear that it would soon become unclear who went first, who was retaliating, and what exact prior action the retaliation was linked to—led to the creation of the trade war timeline (Bown and Kolb 2021) beginning in late March 2018.

3.2 The US-China Trade War Tariffs of 2018 and 2019

On March 22, President Trump announced that he was imposing tariffs on $60 billion of Chinese imports. That day, the USTR issued a 215-page report on its eight-month Section 301 investigation (USTR 2018a). The report documented various unfair trade practices the Chinese government had allegedly deployed since its WTO accession to forcibly transfer technology from US to Chinese firms. These practices included the mandating of joint ventures with local firms (including state-owned enterprises), state-sponsored industrial espionage, cyber-hacking, and the predatory acquisition of foreign technology.

The Trump administration formally announced 25 percent tariffs on $50 billion of imports from China on April 3. By the end of the day in Washington (the morning of April 4 in Beijing), China had already announced that it would retaliate with 25 percent tariffs on $50 billion of US exports. On April 5, Trump escalated tensions by instructing his USTR to find another $100 billion of imports from China on which to impose tariffs. He also demanded his secretary of agriculture come up with a plan to protect US farm interests, in anticipation of retaliatory tariffs from China that would hit products like soybeans. (Over the next two years, the administration would disburse tens of billions of dollars of subsidies to farmers hurt by China's tariffs.)

Many details from that week are worth highlighting.

Many details from that week are worth highlighting. First, Trump initially announced forthcoming tariffs on $60 billion of imports; by April 3 the figure was $50 billion. Second, as often turned out to be the case, the $50 billion was a descriptor, not an actual trade amount. In the 2017 data, the United States imported only $45.7 billion of products that the USTR indicated it was planning to hit with tariffs. This was also one of the few times during the subsequent trade war in which Beijing's announcement of products listed for retaliation, at $49.8 billion, matched its counter-headline. Finally, much like the steel and aluminum tariffs, the US Section 301 statute did not require public disclosure of the scope of products being investigated and thus did not constrain how much, or the type of, trade that might be affected by tariffs, let alone what level or for how long the tariffs might be imposed. These decisions were at almost complete discretion of the US administration—discretion President Trump took full advantage of over the next 20 months.[16]

The product list for US tariffs would also change considerably before the duties were ultimately imposed. On May 15–17, the USTR convened public hearings on the proposed list of products subject to tariffs. It received numerous objections and, in response, the USTR revised its approach. On June 15, it announced a $34 billion list of products that would face tariffs on July 6, a $12 billion list of products from the original proposal that would not face tariffs, and a new list of $16 billion of imports that would undergo public hearings in July before being hit with tariffs in August. (China also adjusted its product list, mainly to match the trade covered by its retaliation one-for-one.)

The United States imposed the first trade war tariffs on July 6, 2018. The 25 percent duties covered $34 billion of imported products that later came to be known as List 1. China immediately responded with 25 percent tariffs on $34 billion of US exports, including soybeans, lobster, pork, and cars. (The

16 This discretion—and the possibility that the Trump administration would use it—was known; Gary Hufbauer had highlighted it during the 2016 presidential campaign (Hufbauer 2016).

tariff on cars was especially painful for some US automakers, as China almost simultaneously lowered its applied MFN tariff on cars from 25 percent to 15 percent, creating additional preferential market access for Japan, Germany, and South Korea.)

The US-China tariff escalation continued throughout the summer of 2018. Trump modified his $100 billion announcement, instructing the USTR to find an additional $200 billion of imports from China on which to impose 10 percent tariffs. With tempers continuing to rise, on August 1, the United States indicated that it was considering tariffs of 25 percent, not 10 percent, on that $200 billion of imports. The United States (List 2) and China followed through with duties on $16 billion of imports each on August 23, completing the initial, matching, $50 billion of trade coverage for the tariffs and counter-tariffs announced that consequential first week of April.

More lists meant more rounds of public hearings and more modifications. In September, the United States imposed 10 percent tariffs on an additional $200 billion of imports, announcing that tariffs on those List 3 products would increase to 25 percent on January 1, 2019. China retaliated again. And in November 2018, the administration released a second report reiterating China's unfair trade practices (USTR 2018b).

The details of these tariff actions revealed at least three more insights. First, the United States periodically created new tariff codes when the administration wanted to exclude certain products from its trade war duties that were lumped with others in the official US tariff schedule. The most prominent was the desire to exclude tens of billions of dollars of smartwatches (e.g., Fitbit and Apple Watch) from the List 3 tariffs in September 2018. Second, the implication was that the exact coverage of the List 3 products was unknown. (Nevertheless, List 3 was estimated to cover closer to $188 billion of imports in 2017 than $200 billion.) Third, by September, China's tariff retaliation could no longer match US trade coverage one-for-one, because of its much lower level of bilateral imports. (US total goods imports from China in 2017 had been $504 billion, whereas China's imports from the United States had been only $155 billion.) Thus, China often applied tariffs covering much less trade, as well as at much lower tariff rates, than its initial headline announcements would suggest.

By September 2018, average US tariffs on China had increased from a pre-trade war level of 3.1 percent to 12 percent, with new tariffs covering nearly half of bilateral imports (figure 1).[17] China's average tariff increased from 8 percent to 18.3 percent, with its retaliation covering nearly two-thirds of its imports from the United States. (Despite the opportunity, China had chosen *not* to retaliate over nearly a third of its imports from the United States.)

After a dinner at the Group of 20 (G20) meeting in Buenos Aires December 1, 2018, Presidents Trump and Xi announced a 90-day truce in the trade war and began their first serious negotiations. Trump also made clear for the first time that USTR Robert Lighthizer, a trade lawyer by training and practice, would lead the technical negotiations. (Lighthizer had only recently been freed up from intense, year-long renegotiation of NAFTA, which concluded on September 30.)

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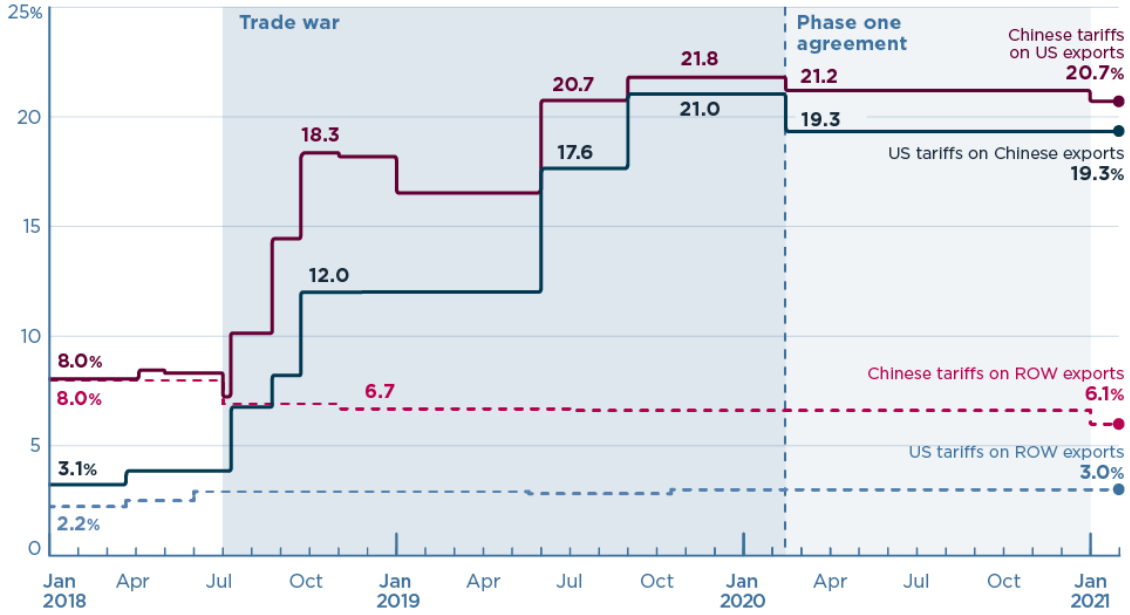
17 Unless stated otherwise, to avoid down-weighting tariffs (as a result of import weights when tariffs are high), average tariffs are weighted by foreign exports, using a process in which six-digit tariffs are matched to the trading partner's product-level (six-digit) exports to the rest of the world.

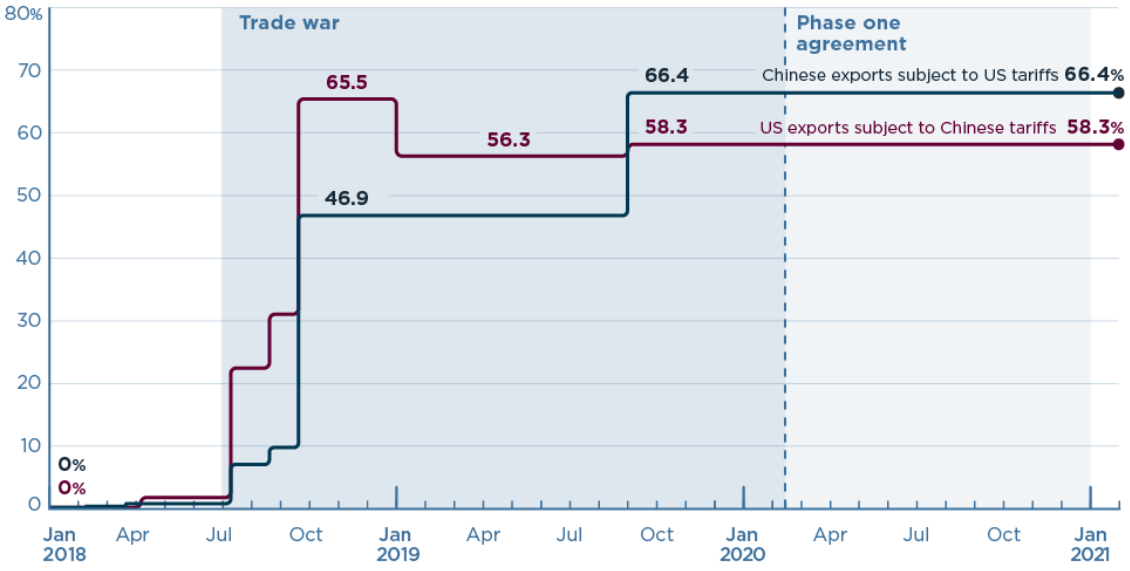
Figure 1

US and Chinese tariffs moved in complex ways during the trade war

a. US–China tariff rates toward each other and rest of world (ROW)



b. Percent of US–China trade subject to tariffs



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Note: Trade-weighted average tariffs computed from product-level (six-digit Harmonized System) tariff and trade data, weighted by exporting country's exports to the world in 2017. Tariff changes as listed in Table 1.

Sources: Constructed by the author with data from Trade Map and Market Access Map (International Trade Centre, marketanalysis.intracen.org), China's Ministry of Finance's announcements, and USTR announcements.

Trump announced that an increase in US tariffs from 10 percent to 25 percent on $200 billion of List 3 products, scheduled for January 1, 2019, would be put on hold for 90 days. As a sign of good faith, China agreed to remove its retaliatory tariffs against US cars, lowering the tariff facing US automakers to 15 percent for the first time. The negotiations seemingly progressed. On February 24, 2019, nearing the end of those 90 days, Trump tweeted that he was delaying the tariff increase and planning a summit with Xi "soon." The administration was sending public signals that a deal was imminent.

Then things changed dramatically. Negotiations blew up during a trip by Lighthizer and Treasury Secretary Steven Mnuchin to Beijing in May. Upon their return to the United States on May 5, Trump announced that he was increasing the tariff on List 3 products from 10 percent to 25 percent starting May 10. He also stated that he would "shortly" impose 25 percent tariffs on the remaining imports from China not yet covered by his tariffs. (The administration estimated that this tariff increase would cover roughly $300 billion of goods, which it referred to as List 4.)

Tariff escalation resumed where it had left off in September 2018, continuing in fits and starts throughout the spring and summer and into the fall of 2019. The US tariff increase on $200 billion of imports announced in May was ultimately followed by new tariffs of 15 percent on an additional $101 billion of imports from China on September 1. China retaliated each time (see figure 1).

Tariff escalation resumed where it had left off in September 2018, continuing in fits and starts throughout the spring and summer and into the fall of 2019.

The ramping up of tariffs in 2019 was far from smooth and often recalibrated midstream. The May 5 announcement, for example, would later be amended so that anything "on the water"—having left a Chinese port—by May 9 could avoid the US tariff increase provided it arrived at an American port by June 1. The June 1 date itself was later changed to June 15. (Some firms thus likely accelerated exporting List 3 goods into the United States ultimately to beat the June 15 deadline.) A practical implication was that the same good leaving China on May 9 could face different US tariffs depending on the mode of shipment. A direct air shipment would not face the tariff increase, whereas a seaborn shipment could if it made lengthy stops, arriving in the United States after June 15.

When the USTR formally implemented the other part of Trump's May 5 announcement, it split the remaining $300 billion (List 4) in two. The timing of the scheduled tariffs for products on List 4A ($101 billion) and List 4B ($151 billion), as well as the composition of products on each list, seemed affected by the administration's perception of these tariffs' likely impact on US consumers.[18] List 4A included some clothing and footwear, shipments of which tended to increase in the summer (in advance of back-to-school shopping); those tariffs were ultimately not implemented until September 1, 2019.

Imports of consumer electronics and toys headlined List 4B. They spike annually in October, in order to arrive at warehouses in time for the December holidays.[19] On August 13, the US administration announced a delay of tariffs on List 4B products until December. Trump stated, "We're doing this for Christmas season, just in case some of the tariffs would have an impact on US customers."

18 Lists 4A and 4B would combine to cover only $252 billion (not $300 billion) of 2017 US imports from China. By 2019, the US administration may have shifted to evaluating the trade coverage of its product lists with reference to 2018 import levels, an approach not adopted here for consistency reasons.

19 See figure 3 in Bown (2019b).

However, he continued to deny that any of his previous tariffs were affecting US consumers, with "so far, they've had virtually none. The only impact has been that we've collected almost $60 billion from China—compliments of China."

Tensions continued to boil through August. When China announced it would retaliate in response to Trump's new tariffs of September 1, he threatened an October 1 increase from 25 percent to 30 percent on the combined $250 billion of imported products covered by Lists 1, 2, and 3. He also increased to 15 percent the upcoming tariffs to be imposed on List 4A (scheduled for September 1) and List 4B (scheduled for December 1).

Tensions continued to boil through August.

On September 1, Trump followed through in imposing the 15 percent tariffs on List 4A. China immediately retaliated. But then, tempers started to cool. On September 11, Trump announced that the tariff increase to 30 percent (from 25 percent) scheduled for October 1 would be delayed to October 15. The next day, Bloomberg provided the first reports that the Trump administration was considering a mini-deal with China.[20] On October 11, Trump announced the tariff increase from 25 to 30 percent scheduled for October 15 would be canceled, because his administration was on the verge of announcing a "very substantial phase one deal" with China.[21] The List 4B tariffs scheduled to go into effect on December 15, covering roughly $151 billion of imports, were not mentioned, but they too were ultimately cancelled upon announcement of a final deal on December 13, 2019.[22] Nevertheless, the US tariffs ended up covering nearly two-thirds of imports from China by the end of 2019. China's counter-tariffs covered over 58 percent of imports from the United States (see again figure 1).

The waves of US and Chinese tariffs imposed over the course of 2018 and 2019 were also aimed at very different mixes of products. At the end of the tariff escalation, for example, more than 80 percent of US imports from China of intermediate inputs faced new tariffs of 25 percent (figure 2). In contrast, most textiles and clothing were on List 4A—facing lower tariffs, imposed with reluctance at the end of the trade war—and most toys and sports equipment avoided tariffs entirely.

China's tariff retaliation disproportionately focused on agricultural and seafood products, including soybeans, sorghum, pork, and lobster (figure 3). Despite imposing counter-tariffs over a fairly sizable share of its imports of US manufacturing, China mostly avoided placing tariffs on key inputs such as semiconductors and semiconductor manufacturing equipment as well as imports

20 Jenny Leonard and Shawn Donnan, "Trump Advisers Consider Interim China Deal to Delay Tariffs," *Bloomberg News*, September 12, 2019.

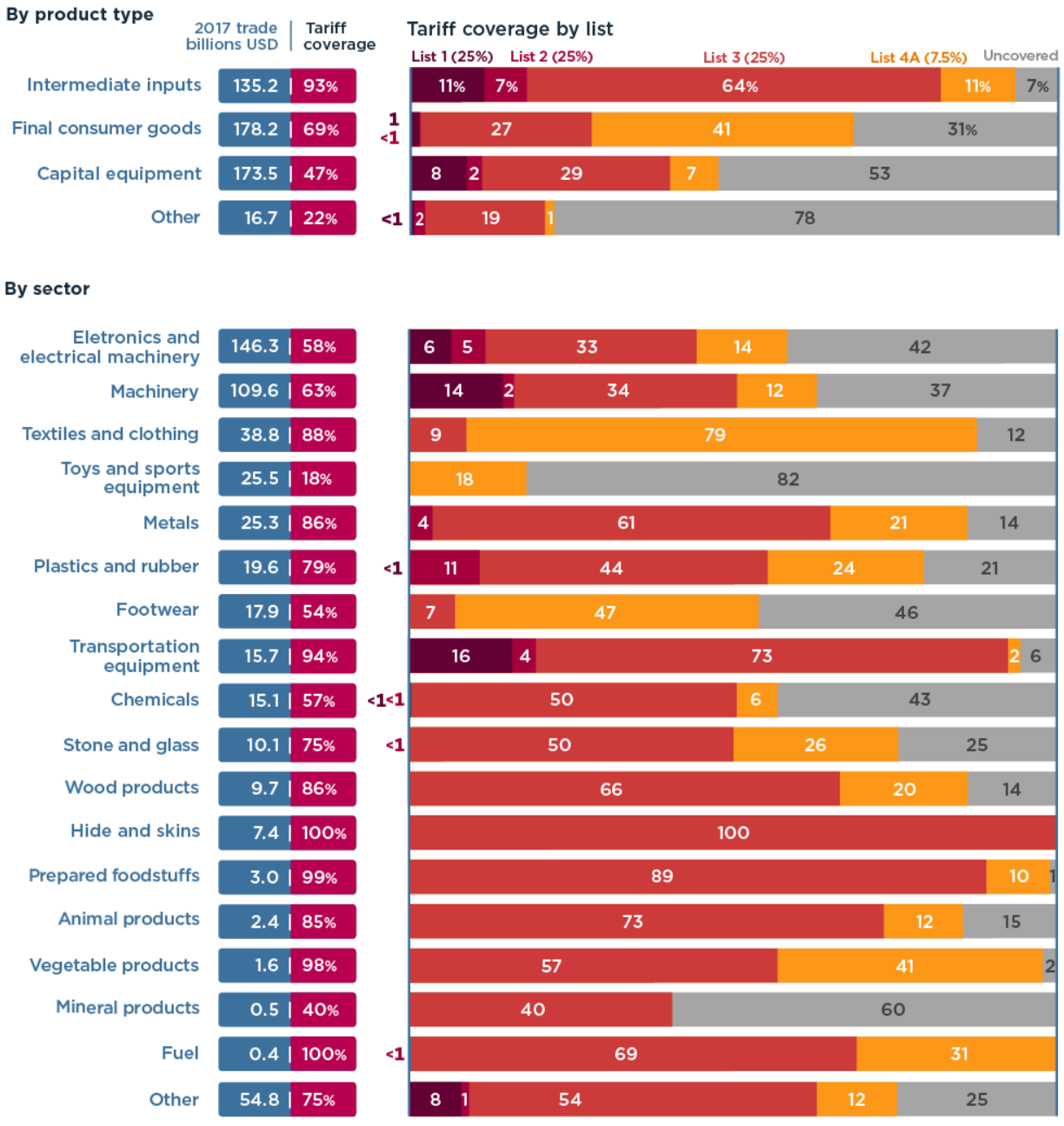
21 Jenny Leonard, Saleha Mohsin, Josh Wingrove, and Shawn Donnan, "Trump Touts US–China Phase One Trade Deal, Delays Tariffs," *Bloomberg News*, October 11, 2019.

22 Not included in this discussion are two additional Trump administration tariff threats made during this period, neither of which resulted in tariffs. The first involved the administration's self-initiated Section 232 investigation of imports in the automobile sector in May 2018, which formed the basis of ongoing tariff threats especially against the European Union and Japan. The second took place in May and June 2019 when Trump threatened to invoke the International Emergency Economic Powers Act and impose 25 percent tariffs on all imports from Mexico in response to immigration concerns. Also not included is the raising of tariffs by removing certain countries and products from the US Generalized System of Preferences (GSP) program.

Figure 2

US tariffs targeted a wide range of Chinese exports

US Section 301 tariff coverage of Chinese exports as of the phase one agreement in February 2020



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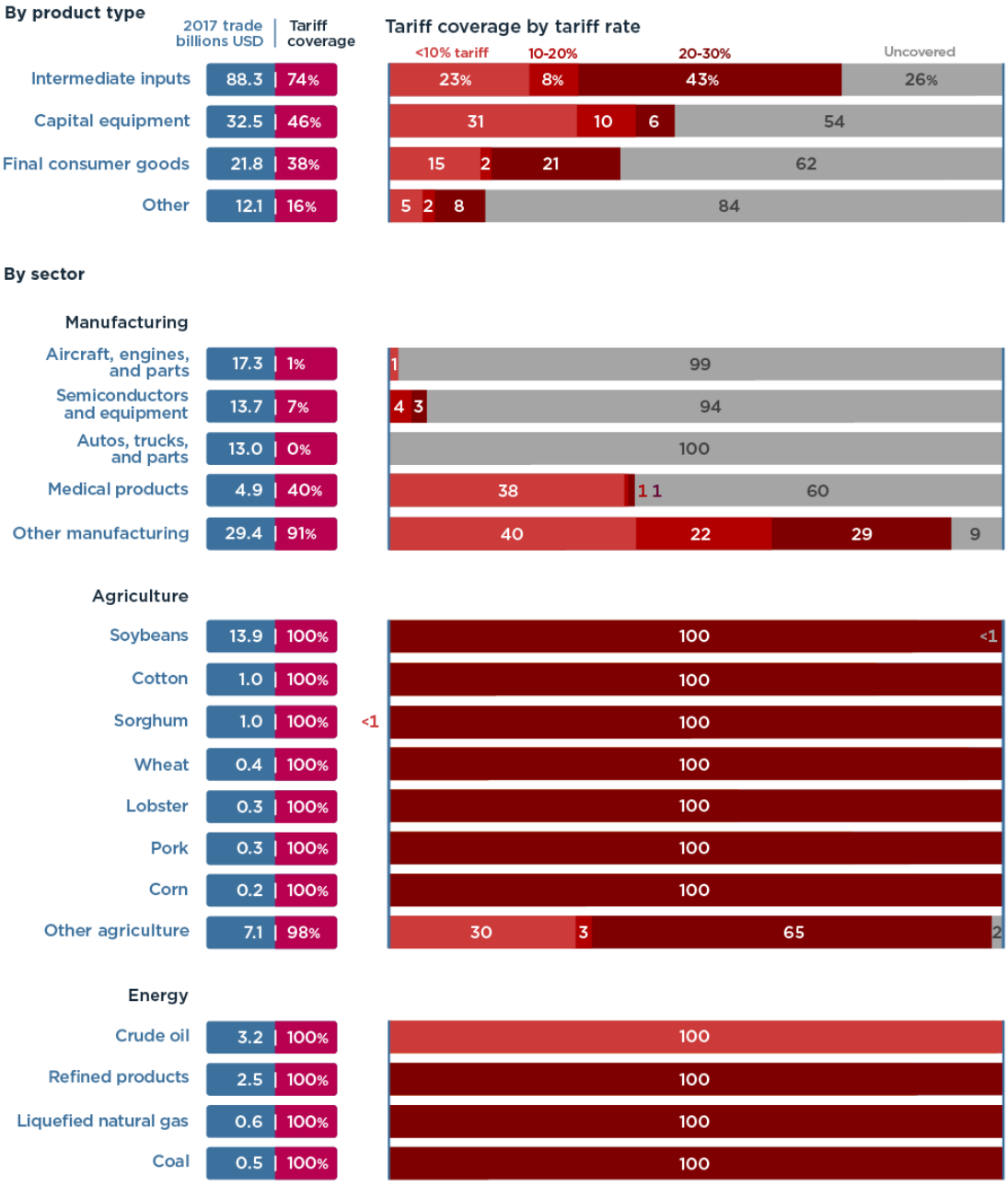
Note: Tariff coverage refers to share of bilateral imports covered by each Section 301 tariff list. Numbers may not sum to 100 due to rounding. List 1 tariff of 25 percent went into effect July 6, 2018. List 2 tariff of 25 percent went into effect August 23, 2018. List 3 tariff of 10 percent went into effect September 24, 2018, rising to 25 percent in June 2019. List 4A tariff of 15 percent went into effect September 1, 2019; it was reduced to 7.5 percent on February 14, 2020.

Sources: Author's calculations based on products listed in USTR announcements and US import data from US Census. Product types defined by UN Broad Economic Categories.

Figure 3

China's retaliatory tariffs focused on US agriculture, avoiding certain manufactured products entirely

Chinese counter-tariff coverage of US exports as of the phase one agreement in February 2020



Note: Tariff coverage refers to share of bilateral imports covered by Section 301 counter-tariffs within that tariff range. Numbers may not sum to 100 due to rounding.

Sources: Author's calculations based on products listed in Chinese government announcements and import data from Chinese customs. Product types defined by UN Broad Economic Categories. See appendix for definitions of sectors.

of aircraft and medical supplies. And while China had imposed retaliatory tariffs on autos in July 2018, they were suspended as part of the December 2018 truce and, while threatened, never reimposed.[23]

A last policy worth highlighting was China's remarkable unilateral reductions to its applied MFN tariffs during the trade war. Tariff cuts came for hundreds of products—not just cars. China's average applied MFN tariff declined from 8.0 percent in January 2018 to 6.7 percent by November 2018. It would cut its tariffs toward the rest of the world by another 0.6 percentage points over the remainder of the Trump administration period (see again figure 1).[24]

3.3 Why Measurement Challenges Are Important for Research

The extraordinary nature of the 2018–19 events is likely to continue to be the subject of economic research. Accurate measurement of policy changes will be needed to estimate both its determinants and its impact. Table 1 lists the key dates of tariff changes, for example.[25]

The extraordinary nature of the 2018–19 events is likely to continue to be the subject of economic research.

Scholarship has already begun to document why the details captured here are important. In order to address the question of who bears the economic burden of the tariffs, researchers, including Amiti, Redding, and Weinstein (2019, 2020) and Fajgelbaum et al. (2020), have examined monthly data to assess the pass-through of the tariffs on prices and other economic outcomes. These and other studies have consistently refuted President Trump's statements that China bore the burden of the US tariffs in 2018, for example.

Other work has examined uncertainty. Baker, Bloom, and Davis (2019) find that trade policy news caused nearly 40 percent of all jumps—defined as a change of plus or minus 2.5 percent—in the US stock market between January 2018 and August 2019. In the previous 117 years, trade drove only 0.6 percent of stock market jumps. Because this type of research requires access to higher-frequency (daily) data, accurately capturing (and distinguishing between) dates of Trump administration leaks, Tweets, formal announcements, impositions, and revisions to trade policy may be critical.

Researchers will also need to identify and disentangle political-economic determinants of what products the Trump administration and China chose to hit with tariffs, at what level, when and why. In many instances, it seemed as if US tariff lists were retrofitted to meet the president's demands for large numbers (given evidence that product lists often added up to substantially less than the dollar amount of trade the president had mentioned in the headline). That the president indicated that the last (List 4B) tariffs were delayed—ultimately they were never imposed—out of concern that consumers would notice their impact also implies that the administration chose earlier products based on the belief

23 Restoring the auto tariffs was an ongoing Chinese threat in 2019. See, for example, Se Young Lee and Judy Hua, "China Strikes Back at US with New Tariffs on $75 Billion in Goods," *Reuters*, August 23, 2019.

24 These changes in MFN tariff were not unique to this period; China also applied them on January 1 and July 1, 2017, cutting its average tariff from 8.1 percent to the 8.0 percent starting point illustrated in figure 1. What is striking is the size of the applied MFN tariff cuts taken over 2018–20.

25 Appendix table 2 includes not only the dates of policy changes but also dates of announcements of those changes, as well as some key policies that were announced but not implemented.

Table 1
Timeline of key US and Chinese tariff changes, 2018–21

Date	*Action*
2018	
February 7	US imposes tariffs of 30 percent on solar panels and 20 percent on washing machines under two Section 201 cases. Tariffs on solar panels will be phased out over four years; tariffs on washing machines tariffs will be phased out over three years.
March 23	US imposes Section 232 tariffs of 25 percent on imports of steel and 10 percent on imports of aluminum from China and other countries, temporarily exempting Argentina, Australia, Brazil, the European Union, Canada, Mexico, and South Korea.
April 2	China imposes tariffs of 15–25 percent on $2.4 billion of imports from US in retaliation to US Section 232 steel and aluminum tariffs.
May 1	China cuts Most Favored Nation (MFN) tariff on pharmaceutical products.
May 18	China announces end to antidumping duties on US sorghum exports as result of US-China trade war negotiations.
June 1	US extends Section 232 tariffs on steel and aluminum to Canada, Mexico, and European Union. (South Korea and Brazil accept VERs for steel, face aluminum tariffs. Argentina accepts VERs for both steel and aluminum. Australia is exempted from both tariffs without agreeing to VERs.)
July 1	China cuts MFN tariff on consumer goods, autos, and information technology products.
July 6	US imposes Section 301 tariffs of 25 percent on revised list of $34 billion of imports from China (List 1). 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.
August 15	US increases Section 232 tariff on steel imports from Turkey from 25 percent to 50 percent.
August 23	US imposes Section 301 tariffs of 25 percent on revised list of $16 billion of imports from China (List 2). Combined with July 6 action, this completes the imposition of tariffs on the first $50 billion of Chinese imports. 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	US imposes Section 301 tariffs of 10 percent on $200 billion of imports from China (List 3). Tariffs will increase to 25 percent on January 1, 2019. China imposes tariffs of 5–10 percent on $60 billion of imports from US in retaliation to US Section 301 tariffs of September 24.
November 1	China cuts MFN tariff on industrial goods.
2019	
January 1	China suspends retaliation tariffs on imports of US autos and parts that had been imposed on July 6, 2018.
January 1	China reduces MFN tariffs for 2019.
February 7	US reduces Section 201 tariffs on solar panels and washing machines, following guidance of initial announcement.
May 20	US exempts Canada and Mexico from Section 232 tariffs on steel and aluminum; both agree to VERs.
May 21	US reduces Section 232 tariff on steel imports from Turkey from 50 percent to 25 percent.

Table continues

Table 1 (continued)
Timeline of key US and Chinese tariff changes, 2018–21

Date	*Action*
June 1	US raises Section 301 tariff from 10 percent to 25 percent on $200 billion of imports (List 3). Initially, the US announced that products "on the water" by May 9 would continue to face 10 percent tariff as long as they arrived at a US port of entry before June 1. Date was later changed to June 15. China increases tariffs on a subset of the product list it hit with tariffs on September 24, 2018 in retaliation to US Section 301 tariff increase on List 3 effective June 1.
July 1	China cuts MFN tariffs on IT products.
September 1	US imposes tariffs of 15 percent on $101 billion of imports from China (List 4A). China increases tariffs on a subset of $75 billion of imports from US in retaliation to US Section 301 tariffs on List 4A.
October 18	US imposes Section 301 tariffs on imports of selected European products after WTO authorizes retaliation in the *EU–Large Civil Aircraft* dispute.
December 13	US announces agreement with China on legal text to be signed January 2020. US cancels 15 percent tariff on $151 billion of imports from China (List 4B), and China cancels its scheduled retaliation.
2020	
January 1	China reduces its MFN tariffs on selected products. US reduces tariffs on some imports from Japan as US–Japan Trade Agreement goes into force.
January 15	US and China sign phase one agreement in Washington, to go into effect February 14, 2020. China agrees to purchase an additional $200 billion of US goods and services exports over 2020 and 2021. Although not part of the legal agreement, each side also indicates that it will cut in half the last round of bilateral tariffs, imposed on September 1, 2019.
February 7	US reduces Section 201 tariffs on solar panels and washing machines, following guidance of initial announcement.
February 8	US extends Section 232 tariffs to some imports of steel- and aluminum-using products, including from China.
February 14	Phase one agreement goes into effect. US reduces tariffs on $101 billion of imports from China (List 4A) from 15.0 percent to 7.5 percent. China reduces retaliatory tariffs imposed on September 1, 2019 by 50 percent.
March 5	US adjusts Section 301 tariffs on imports of selected European products as part of WTO authorization of retaliation in the *EU–Large Civil Aircraft* dispute.
July 1	China cuts MFN tariffs on IT products.
August 16	US reimposes Section 232 tariff of 10 percent on certain aluminum products imported from Canada.
September 1	US eliminates reimposition of Section 232 tariff of 10 percent on certain aluminum products imported from Canada (announced October 27, 2020 and made retroactive).
2021	
January 1	China reduces its MFN tariffs on selected products. US reduces tariffs on some imports from Japan as US–Japan Trade Agreement is phased in.
January 12	US adjusts Section 301 tariffs on imports of selected European products as part of WTO authorization of retaliation in *EU–Large Civil Aircraft* dispute.
January 20	Trump administration leaves office.

Source: Compiled by the author. See also Bown and Kolb (2021).

that consumers would not notice them, perhaps because those tariffs were imposed primarily on intermediate inputs. Finally, after the initial round of tariffs showed that the actions were not just bluff, some announcements likely led to anticipatory actions, in which importers attempted to race products into the United States before the tariffs went into effect.

These and other issues create challenges for empirical research attempting to measure the costs, benefits, causes, effects, and distributional implications of the trade policy events of 2018 and 2019.[26] At least two sets of additional policy issues, described next, may further complicate many such analyses.

4. US AND CHINESE PRODUCT EXCLUSIONS FROM THE TRADE WAR TARIFFS

In December 2018, the Trump administration announced the first subset of products that it would temporarily exclude from the Section 301 tariffs. The USTR had established a process by which American companies could make such requests. It accepted some and rejected others, with accepted exclusions applied retroactively. For example, a List 1 product excluded in October of 2019 could receive a refund of the revenue from the 25 percent Section 301 tariff that an importer had paid for it on any transactions dating back to July 6, 2018. By the end of the Trump administration, more than 50 sets of product exclusion announcements had been made. Companies whose exclusions were denied complained, but for the most part, the exclusion-granting process for the China tariffs was crowded out by other trade policy headlines.[27]

That changed in early 2020. When COVID-19 arrived in the United States, Trump's Section 301 tariffs were found to apply to imports of personal protective equipment and other medical gear in short supply because of the pandemic. On March 10, the USTR quietly began granting additional exclusions for COVID-19-related products.[28] When the public got wind that the administration was still imposing tariffs on products affecting medical supplies, USTR Lighthizer wrote a letter to the *Wall Street Journal*, claiming (emphasis added), "The US Trade Representative granted immediate exclusions from the Section 301 tariffs *for all* critical medical products weeks ago." That statement was incorrect. Shortly after he made it, media outlets reported on explicit USTR rejections of additional exclusion requests made for pandemic-related products. Companies requested additional exclusions as they learned that tariffs were still hitting imported inputs needed to scale up production of pandemic-related goods, including ventilators

When COVID-19 arrived in the United States, Trump's Section 301 tariffs were found to apply to imports of personal protective equipment...

26 It is beyond the scope of this paper to fully review the literature. But additional examples of early research include Cavallo et al. (forthcoming); Flaaen and Pierce (2019); Waugh (2019); Handley, Kamal, and Monarch (2020); and Fetzer and Schwartz (forthcoming).

27 The USTR product exclusion process for the Section 301 tariffs was distinct from the product exclusion process that the Department of Commerce administered for tariffs imposed on steel and aluminum starting in March 2018. The Trump administration's other process for granting product exclusions—for the steel and aluminum tariffs—generated considerable media attention, especially when the Inspector General of the Commerce Department suggested potential improprieties (OIG 2019).

28 See the analysis by Bown (2020a), cited in Robert B. Zoellick, "Trump's Tariffs Leave the US Short on Vital Medical Supplies," *Wall Street Journal*, March 18, 2020.

the Trump administration was demanding they manufacture through invocation of the Defense Production Act.[29] Under pressure after those reports, the USTR reversed itself and accepted additional COVID-19-related exclusion requests.

The COVID-19 fiasco revealed that the US administration had little knowledge of how Americans used the products it was hitting with Section 301 tariffs. This problem was just one of many transparency concerns with the tariffs and exclusions, beginning with the standard political economy questions of which exclusions were accepted, which were denied, and why.[30]

The COVID-19 fiasco revealed that the US administration had little knowledge of how Americans used the products it was hitting with Section 301 tariffs.

Another important transparency concern arose because the administration often granted exclusions at the level of a product description (defined here as a "variety"), a more disaggregated level than the 10-digit Harmonized Tariff Schedule (HTS) level found in publicly available trade statistics. It was thus impossible to assess how much trade the USTR was excluding from the tariffs at the time of any announcement. Only months later, after the trade statistics were published, would it be possible to even estimate their trade coverage.

The product exclusions mattered, for several reasons. First, they affected tariff revenue collections.[31] Figure 4 shows the ratio of collected tariff revenue to the value of imports—by definition equivalent to the import-weighted average tariff—for each of the four Section 301 products lists. If the exclusions had had no effect (or none were claimed), then the average tariff for List 1, for example, should have jumped by 25 percentage points after July 6, 2018, and remained at that level through the end of 2020. Once the revised Census data became available, reflecting the revenue rebates from exclusions, it became clear that the initial tariff increase did not reach 25 percentage points after July 6 and that the average tariff for List 1 declined over time. This evidence suggests that tariffs were excluded on an increasing share of products imported under List 1.[32] (Similar patterns hold, to varying degrees, for the other lists of products hit with tariffs.)

The declines were likely the result of two forces. One was simply that the USTR widened the set of excluded products on a given list over time. The second was the endogenous response of imported products and varieties. In response

29 Bloomberg reported that in a letter dated March 5, the USTR rejected Purell-maker Gojo Industries' request for an exclusion from the Section 301 tariff on a specially designed injection molded collar from China to increase production of dispensers for hand sanitizer (Jenny Leonard, "Maker of Purell Hand Sanitizer Denied in Request for Trump Tariff Relief," *Bloomberg*, March 27, 2020). Only on April 3—under pressure after the denial surfaced in the Bloomberg report—did the USTR reverse its decision. The *Wall Street Journal* reported that General Motors issued a letter to the USTR on March 31 pleading that it drop the China tariffs on parts needed to make ventilators that it was being directed to manufacture under the administration's invocation of the Defense Production Act (Katy Stech Ferek, "GM Seeks Tariff Relief for Ventilator Parts," *Wall Street Journal*, April 3, 2020).

30 See, for example, Hufbauer and Lu (2019).

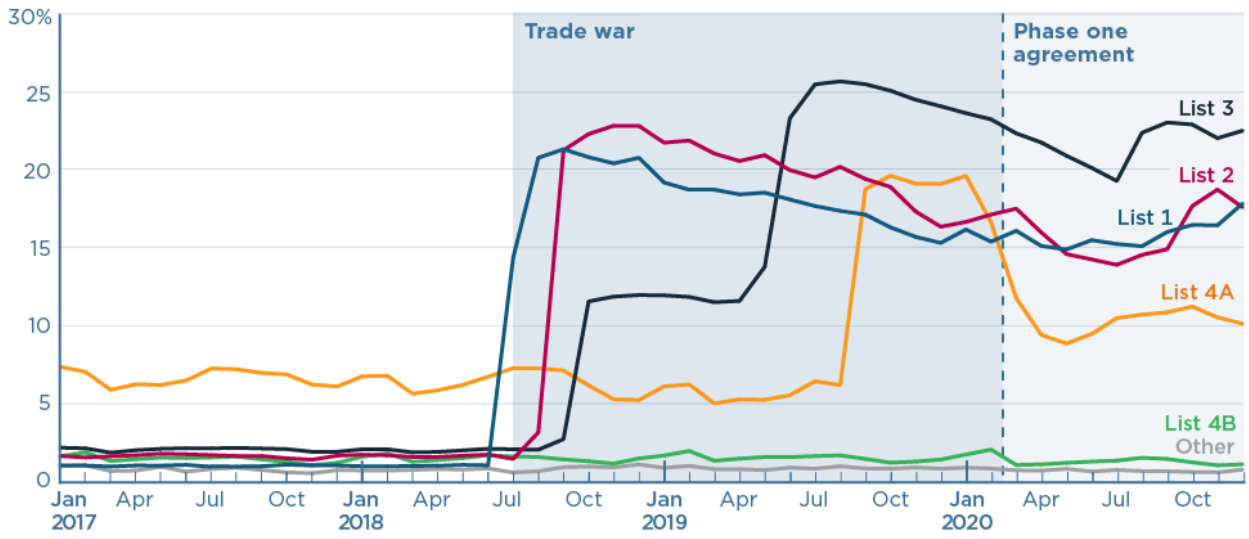
31 This section draws on Bown and Li (forthcoming). Flaaen et al. (2021) simultaneously conducted a related analysis. Both studies noticed an apparent Census data error, as the Section 301 duties on numerous products that did not receive announced exclusions in March 2020 suddenly disappeared for the rest of 2020 in the data available as of January 2021. The analysis here assumes that duties continued to be collected on those products as they were before the change of March 2020. Appendix table 3 includes more information on dates of product exclusions.

32 Relatively few products were excluded from List 4A, as discussed below. In figure 4, the average tariff for List 4A products was roughly 5 percent prior to the trade war; it jumped to roughly 20 percent when the 15 percent tariff was applied on September 1, 2019 and declined to roughly 12.5 percent after February 14, 2020, when the List 4A tariff was cut in half (to 7.5 percent) alongside the phase one agreement going into effect.

Figure 4

Product exemptions played a role in changing average US tariffs on Chinese imports

Average US tariffs for different Section 301 product lists, inclusive of exclusions, January 2017–December 2020



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Note: Tariff data are import-weighted. List 1 tariff of 25 percent went into effect July 6, 2018. List 2 tariff of 25 percent went into effect August 23, 2018. List 3 tariff of 10 percent went into effect September 24, 2018, rising to 25 percent in June 2019. List 4A tariff of 15 percent went into effect September 1, 2019; it was reduced to 7.5 percent on February 14, 2020. List 4B tariff of 15 percent was threatened but never imposed. Other comprises products that were not included in any of the five lists.

Sources: Author's calculations based on products listed in USTR announcements and US import data from US Census.

to the tariffs and exclusions, American buyers likely increased their relative purchases of excluded products and varieties (and decreased their purchases of nonexcluded products and varieties) within a given list.

One way to estimate the share of trade excluded from the tariffs ex post was to start at the product level and aggregate up. Consider, for example, an exclusion announcement made in October 2019 for a List 1 product at the level of a product description ("variety").[33] Once Census published the revised data on rebated tariff revenue from that exclusion, it was possible to construct the

33 The question is what share of the 10-digit product was of the excluded variety, as the exclusion was granted at the more disaggregated level of the variety (product description). For example, if the 10-digit product was widgets, the exclusion may have been granted to blue widgets and implicitly not to red widgets. This approach seeks an estimate of the share of widgets that were blue widgets.

import-weighted average tariff for August 2018—the period immediately after the List 1 tariff of 25 percent went into effect—using the ratio of calculated duties to customs value of imports.[34]

As a second step, consider the same trade-weighted average tariff with data from June 2018—that is, before the 25 percent Section 301 tariff for the List 1 10-digit product ("product") went into effect. If their difference (x) was zero (i.e., the two trade-weighted average tariffs were the same), then the product did not receive any claimed exclusions. If $x = 25$, then there was 100 percent coverage (i.e., all varieties within the product were excluded). More generally, $(1–x/25)$ percent of the value of the product will have been excluded.

Overall, estimates suggest that 4 percent of the value of all US imports subject to Section 301 tariffs were excluded at some point between 2018 and 2020. This estimate includes 14 percent of the value of imports on List 1, 9 percent on List 2, 3 percent on List 3, and 2 percent on List 4A. In terms of forgone revenue, the US administration reimbursed (or failed to collect) an estimated 9 percent of the roughly $96 billion of tariff revenue associated with the Section 301 tariffs in effect between July 2018 and December 2020.[35]

Interpreting even these estimates requires considerable caution. Figure 4 does not suggest, for example, that the product exclusions suddenly reduced the trade coverage of the Section 301 tariffs, or that the implied reduction in the trade-weighted average tariff changed the impact of the tariffs on imports. Because the exclusions were granted with considerable delay and heterogeneity, as well as retroactively, temporarily, and incompletely, much more careful research is required to determine their impact on any economic activity.

China also began announcing temporary product exclusions in September 2019. It made four such announcements over 2019 and 2020, with only some exclusions applying retroactively. Much less information was available on China's exclusion process; without access to revised data on rebated tariff collections by product, for example, it is unknown whether not all varieties within a product code were excluded (as in the United States). Under the assumption that all varieties within a product received an announced exclusion, an estimated 16 percent of the value of imports subject to China's retaliatory tariffs were subsequently excluded at some point between September 2019 and December 2020.

The existence of US and Chinese exclusions raises a host of other important political-economic questions for research.[36] Of the firms that could have filed an exclusion request, what determined which ones mustered the resources to do so?

China also began announcing temporary product exclusions in September 2019.

34 The approach adopted here is to compare the two months immediately after implementation of the Section 301 tariff (August and September 2018 for List 1) to the two months before it was imposed (May and June 2018). Limiting the analysis to the months immediately after implementation reduces the endogenous composition effect, which should increase over time as companies change sourcing decisions, everything else equal. Even this approach provides only an estimate of trade coverage of an exclusion for an HTS-10 product.

35 Estimated tariff revenues were $8.3 billion on varieties of excluded products, $44.2 billion on varieties of HTS-10 products that received exclusions, and $43.6 billion on products that received no exclusions. Total collections were thus $87.8 billion; total potential revenue was $96.1 billion.

36 One practical question is whether it has become impossible to replicate the findings of studies such as Fajgelbaum et al. (2020) relying on the newly revised Census data reflecting the tariff revenue having been rebated retroactively.

Conditional on filings, what factors determined which exclusion requests were accepted versus denied? Finally, to what extent did these exclusions (rebates) work like a compensatory subsidy and offset some of the losses generated by the tariffs—i.e., who ended up capturing the rents?

The Trump administration did grant a separate set of product exclusions in response to its Section 232 tariffs on imported steel and aluminum. These exclusions were important for imports from other countries; the speculation here is they may have had less of an effect on US imports of steel and aluminum from China, because other (antidumping and countervailing duty) policies—most of which pre-dated the Trump administration—already constrained those imports, as described next.[37]

5. US AND CHINESE USE OF ANTIDUMPING AND COUNTERVAILING DUTIES

Heading into the Trump administration, US use of antidumping and countervailing duties toward China was a major trade policy issue. China had long been the top target for American use of both policies. Only a month after the US presidential election was December 11, 2016, the 15-year anniversary of China's WTO entry, and with it arose the legal question of whether China would be granted "market economy status." The decision was of political-economic importance to China and economic importance to the United States (and elsewhere) because of its implications for how to compute antidumping tariffs. China filed WTO disputes against the United States and the European Union over the issue in December 2016. President-elect Trump staked out the US position with his statement that China was not a market economy.[38]

Heading into the Trump administration, US use of antidumping and countervailing duties toward China was a major trade policy issue.

Non–market economy status meant that the country investigating the allegations did not have to rely on actual price and cost information from Chinese firms in order to estimate whether they were pricing too low and, if so, by how much. (That answer determined the size of the antidumping duty.) For exports from non–market economies like China, policymakers could rely on cost information from third, surrogate countries instead. The argument was that the distortions created by China's state-driven model and state-owned enterprises led to subsidized inputs, rendering Chinese firms' own price and cost data meaningless for antidumping computations.

In 2006, the United States also changed the manner in which it administered its countervailing duty law and began applying anti-subsidy tariffs to China. Most of the trade remedies the United States imposed on imports from China after 2006 were a combination of antidumping and countervailing duties on the same product, imposed almost simultaneously. And the United States' historical use of both policies on imports of aluminum and steel from China—the products later covered by the Section 232 tariffs imposed beginning in March 2018—implied that those tariffs largely affected imports from countries other than China.

37 See also Bown (2018). For exclusion requests from the Section 232 tariffs on steel and aluminum, see Brunk, McDaniel, and Parks (2019).

38 See Chad P. Bown, "Trump Says China Is Not a Market Economy. That's a Big Deal," *Washington Post (Monkey Cage)*, December 12, 2016.

The WTO dispute over antidumping and China's non–market economy status was quickly overshadowed by the trade war described in section 3. Nevertheless, China initially continued to pursue its WTO case against the European Union, only withdrawing the complaint after receiving a privileged view of the WTO's preliminary Panel Report.[39] China stopped pursuing the WTO dispute against the United States entirely.

The United States' heavy use of antidumping and countervailing duties against China continued during the Trump administration. More than 40 new investigations were initiated, with more than 30 new sets of duties imposed. Nevertheless, the trade coverage stayed mostly on trend with the increased pace that had begun in 2007. More than 7 percent of US imports from China were covered by antidumping and countervailing duties before the trade war; the figure increased to 10.3 percent by the end of 2020 (figure 5).

More than 7 percent of US imports from China were covered by antidumping and countervailing duties before the trade war; the figure increased to 10.3 percent by the end of 2020.

For some products, new US antidumping and countervailing duties may have had larger economic effects than imposition of the Section 301 tariffs. In October 2019, for example, Commerce imposed antidumping duties of more than 100 percent on $4 billion of imports of wooden cabinets and vanities from China. These products were also found on List 3 of the Section 301 tariffs. Those List 3 tariff actions of 10 percent on September 24, 2018, increased to 25 percent in June 2019, pale in comparison with antidumping duties of more than 100 percent.

Trump's other tariffs likely created conflicting incentives for US industry's use of trade remedies. Domestic industry demand for antidumping and countervailing duties against China over 2018–20 may have been lower than otherwise, squeezed out by the administration's application of other (especially Section 301) tariffs. But the fact that the administration's other tariffs disproportionately focused on intermediate inputs—steel, aluminum, as well as the Section 301 tariffs (see figure 2)—may have created demands for "cascading" protection, whereby downstream industries requested more tariffs through trade remedies than they otherwise would have.[40] Indeed, the United States' extension of its Section 232 tariffs to cover steel- and aluminum-using products in January 2020 was implicit recognition that its steel and aluminum tariffs had made it more costly for those downstream products to compete with imports.

The Trump administration also made regulatory and institutional adjustments to the US process for using trade remedies, some of which may continue under future administrations. For the first time in decades, the United States began to self-initiate investigations under these laws. And in April 2017, in a review of a previous antidumping duty imposed on steel products from South Korea, the Commerce Department also resorted to a relatively new provision—the "particular market situation"—and increased the estimated costs of a South Korean firm, alleging that its reported inputs were priced too low because it was using subsidized hot-rolled steel from China. (White House official Peter Navarro

39 See Bryce Baschuk, "China Loses Landmark WTO Dispute against EU," *Bloomberg*, June 16, 2020.

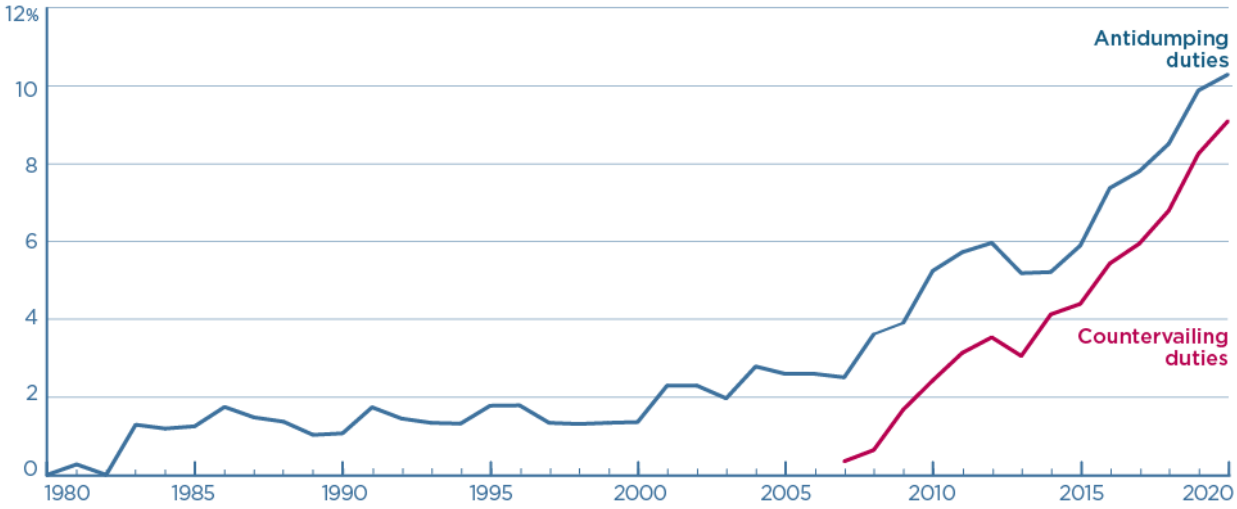
40 See Bown (2020b) and Erbahar and Zi (2017).

Figure 5

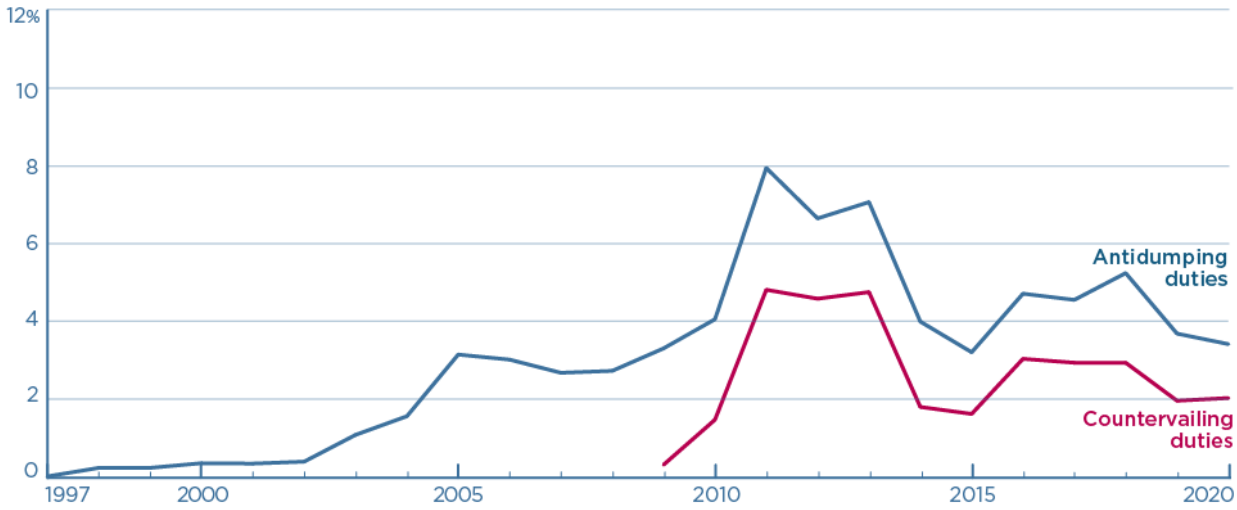
Both the US and China continued to use antidumping and countervailing duties during the trade war

Share of bilateral imports subject to antidumping and countervailing duties

a. US imports from China, 1980–2020



b. China's imports from US, 1997–2020



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Note: US calculations done at the ten-digit Harmonized Tariff Schedule level. China's calculations done at the six-digit Harmonized System level. Share of imports covered by antidumping and countervailing duties cannot simply be added because many of the duties are redundant, applying simultaneously to the same imported product.

Sources: Author's calculations based on author's updates to the World Bank's Temporary Trade Barriers Database, based on the methodology described in Bown (2011).

had sent a letter to Secretary Ross urging him to intervene.[41]) In 2019, the Court of International Trade reversed that decision, but it did not stop Commerce from deploying the approach elsewhere.

The Trump administration also implemented the regulatory decision that an undervalued currency, including the renminbi, could be treated as a countervailable subsidy. (It also allowed the Commerce Department to make the critical undervaluation decision, one the Treasury Department historically made in other policy settings.[42]) The first case, in November 2020, involved imported tires from Vietnam; the second, which followed on its heels, affected twist ties imported from China. Given long-standing concerns about China's currency practices, allowing policymakers to treat undervalued currency as a subsidy had the potential to significantly affect future US use of countervailing duties.

Although the effects were less economically consequential, China continued its own antidumping and countervailing duty use during 2017–20 (see figure 5). It imposed preliminary duties on $1 billion of US sorghum in April 2018. It later removed them, but the negative trade effects persisted, as China simply placed sorghum on one of the lists of products over which it imposed counter-tariffs during the trade war. Over the course of 2017–20, China also imposed antidumping and anti-subsidy tariffs on chemical products from the United States. (It also removed some duties in 2019 on cellulose pulp imports from the United States that had been in effect since 2013.)

...China continued its own antidumping and countervailing duty use during 2017–20.

6. IMPLICATIONS OF PRODUCT EXCLUSIONS AND TRADE REMEDIES FOR US AND CHINA TARIFFS

Combining tariff data with information on applied antidumping and countervailing duties or product exclusions complicates assessment of the restrictiveness of US and Chinese trade policy toward one another over the course of the trade war. Inclusion of antidumping duties, for example, increases the pre–trade war level of protection and changes in it over time (figure 6).[43] Including antidumping increases the average US tariff toward China in January 2018 from 3.1 percent to 8.4 percent. It raises the average US tariff on China—inclusive of the trade war escalation arising from the other tariffs—from 19.3 percent to 26.7 percent by the end of 2020. China tends to apply antidumping duties at lower rates. Including antidumping increases China's January 2018 starting-point tariff from 8.0 percent to 8.5 percent; the end-point average duty increases only slightly, from 20.7 percent to 21.2 percent.

Ignoring the use of trade remedies, the product exclusions would have the effect of de facto reducing the average tariff. For example, had the United States applied the Section 301 product exclusions permanently and immediately,

41 See Adam Behsudi, "Commerce Takes 'Unprecedented' Step in Trade Case," *Politico* April 12, 2017.

42 See the concerns raised by Bergsten and Gagnon (2019).

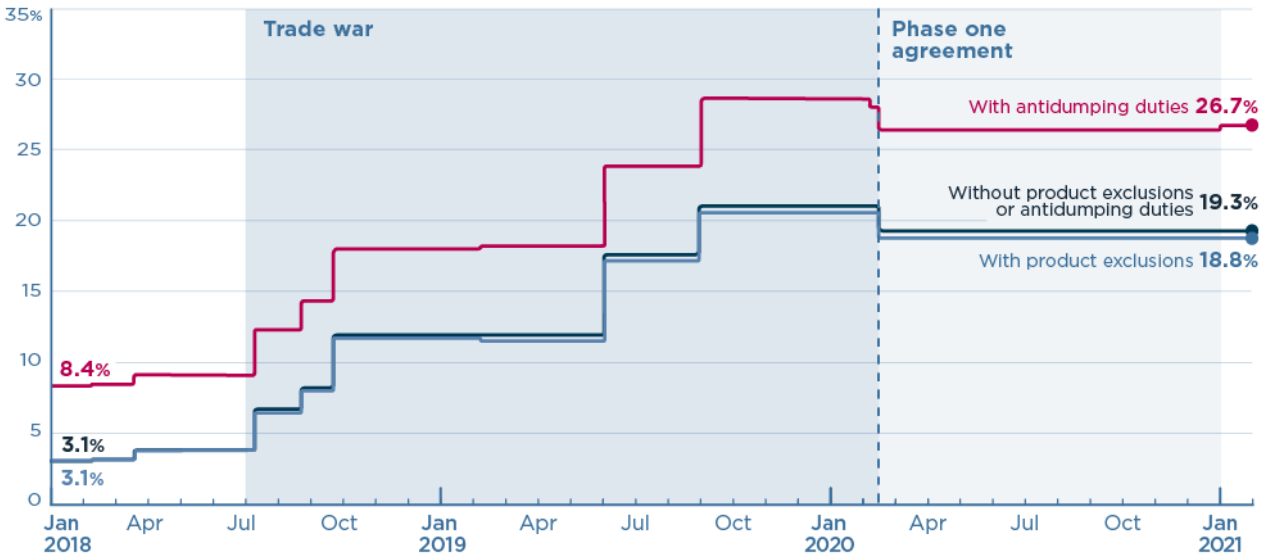
43 These estimates do not include countervailing duties. For an antidumping and countervailing duty applied to the same exporter, the size of the countervailing duty has to subtract out the component of the antidumping duty associated with export subsidies. The average US tariff on imports from China would have been higher than shown in figure 6 had both antidumping and countervailing duties been included.

Figure 6

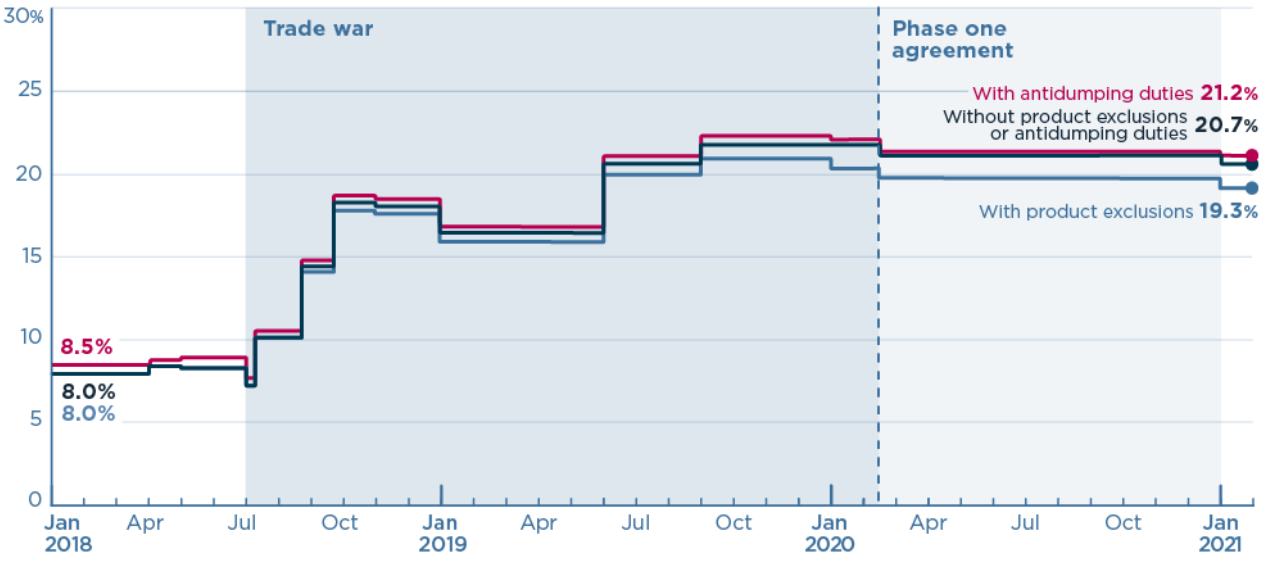
Accounting for antidumping duties and product exclusions changes the level of trade war tariffs

Average US and Chinese tariff rates on each other's exports

a. US tariffs on China



b. China's tariffs on US



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Note: Trade-weighted average tariffs computed from product-level (six-digit Harmonized System) tariff and trade data, weighted by exporting country's exports to the world in 2017.

Sources: Constructed by the author with data from Trade Map and Market Access Map (International Trade Centre, marketanalysis.intracen.org), China's Ministry of Finance announcements, USTR announcements, and author's updates to the World Bank's Temporary Trade Barriers Database.

the average US tariff on imports from China would have ended up at only 18.8 percent, not 19.3 percent, in January 2021. Had China done so, its average tariff toward US exports would have ended up at only 19.3 percent, not 20.7 percent.

Finally, the multiple statutory forms of US and Chinese special tariffs on imports from one another resulted in some products being covered by additional import duties applied at the same time. As of January 2021, more than two-thirds of US imports from China were covered by one form of special tariff or another, beyond the standard applied MFN tariff (figure 7).[44] Some steel and aluminum imports, for example, were covered by three different sets of US special tariffs—i.e., antidumping duties, Section 232 national security tariffs, and Section 301 tariffs. Solar panels and washing machines were covered by a different set of three policies—antidumping duties, Section 201 safeguard tariffs, and Section 301 tariffs. On China's side, nearly 60 percent of its imports from the United States as of January 2021 were also covered by at least one set of Chinese special tariffs, with some products also facing multiple sets of duties.[45] Any policy negotiation, statutory requirement, or economic modeling counterfactual that removed only one set of US or Chinese special tariffs could potentially have little impact on trade, given others that also impede imports of that product.

[T]he multiple statutory forms of US and Chinese special tariffs on imports from one another resulted in some products being covered by additional import duties applied at the same time.

7. THE US-CHINA PHASE ONE AGREEMENT

On January 15, 2020, the United States and China signed the phase one agreement.[46] Its 91 pages included chapters addressing intellectual property protection, technology transfer, trade in food and agricultural products, some new market access in China for financial services, exchange rates and transparency, and a government-to-government enforcement mechanism that could result in unilaterally determined trade sanctions if one side did not live up to the agreement.

When implementing the agreement, on February 14, 2020, both the United States and China voluntarily cut in half the last round of tariff escalation imposed in September 2019. (The United States, for example, reduced tariffs from 15.0 to 7.5 percent on $101 billion of imports covered on List 4A.) However, all of the other tariffs remained in effect (see figure 1), and there was no other mention of "tariffs" in the phase one agreement, including even the Valentine's Day cuts. The result was the US Section 301 tariffs continued to cover an estimated $335 billion, or 66 percent of Chinese imports, and Beijing's counter-tariffs were applied on $90 billion, or 58 percent of its imports from the United States. This oddity was

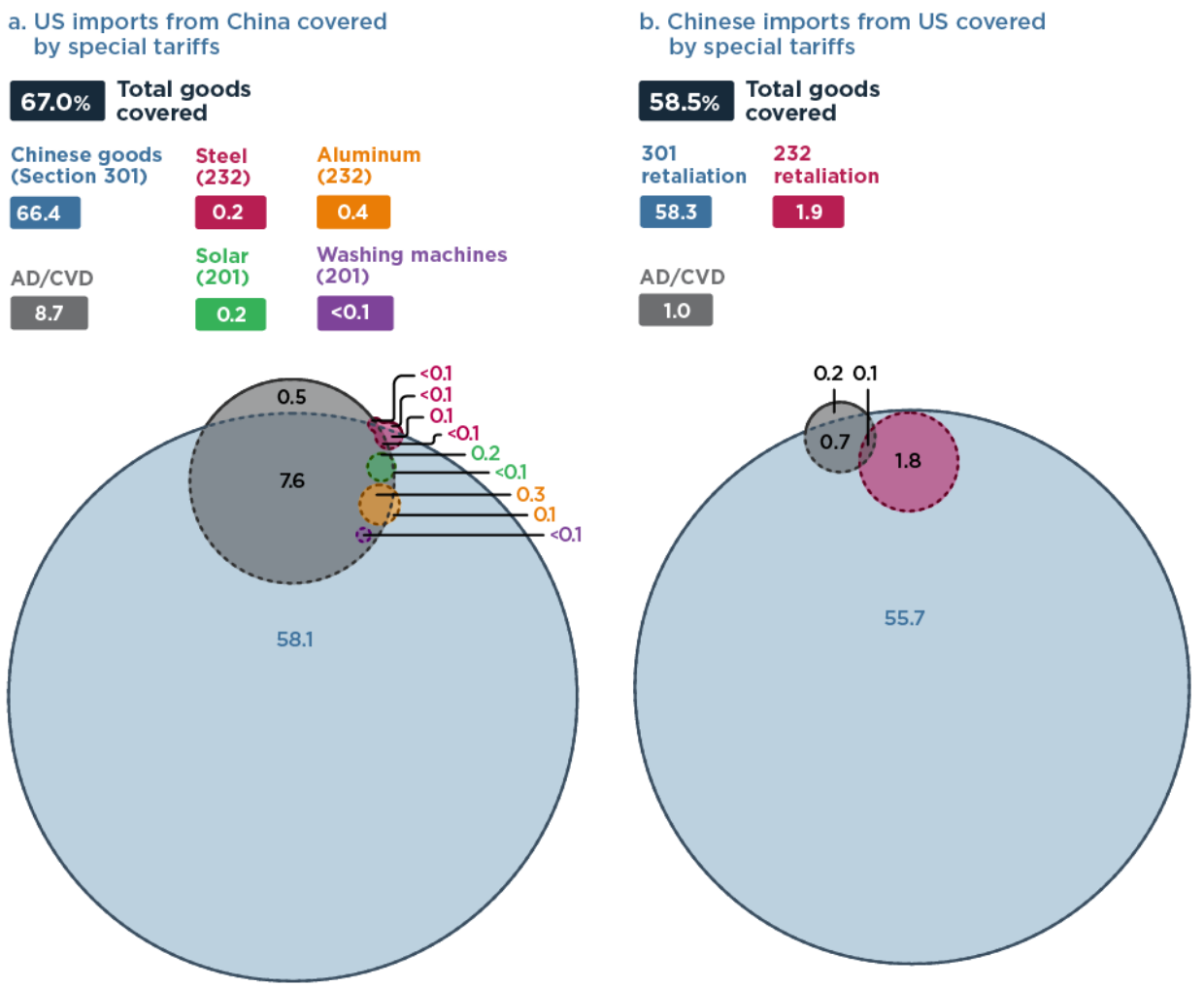
44 The trade coverage estimates for antidumping (and countervailing duties) in figures 5 and 7 differ because different methodological approaches were used in each. Figure 5 uses the approach in Bown (2011), in order not to down-weight import shares once the duty went into effect. Figure 7 simply matches products with antidumping (and countervailing) duties in effect in January 2021 with the 2017 import statistics, for consistency with the trade coverage measures of the other tariffs described in the figure.

45 For example, of the 58.3 percent of Chinese imports from the United States covered by retaliation to Section 301 actions in figure 7, 0.7 percent were also covered by only another antidumping duty, 1.8 percent were also covered by only retaliation for the US Section 232 tariffs, 0.1 percent were covered by both antidumping and the Section 232 retaliation, and 55.7 percent were covered by the Section 301 retaliation alone.

46 The agreement, announced on December 13, 2019, was formally known as the "Economic and Trade Agreement between the United States of America and the People's Republic of China: Phase One."

Figure 7

For many imported products, US and China had multiple special tariffs in effect as of January 2021



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AD/CVD = Antidumping and countervailing duties; 201 = Section 201; 232 = Section 232; 301 = Section 301

Note: Share of US imports from China (panel a) and of Chinese imports from US (panel b) in 2017 covered by special tariffs in effect as of January 2021. Estimates for AD/CVD coverage differ from figure 5 estimates due to methodological differences.

Source: Constructed by the author.

often overlooked, given the emphasis on Chapter 6 of the agreement—China's legally binding commitment to purchase an additional $200 billion of US goods and services over 2020 and 2021.

On February 17, 2020, China's Ministry of Finance did establish a separate process by which Chinese companies could submit requests for an exemption from paying the considerable counter-tariffs that remained on many different

products despite the phase one agreement (see again figure 3). Shortly thereafter, the Chinese government reportedly began to grant exemptions to Chinese companies to purchase products like soybeans, as the trade data would later confirm.[47] But how many product-level tariff exemption requests were made; which were accepted; by what firms in what industries; and what affected those decisions (whether, for example, Chinese state-owned enterprises or private firms were more likely to apply and have their requests granted) remained unclear. This outcome—in which the Trump administration signed off on a system in which the Chinese government would have final say on potential purchases of imports from the United States—was also at odds with broader US government concerns that China's economy was too state-driven.[48]

7.1 Origins and Optics of the Purchase Commitments

The Trump administration's demand for a voluntary Chinese import expansion—purchase commitments—was described by US officials as consistent with its stated goal of cutting the trade deficit with China. In an on-the-record briefing to reporters on December 13, 2019 when USTR Lighthizer described the agreement's details, he said that the purchase commitments of $200 billion were designed to reduce the trade deficit, and that other provisions in the deal would have the same effect. He added, "and there are tariffs that will be in place, so we expect the trade deficit to go down, for sure."[49]

By the administration's math, China increasing its purchases by an average of $100 billion a year (in 2020 and in 2021) would reduce the annual bilateral trade deficit by $100 billion. Its logic was that by also maintaining US tariffs on nearly two-thirds of bilateral imports (see again figure 1), US import growth from China would flatten, or possibly even fall, reducing the bilateral deficit even further.

Politically, reference to "$200 billion" (over two years) rather than $100 billion each year also carried the benefit of being a bigger number to campaign on during the upcoming election season. Indeed, shortly after signing the agreement, President Trump boasted in a speech at Davos that China's additional purchases resulting from the deal "could be closer to $300 billion when it finishes."

But the purchase commitments nevertheless proved controversial from the start.[50] In that same press briefing describing the deal in December 2019, Lighthizer had refused to release details of product-specific targets to reporters, stating "Our judgment is that to make those things public, the subcategories could have a market impact, which is not in anyone's interest. But we'll have them and we'll keep them in the classified document." But he indicated he was also concerned that excessive attention would be placed on the purchases themselves, saying "If I give you too much, that's all you'll write about."

[W]hen USTR Lighthizer described the agreement's details, he said that the purchase commitments of $200 billion were designed to reduce the trade deficit...

47 See Ministry of Finance (2020) and Hallie Gu and Naveen Thukral, "China Grants Duty Exemption on US Soybean Imports: Sources," *Reuters*, March 6, 2020.

48 See the analysis provided in Bown and Lovely (2020).

49 Lighthizer comments are from the transcript of an on-the-record briefing for trade journalists. The transcript was not published by USTR but made available to the author and checked with a recording of the session.

50 See, for example, Bown (2020c) and Soumaya Keynes, "The Costs of America's Lurch towards Managed Trade," *The Economist*, January 25, 2020.

He was right about one thing. As expected, the purchases were all that anyone wrote about, especially once the monthly trade data revealed that China was not on pace to meet the commitments. In a hearing before the Senate Finance Committee on June 17, 2020, Lighthizer was pressed by Senators Ron Wyden (D-OR) and Maria Cantwell (D-WA) about a monthly report published by the Peterson Institute documenting the state of China's purchases to date under the phase one agreement, Lighthizer dismissed the data.[51] He referred to the report as a "thing" published by the Peterson Institute, which "I would suggest has a very, very failed methodology." It was not clear what he was criticizing about the methodology, which was actually quite transparent. It simply used official, publicly available, monthly Chinese import and US export statistics (see figure 8).[52] "[I]t's a complicated thing," Lighthizer claimed, "and they have a childish methodology," suggesting that a more sophisticated approach than simply adding up the monthly data was required.

There was nothing unique to that approach. By July, even the US Census was directly providing monthly statistics on US exports covered by the phase one agreement separate from, and prior to, its normal monthly trade data release.[53] The Census statistics told the same story: China was never on pace to reach the 2020 purchase commitments set out in the phase one agreement.

Less than two weeks before the presidential election, the USTR and the Department of Agriculture released the Trump administration's own, much rosier, assessment of China's projected purchases of a select few agricultural products.[54] The administration report relied on projected sales volumes and made assumptions about future prices, none of which were relevant to the legal commitments in the agreement. The October 2020 report also failed to mention manufacturing or energy, products which together made up 78 percent of the value of the purchase commitments. US exports of those products were performing much worse than agriculture.

As expected, the purchases were all that anyone wrote about, especially once the monthly trade data revealed that China was not on pace to meet the commitments.

51 US Senate Committee on Finance, The President's 2020 Trade Policy Agenda. The Full Committee Hearing, June 17, 2020 (https://www.finance.senate.gov/hearings/the-presidents-2020-trade-policy-agenda). Lighthizer's response is at 1:13:35. See also the C-Span transcript (https://www.c-span.org/video/?473090-1/us-trade-representative-2020-trade-policy-agenda).

52 The monthly report published by the Peterson Institute (Bown 2021a), reproduced as figure 8, also made clear that "prorating the 2020 year-end targets to a monthly basis is for illustrative purposes only. Nothing in the text of the agreement indicates China must meet anything other than the year-end targets."

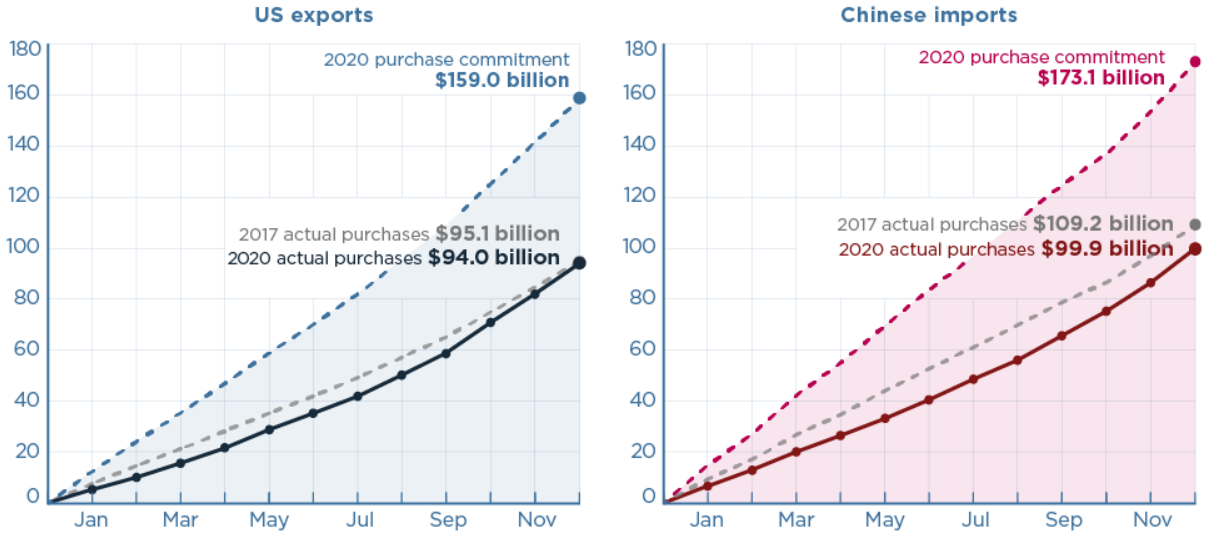
53 See US Census (2020). The first release, on July 27, 2020, contained the June 2020 US export data. See also Waugh (2020) as well as periodic reports from the Farm Bureau's Chief Economist John Newton (Newton 2020).

54 See USTR and USDA (2020). Bown (2020d) presents the data that were available about the purchase commitments as of the November presidential election.

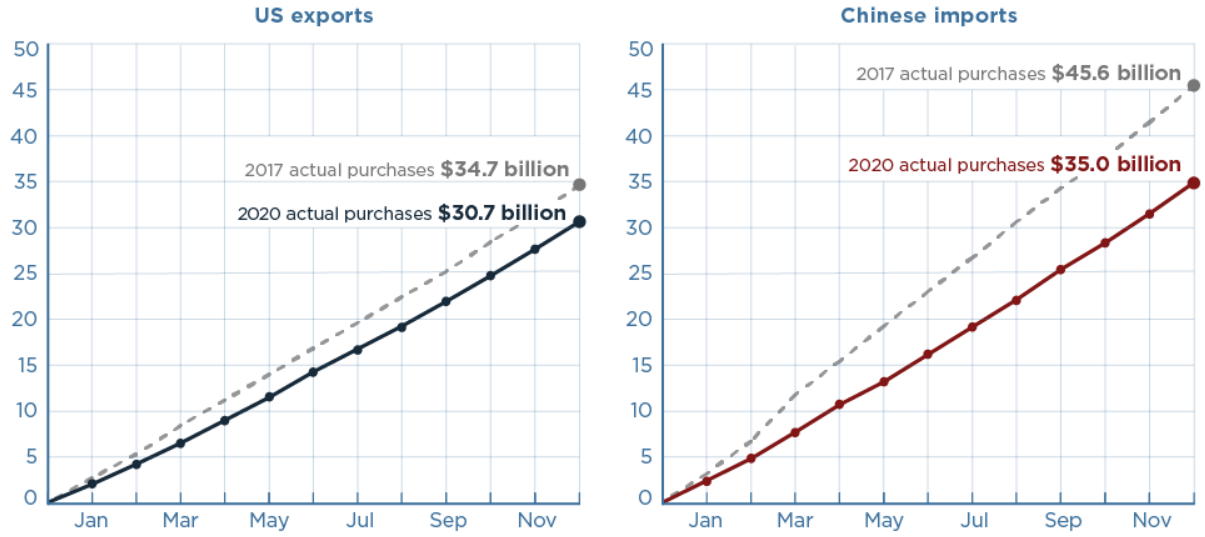
Figure 8

China's purchases of US goods in 2020 were lower than both 2017 levels and phase one targets

a. China's purchases of US goods in 2020 relative to 2017 and the phase one purchase commitments for covered products, billions USD



b. China's purchases of US goods in 2020 relative to 2017 for uncovered products, billions USD



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Note: "Uncovered" products refer to China's imports from the United States not addressed in Annex 6.1 of the phase one agreement. Prorating the 2020 year-end commitment to a monthly basis is for illustrative purposes only; nothing in the agreement indicates that China must meet anything other than the year-end target. Monthly purchase targets are seasonally adjusted based on 2017 data.

Sources: Constructed by the author with US export data from US Census, Chinese import data from International Trade Centre (Trademap) for 2017 and from Chinese customs for 2020, and product categories set out in Annex 6.1 of the phase one agreement.

7.2 China's Purchases after One Year of the Phase One Agreement

Before examining China's purchases relative to the legal agreement's commitments for 2020, it is important to put the numbers into broader context.[55] With the pandemic, US GDP contracted by 3.5 percent. China's economy grew by 2.3 percent in 2020, a much lower rate than the pre-pandemic forecasts of roughly 6 percent.

The pandemic also affected trade flows. It took until June for China's imports to reach pre-pandemic levels; the rest of the world's trade took until near the end of 2020 to recover (CPB 2021). Nevertheless, China's imports from the United States of the products covered by the purchase commitments were higher in 2020 than in 2019. China's import growth of those same products from the rest of the world was only flat during that period.

Evaluating compliance with the legal terms of the phase one agreement required comparing 2020 with 2017, however, not 2019. Because the trade war tariffs decimated bilateral trade in 2018 and 2019, the agreement's legal provisions committed China to purchase an additional $200 billion of US goods and services split over 2020 and 2021 on top of 2017 levels. China committed to purchase no less than an additional $63.9 billion of covered goods from the United States by the end of 2020 relative to 2017. The legal terms of the agreement implied that either Chinese import or US export data could be used. Given that 2017 baseline levels were different depending on the series used, the 2020 targets were different as well (see figure 8). In 2020, China would need to purchase $159.0 billion of US exports, or $173.1 billion when measured as Chinese imports.

Evaluating compliance with the legal terms of the phase one agreement required comparing 2020 with 2017, however, not 2019.

China's purchases in 2020 did not get close under either metric. For covered products, its imports from the United States were 42 percent lower than phase one agreement commitment. Relying on US export data, China's purchases were 41 percent lower. China's purchases of covered products in 2020 did not even reach 2017 levels.

Exports of products not covered by the legal agreement performed even worse (see again figure 8). Oddly, the purchase commitments in the phase one agreement had not covered 27 percent of US goods exports to China (29 percent of China's goods imports from the United States) in 2017. China had little incentive to buy these products from the United States in 2020, as the purchase commitments would not be credited.

Why the Trump administration chose not to also cover those products with purchase commitments remained a mystery. Perhaps it viewed them as unimportant—indeed, 9 of the top 20 uncovered products by value included words like *waste* or *scrap* or *not elsewhere specified or indicated* in their descriptions. But for an administration focused on reducing the bilateral trade deficit, any export increase in covered products would simply be offset one-for-one by declines in uncovered exports.

55 This section draws from Bown (2021b). See the appendix for the precise methodological approach of mapping the legal agreement to trade flows. All of the data are in current dollars, per the terms of the legal agreement. For specific products, phase one targets are only estimates, apportioned as the share of that product in total US goods exports to China in 2017 covered by the purchase commitments. As the quotation from Lighthizer indicates, neither the United States nor China made targets publicly available at a more disaggregated level than manufacturing, agriculture, energy, or services.

7.2.1 Manufacturing

Manufactured products were the biggest economic part of the phase one agreement, making up 70 percent of goods covered by the purchase commitments. In nominal terms, US manufacturing sales to China had nearly doubled between 2009 and 2017 (figure 9). The trade war helped put an end to that. US exports to China flattened in 2018 before falling by 11 percent in 2019. During the first year of the phase one agreement, they continued to suffer, declining another 5 percent. Overall, they fell 43 percent short of the legal commitment in 2020, remaining more than 14 percent below pre-trade war levels.

The US auto sector provided a cautionary tale of how even temporary trade war tariffs could have potentially long-lived effects. By 2017, China had become the second-largest export market for American vehicles. As a result of the events of July 2018—the US tariff on parts, China's imposition of a 25 percent retaliatory tariff on US autos and it simultaneous lowering its auto tariff on imports from the rest of the world—US auto exports to China fell by more than a third (see figure 9). Tesla reported that it was accelerating construction of a new plant in Shanghai in late 2018, indicating that Trump's tariffs on auto parts and China's retaliation on cars, as well as the resulting uncertainty, had made it uncompetitive for the electric vehicle maker to export to China from the United States. For similar reasons, BMW shifted production of some models destined for China out of South Carolina. By the end of 2020, US exports had still not recovered to pre-trade war levels.[56]

The US auto sector provided a cautionary tale of how even temporary trade war tariffs could have potentially long-lived effects.

Aircraft also underperformed in 2020, but for different reasons. China did not retaliate against aircraft during the trade war, and China has historically been a large export market for Boeing. Following two crashes of Boeing's 737 MAX airplane, the model was grounded between March 2019 and December 2020, and Boeing shut down production between January and May 2020. US aircraft sales to China declined from more than $18 billion in 2018 to less than $11 billion in 2019. In April 2020, China cancelled purchase orders for undelivered planes. US exports in 2020 ended up at only $4.6 billion, less than a fifth of the estimated target.[57]

Other sectors performed better than expected in 2020. Semiconductors and semiconductor manufacturing equipment exports, for example, outperformed their targets, but likely also for reasons unrelated to the purchase commitments. In 2019 and 2020, the United States announced that it would begin imposing export limits on semiconductors and semiconductor manufacturing equipment

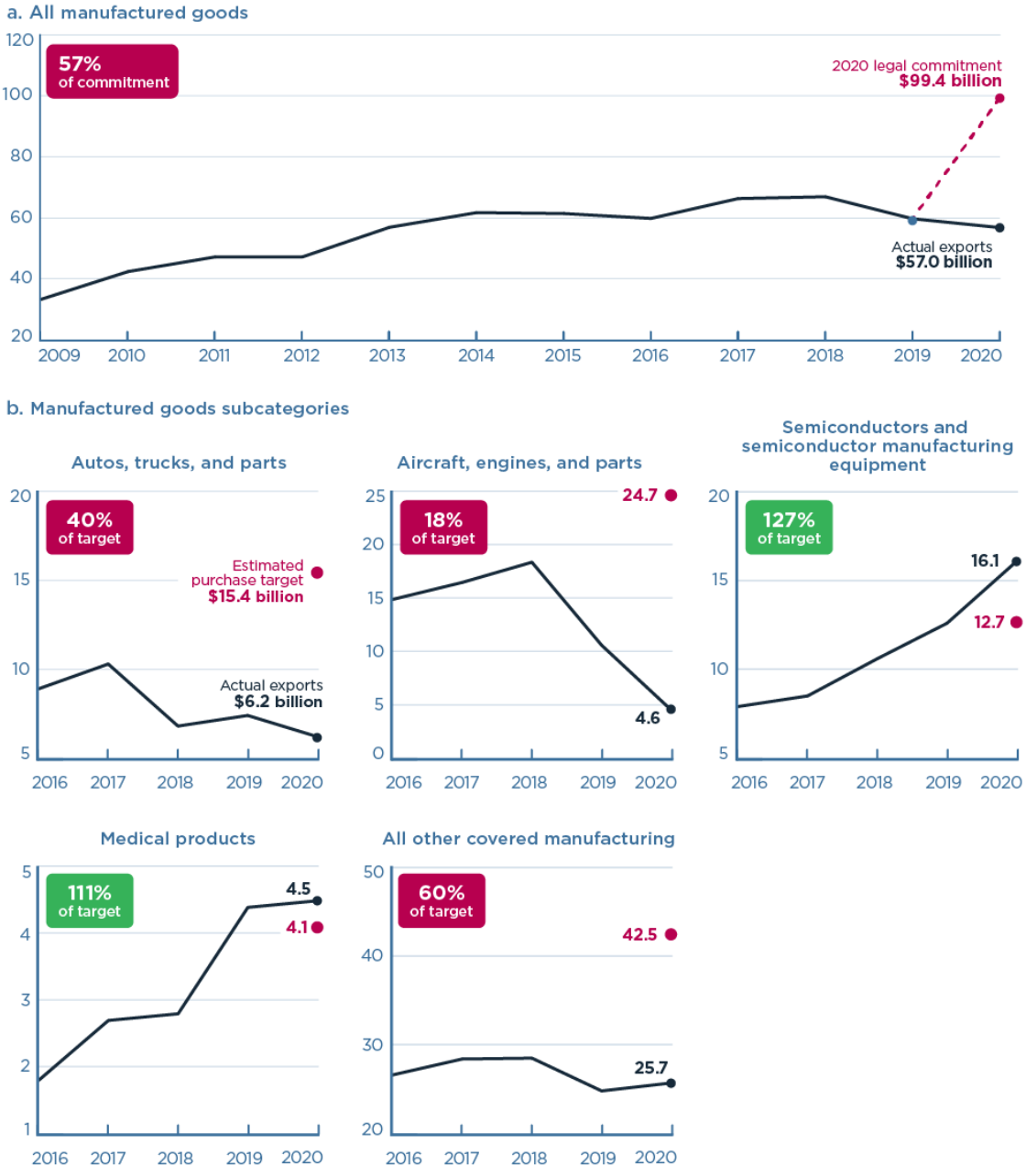
56 On Tesla, see the company's 2019 Annual Report and Michael Sheetz, "Tesla Says It's Getting Slammed in China Because of Tariffs, Cars Cost 60% More Than Competitors," *CNBC*, October 2, 2018. BMW shifted production of its X3 sport utility vehicle, one of the top models of US manufactured autos exported to China before 2018, from Spartanburg, South Carolina to China. See Oliver Sachgau, "BMW Production Shift to China Pays Off with Jump in X3 Sales. Making the Vehicle Locally Helps Avoid a 15% Chinese Import Tariff," *Bloomberg*, June 13, 2019, and Nathan Bomey, "20 American-Made Cars That Could Benefit from China's Promise to Roll Back Tariffs," *USA Today*, April 10, 2018.

57 See *Reuters*, "China's CDB Financial Scraps Purchase of 29 Boeing 737 MAX Jets," April 19, 2020 and Jon Hemmerdinger, "Boeing Restarts 737 Max Production," *FlightGlobal*, May 27, 2020.

Figure 9

The trade war hurt US manufacturing exports to China, which fell considerably short of 2020 phase one targets

US manufacturing exports to China covered by the phase one deal, billions USD



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Note: Product categories covered by the "2020 legal commitment" are set out in Annex 6.1 of the phase one agreement. "Estimated purchase targets" constructed by apportioning based on the share of that product in total US exports to China in 2017 of goods covered by the purchase commitments. The US–China trade war began in July 2018; the phase one agreement was signed in January 2020.

Source: Constructed by the author with data from US Census.

for national security reasons. Major Chinese buyers such as Huawei and SMIC reportedly stockpiled in 2020, anticipating that US export control policy would soon cut them off.[58]

US sales of medical products to China also performed well in 2020. But the likely explanation was increased Chinese demand caused by the pandemic, not the purchase commitments.

7.2.2 Agriculture

China had been an important market for US agricultural exports long before the trade war. Those exports peaked in 2012–14, a period of high commodity prices, including for corn and wheat. For the product categories ultimately covered by the purchase commitments, 14 percent of US agricultural exports to the world in 2017 went to China.

Like manufacturing exports, US agricultural sales to China were devastated during the trade war. Exports were cut in half in 2018, with 2019 levels remaining nearly 30 percent lower than in 2017 (figure 10). But unlike in the manufacturing sector, the Trump administration paid tens of billions of dollars of subsidies to farmers of selected crops in 2018 and 2019. Data from the Department of Agriculture showed that farm income, inclusive of government payments, was 11 percent higher in 2019 than in 2017, achieving its highest level since 2014.

But unlike in the manufacturing sector, the Trump administration paid tens of billions of dollars of subsidies to farmers of selected crops in 2018 and 2019.

China ramped up farm purchases in 2020; by September, it was back on pace to reattain 2017 levels.[59] Nevertheless, US agricultural exports ended up both 18 percent short of the 2020 legal commitment and considerably lower than the Trump administration's political aspirations. The purchase commitments were supposed to have been just a start. When announcing the deal, the administration boasted that China would actually "strive" to buy $5 billion more farm products a year on top of those already hefty legal commitments.[60]

Soybeans represented nearly 60 percent of US farm exports to China before the trade war and were one of the first products China hit with 25 percent retaliatory tariffs. US exports fell from $12 billion in 2017 to $3 billion a year later, as China shifted purchases toward Brazil and Argentina. Despite President Trump's repeated assurances beginning late in 2018 that China would soon be "back in the market" for the soybeans American farmers were being forced to stockpile in record amounts, 2019 sales remained more than a third lower than sales in 2017. Part of China's 2019 demand reduction for the animal feed was a devastating outbreak of African swine fever, which cut the world's largest pig herd by 40 percent. US soybean exports picked up again only in 2020, reaching pre–trade war levels (though falling short of the estimated target), as the Chinese pig herd recovered.

58 For a discussion of these US export controls, see Bown (2020e).

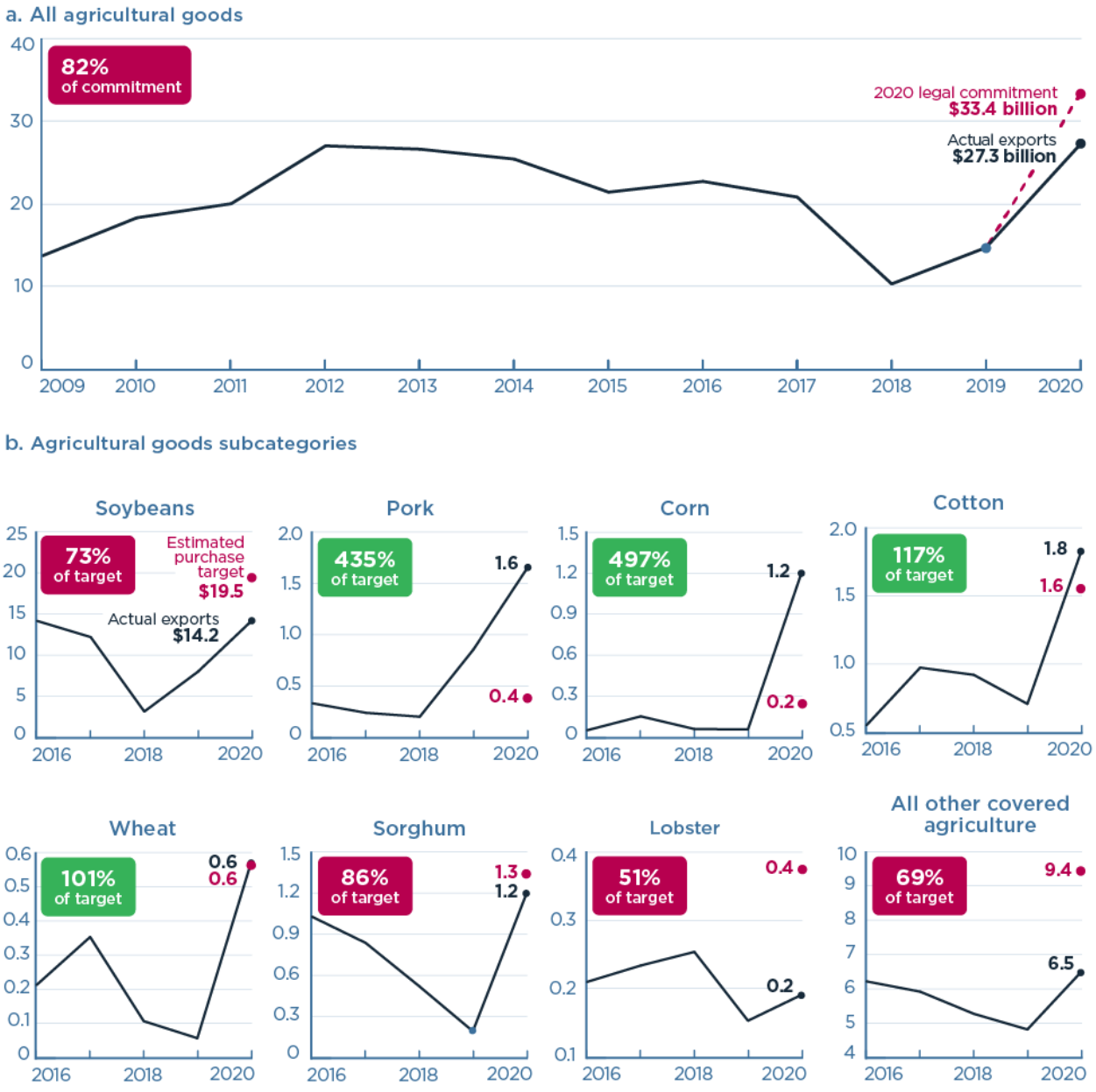
59 See the analysis in Bown (2020d).

60 See Reuters, China to Buy Additional $32 Billion in US Farm Goods over Two Years, Sign Deal in January: USTR," December 13, 2019. The legal agreement's Annex 6.1, footnote b, stated (emphasis added), "At the request of the United States, China will strive to purchase and import $5 billion per year of the US agricultural products covered by this Chapter, *in addition to* the minimum amounts set forth herein."

Figure 10

US agricultural exports to China suffered during the trade war, recovered, but did not meet 2020 commitments

US agricultural exports to China covered by the phase one deal, billions USD



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Note: Product categories covered by the "2020 legal commitment" are set out in Annex 6.1 of the phase one agreement. "Estimated purchase targets" constructed by apportioning based on the share of that product in total US exports to China in 2017 of goods covered by the purchase commitments. The US–China trade war began in July 2018; the phase one agreement was signed in January 2020.

Source: Constructed by the author with data from US Census.

China began to import more pig meat from the United States in 2019 to address its local pork shortages, even before the phase one agreement was signed. The shortage was so bad that China's pork imports from the rest of the world in 2020 were more than five times higher than 2017 levels.[61]

Other US farm exports, including corn and wheat, also outperformed their targets in 2020. Beijing began complying with a 2019 WTO dispute settlement ruling against its unfilled tariff rate quotas; China's imports from the rest of the world in 2020 increased by more than 340 percent over 2017 for corn and 280 percent for wheat.[62] US cotton sales to China also improved in 2020, and sorghum recovered.

Many other food products did not recover. American lobster exports, for example, remained 18 percent lower in 2020 than 2017. During the trade war, Beijing both imposed tariffs on US lobster and encouraged Chinese consumers to shift to other suppliers by lowering its applied MFN tariff on lobster from Canada and other countries—the same tack it had taken with autos. (China's lobster imports from the rest of the world increased by nearly 250 percent in 2020 over 2017 levels.) Maine's lobster industry suffered but was ineligible for the tens of billions of dollars of USDA trade war subsidies paid out in 2018 or 2019. The administration granted it payments only in the run-up to the 2020 election.[63]

Many other food products did not recover.

7.2.3 Energy

Energy products made up only 8 percent of the goods covered by the purchase commitments, but the scale of its targets was especially questionable. Bloomberg reported that only after the agreement was signed did the administration get a briefing from the US energy industry informing it that there was insufficient American capacity in the short run to meet the targets.[64] Furthermore, pinning metrics of the US-China trade relationship on significantly scaled-up fossil fuel exports—the targets included only crude oil, liquefied natural gas, coal, and refined products—ignored global concerns over climate change mitigation, concerns the Trump administration did not share.

US exports of energy products were the worst-performing of the three categories, reaching only 40 percent of the 2020 commitment (figure 11). Low oil prices in 2020 also hampered reaching the export commitments, which the legal agreement had established in dollar, not volume, terms.

8. HUMAN RIGHTS, DEMOCRACY, THE TECH WAR, AND MORE

The tariff escalation of the trade war and the phase one agreement dominated US-China trade headlines over the course of the Trump administration. But US policy toward China changed in other ways that may also have long-lived trade effects. This section briefly describes three: export controls for national security

61 China also agreed to address technical barriers that had previously slowed pork imports (see Chapter 3 of the legal agreement).

62 See Glauber and Lester (forthcoming).

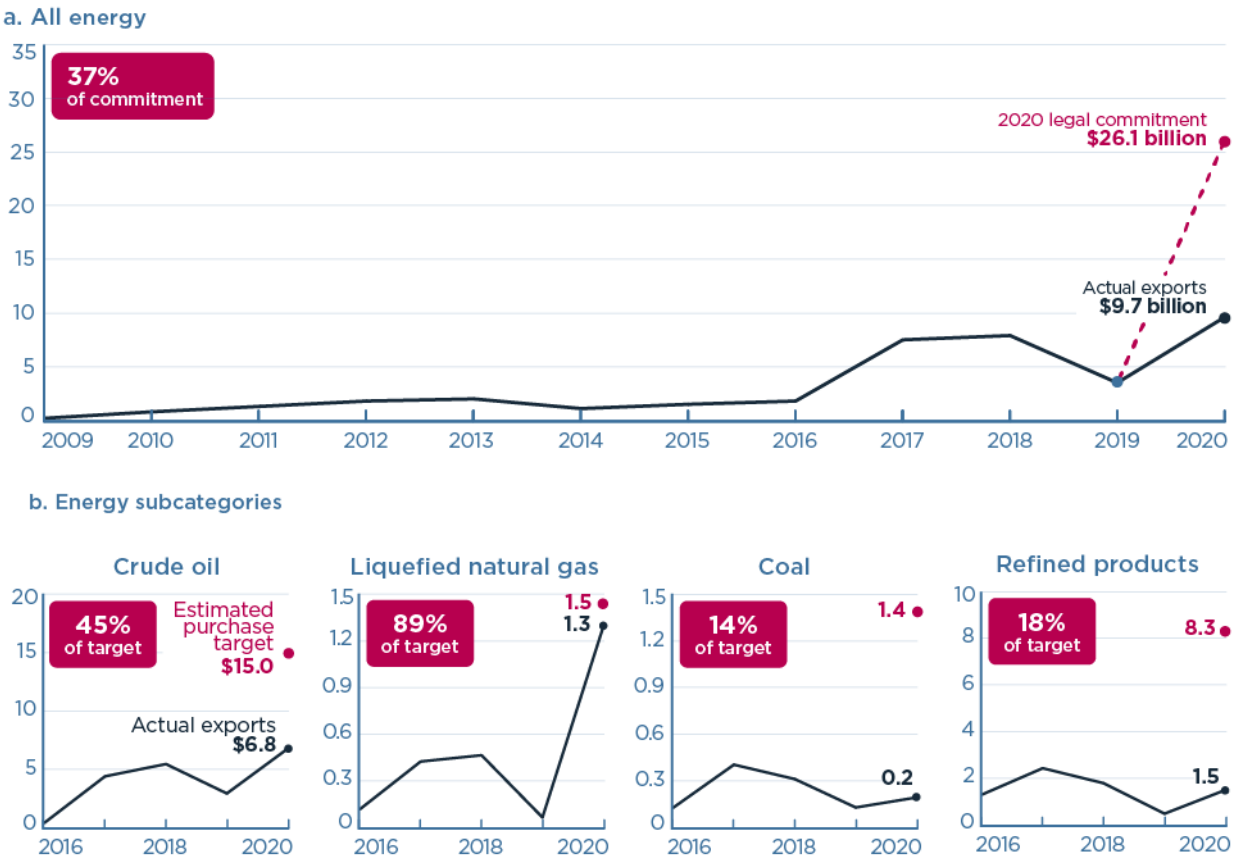
63 Jeff Stein and Rachel Siegel, "White House Directs Agriculture Department to Extend Farmer Bailout Money to Lobster Industry," *Washington Post*, June 24, 2020.

64 Jennifer A. Dlouhy, Shawn Donnan, and Nick Wadhams, "Big Oil Warned Trump Team China Trade Deal Was Unrealistic," *Bloomberg*, February 12, 2020.

Figure 11

US energy exports to China had unrealistic phase one targets

US energy exports to China covered by the phase one deal, billions USD



PIIE

Note: Product categories covered by the "2020 legal commitment" are set out in Annex 6.1 of the phase one agreement. "Estimated purchase targets" constructed by apportioning based on the share of that product in total US exports to China in 2017 of goods covered by the purchase commitments. The US–China trade war began in July 2018; the phase one agreement was signed in January 2020.

Source: Constructed by the author with data from US Census.

purposes, import bans over concerns with forced labor, and the reclassification of goods from Hong Kong as a result of Beijing's crackdown on democracy and human rights.[65]

The Trump administration tightened limits on exports to China of semiconductors and semiconductor manufacturing equipment, purportedly for reasons of national security. In May 2019, the United States placed Huawei on the

65 Appendix table 4 includes more information on dates of policy changes and announcements of those changes.

Entity List, implying that American-origin goods and services could no longer be sold to the giant Chinese telecommunications company without an export license. (The legal presumption was that requests for such licenses would be denied.) American suppliers were granted a temporary general license—which was extended five times—before it expired in August 2020. In May 2020, the United States extended its export controls to semiconductor manufacturing equipment sold to manufacturers in third countries (such as TSMC in Taiwan and Samsung in South Korea), in order to inhibit their ability to manufacture semiconductors for sale to Huawei as well. In December 2020, the United States added SMIC—a giant Chinese semiconductor manufacturer, reported to have been under threat since September—to the Entity List.[66] The slow roll-out of the US export controls likely contributed to the acceleration of US exports to China of semiconductors and equipment in 2020 (see again figure 9), as Chinese firms stockpiled, fearing that they might be cut off from key US suppliers. However, those exports could fall dramatically if and when the export-restricting policy begins to bind.

The United States added other Chinese companies to the Entity List, for different reasons. Some were allegedly involved with surveillance activities, thereby contributing to the repressive treatment of Uyghurs, the Muslim minority in the region of Xinjiang. Others were added for helping the Chinese government construct islands and thus expand their territorial claims in the South China Sea.

The United States also increasingly banned imports from the Xinjiang region of China, out of concerns over forced labor. Starting in September 2019, US Customs and Border Protection began to issue a series of "withhold release orders" on imported products from companies it alleged were using forced labor. In January 2021, these orders were extended to imports of cotton and tomato products from the entire Xinjiang region. Given the region's importance in cotton harvesting and China's textile and apparel industry and related supply chains, these actions have the potential to affect a large share of US imports from China.[67]

The United States also increasingly banned imports from the Xinjiang region of China, out of concerns over forced labor.

As a result of Beijing's imposition of national security legislation on Hong Kong, in July 2020, the Trump administration issued an Executive Order indicating that the United States would no longer treat trade with Hong Kong as independent from China. In August, US Customs and Border Protection announced that imported goods produced in Hong Kong must henceforth be marked to indicate "China" as their origin. In principle, this change could mean that the US Section 301 tariffs on China, or antidumping or countervailing duties, applied to firms in China could also be applied to imports from Hong Kong.[68]

66 For a discussion of US export controls and semiconductors, see Bown (2020e). For the September 2020 reports that SMIC would also soon be added to the Entity List, see Dan Strumpf, "US Sets Export Controls on China's Top Chip Maker," *Wall Street Journal*, September 28, 2020.

67 See Lehr (2020) and Lehr and Bechrakis (2019). As of the time of writing, Congress was considering legislation that could more broadly ban imports from the Xinjiang region.

68 As of the time of writing, US Customs and Border Protection had not issued guidance to clarify that such would be the case.

Trade was not the only policy channel through which the US-China economic relations deteriorated over 2017–21, of course. Changes in US and Chinese policy also affected foreign portfolio investment, foreign direct investment, and even the movement of people.

9. CONCLUSION

The Trump administration made significant changes to US trade policy with China. The Chinese government responded in kind. For both sides, the changes were implemented through a number of different policy instruments, many of which are challenging to measure and not captured by traditional trade policy data series.

So much happened, and in such a short period of time, that researchers will be hard at work for years trying to disentangle the implications. This paper has provided detail and data on what took place, in order to help scholars analyze these actions, their causes, their effects, and their implications.

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APPENDIX

PHASE ONE PURCHASE COMMITMENTS

Assessing whether China met the phase one targets for goods trade required information from both US export statistics and Chinese import statistics, given that the agreement's Chapter 6, Article 6.2.6 states: "Official Chinese trade data and official US trade data shall be used to determine whether this Chapter has been implemented." This articles means that two sets of data must be tracked—Chinese imports and US exports. It also means that there are two different annual targets, as the 2017 baseline level of Chinese imports differs from the 2017 baseline level of US exports.

The products covered by the purchase commitments are set out at the 4-, 6-, 8-, or 10-digit level in the agreement's Attachment to Annex 6.1. They are then mapped to the US or Chinese trade statistics for 2017 and 2020.[69]

For US goods exports, the agreement is estimated to cover products that made up $95.1 billion, or 73 percent, of total US goods exports to China ($129.8 billion) in 2017. Of the 2017 total exports of covered products, $20.9 billion worth of exports were in agriculture, $66.5 billion were in manufacturing, and $7.6 billion were in energy. Products uncovered by the agreement—and thus with no targets for 2020—made up 27 percent ($34.7 billion) of total US goods exports to China in 2017.

For Chinese goods imports, the agreement is estimated to cover products that made up $109.2 billion, or 71 percent, of total Chinese goods imports from the United States ($154.9 billion) in 2017. Of the 2017 total imports of covered products, $24.1 billion were in agriculture, $78.3 billion were in manufacturing, and $6.8 billion were in energy. Uncovered products made up 29 percent ($45.6 billion) of total Chinese goods imports from the United States in 2017.

For both the US export data and the Chinese import data, the 2020 phase one targets of additional trade (on top of 2017 baseline) are $12.5 billion (agriculture), $32.9 billion (manufactured goods), and $18.5 billion (energy). These targets are set forth in the agreement's Annex 6.1.

In the figures, each month's purchase commitment target is seasonally adjusted to reflect that month's relative weight for covered products in the 2017 trade data. Prorating the 2020 year-end targets to a monthly basis is strictly for illustrative purposes. Nothing in the text of the agreement indicates China must meet anything other than the year-end targets.

Estimates for 15 separate product categories were made, as in appendix table 1, because the agreement provides only aggregate targets for the four industries of manufacturing, agriculture, energy, and services. Product-level targets were apportioned based on the share of each product in total US exports to China in 2017 of goods covered by the purchase commitments.

69 The analysis presented here deviates from the text of the agreement in one respect: It includes US export product 8800 (in addition to 8802, aircraft) in "covered manufacturing," shifting it out of the "uncovered" category.

Appendix table 1
Product definitions used in figures 3, 9, 10, 11

Product	US exports as percent of total covered goods exports to China in 2017	China's target as percent of total covered goods target in 2020	Schedule B codes
Total covered manufacturing	70	62.5	
Aircraft, engines, parts	17.4	15.5	8800, 8411
Autos, trucks, parts	10.9	9.7	8703, 8704
Semiconductors and semiconductor manufacturing equipment	8.9	8	8486, 8541, 8542
Medical products[a]	2.9	2.6	2804400000, 2847000000, 3002130000, 3002140000, 3002150000, 3002190000, 3002200000, 3003100000, 3003200000, 3003900100, 3004101020, 3004101045, 3004105045, 3004105060, 3004200020, 3004200060, 3004490060, 3004600000, 3004901000, 3004909210, 3004909285, 3004909290, 3005100000, 3005900000, 3006700000, 8419200000, 8419390180, 9018113000, 9018118000, 9018120000, 9018194000, 9018195500, 9018197500, 9018310040, 9018310080, 9018310090, 9018320000, 9018390030, 9018903000, 9018907080, 9018908000, 9019200000, 9020008000, 9022120000
All other covered manufacturing	29.9	26.7	
Total covered agriculture	22	21	
Soybeans	12.9	12.3	1201
Pork	0.2	0.2	203
Corn	0.2	0.2	1005
Cotton	1	1	5201
Lobster	0.2	0.2	0306, 1605
Wheat	0.4	0.4	1001
Sorghum	0.9	0.8	1007
All other covered agriculture	6.2	5.9	

Table continues

Appendix table 1 continued
Product definitions used in figures 3, 9, 10, 11

Product	US exports as percent of total covered goods exports to China in 2017	China's target as percent of total covered goods target in 2020	Schedule B codes
Total covered energy	8	16.5	
Crude oil	4.6	9.4	2709
Liquefied natural gas	0.4	0.9	271111
Coal	0.4	0.9	2701
Refined energy products	2.6	5.3	2710122500, 271112, 271113, 2711190020, 271311, 271312, 290511

a. Products are defined by the USITC (2020) Covid-19 Related Goods: US Imports and Tariffs, with Harmonized Tariff Schedule codes converted to Schedule B codes.

Note: Figures are estimated based on the methodology described in the appendix.

Appendix table 2
Timeline of key policy developments in US-China trade war, 2017–21

Date	*Action*
2017	
January 20	Trump administration enters office.
January 23	Trump administration withdraws US from Trans-Pacific Partnership (TPP) negotiations and agreement.
April 20	US self-initiates Section 232 investigation into steel.
April 27	US self-initiates Section 232 investigation into aluminum.
May 11	Presidents Trump and Xi meet at Mar-a-Lago, begin "100-day action plan."
May 17	US initiates Section 201 investigation into $8.5 billion of imports of solar panels.
June 5	US initiates Section 201 investigation into $1.8 billion of imports of washing machines.
August 18	US self-initiates Section 301 investigation into unfair Chinese trade practices.
September 22	United States International Trade Commission (USITC) finds that imports of solar panels injure US industry under Section 201.
October 5	USITC finds that imports of washing machines injure US industry under Section 201.
October 10	Public hearing held for Section 301 investigation into unfair Chinese trade practices.
October 31	USITC issues recommendation for safeguard protection in solar panels case.
November 21	USITC issues recommendation for safeguard protection in washing machines case.
2018	
January 22	US announces that it will impose Section 201 tariffs on washing machines and solar panels.
February 5	China self-initiates antidumping and countervailing duties investigation of US exports of sorghum, viewed as retaliation to US washing machine and solar panel tariffs.
February 7	US imposes tariffs of 30 percent on solar panels and 20 percent on washing machines under the two Section 201 cases. Solar panel tariffs will be phased out over four years and washing machine tariffs over three years.
February 16	US releases Section 232 reports for steel and aluminum, defining coverage of products subject to the investigation for the first time ($29 billion of steel imports and $17 billion of aluminum imports in 2017).
March 1	Trump announces that he will impose Section 232 tariffs on imports of steel and aluminum.
March 22	Trump indicates forthcoming Section 301 tariffs on up to $60 billion of imports from China. US Trade Representative (USTR) releases Section 301 report.
March 23	US imposes Section 232 tariffs of 25 percent on imports of steel and 10 percent on imports of aluminum from China and other countries, temporarily exempting Argentina, Australia, Brazil, EU, Canada, Mexico, and South Korea.
March 23	US files World Trade Organization (WTO) dispute against China over concerns about its intellectual property rights regime, as described in the Section 301 report.
April 2	China imposes tariffs of 15–25 percent on $2.4 billion of imports from US in retaliation to US Section 232 steel and aluminum tariffs.

Table continues

Appendix table 2 continued
Timeline of key policy developments in US-China trade war, 2017–21

Date	*Action*
April 3	US announces list of Chinese products worth $50 billion on which it will impose Section 301 tariffs of 25 percent.
April 4	China announces list of US products worth $50 billion on which it will impose tariffs of 25 percent in retaliation to US Section 301 tariffs.
April 4	China files WTO dispute over US Section 301 tariffs.
April 5	Trump instructs USTR to consider whether an additional $100 billion of imports from China should be subject to Section 301 tariffs; instructs Department of Agriculture secretary to examine possibility of subsidizing US farmers hurt by tariff retaliation.
April 5	China files WTO dispute against US steel and aluminum tariffs.
April 17	China announces preliminary antidumping duties of 178.6 percent on US exports of sorghum.
May 1	China cuts Most Favored Nation (MFN) tariff on pharmaceutical products.
May 15–17	US conducts public hearings on list of products of $50 billion of imports (announced April 3) to be subject to proposed 25 percent tariff under Section 301.
May 18	China announces end to antidumping duties on US sorghum exports as result of US-China trade war negotiations.
May 29	Trump instructs USTR to announce by June 15 the final list of products covering $50 billion of imports from China to be hit with 25 percent tariffs.
June 1	US extends Section 232 tariffs on steel and aluminum to Canada, Mexico, and European Union. (South Korea and Brazil accept VERs for steel, face aluminum tariffs. Argentina accepts VERs for both steel and aluminum. Australia is exempt from both tariffs without agreeing to VERs.)
June 15	USTR announces that US will impose 25 percent tariffs on $34 billion of imports (List 1) as of July 6 and presents new list covering $16 billion of imports (List 2) that will be subject to additional public hearings before going into effect.
June 15	China announces revised tariff retaliation product lists of $34 billion and $16 billion, in response to the USTR lists of June 15, timed to go into effect if and when the US tariffs are imposed.
June 18	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 1	China cuts MFN tariff on consumer goods, autos, and information technology (IT) products.
July 6	US imposes Section 301 tariffs of 25 percent on revised list of $34 billion of imports from China (List 1).
July 6	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	US announces proposed list of Chinese products worth $200 billion on which it will impose Section 301 tariffs of 10 percent. List finalized August 7.
July 16	US files WTO dispute over China's retaliatory duties imposed in response to US tariffs on $34 billion of imports under Section 301.
July 20	In an interview, Trump indicates that he is considering tariffs on all imports from China (covering more than $500 billion in 2017).
July 24	US Department of Agriculture (UDSA) announces that it will subsidize US farmers for up to $12 billion for their lost export sales resulting from all of the president's tariff actions.
July 24–25	US conducts public hearings on list of products of $16 billion of imports (List 2, announced June 15) to be subject to proposed 25 percent tariff under Section 301.
August 1	USTR announces that it is considering 25 percent, not 10 percent, tariffs on $200 billion (List 3) products.

Table continues

Appendix table 2 continued
Timeline of key policy developments in US-China trade war, 2017–21

Date	*Action*
August 3	China announces list of US products worth $60 billion on which it will impose tariffs of 5–25 percent if US imposes Section 301 tariffs on $200 billion of imports from China.
August 14	China files WTO dispute against US solar panel tariffs (Section 201).
August 14	China files WTO dispute over US local content requirements for renewable energy.
August 15	US increases Section 232 tariff on steel imports from Turkey from 25 percent to 50 percent.
August 20–27	US conducts public hearings on list of products of $200 billion of imports (List 3, announced July 10) to be subject to proposed 10 percent tariff under Section 301.
August 23	US imposes Section 301 tariffs of 25 percent on revised list of $16 billion of imports from China. Combined with July 6 action, this action completes the imposition of tariffs on the first $50 billion of Chinese imports (List 2).
August 23	China imposes tariffs of 25 percent on revised list of $16 billion of imports from US in retaliation to Section 301 tariffs.
August 23	China files additional WTO dispute over US Section 301 tariffs.
September 17	US announces $200 billion of imports from China (List 3) to be subject to Section 301 tariffs of 10 percent on September 24, increasing to 25 percent January 1, 2019.
September 24	US imposes Section 301 tariffs of 10 percent on $200 billion of imports from China (List 3). Tariffs will increase to 25 percent January 1, 2019. China imposes tariffs of 5–10 percent on $60 billion of imports from US in retaliation to US Section 301 tariffs of September 24.
November 1	China cuts MFN tariff on industrial goods.
November 20	USTR releases update of its March 22, 2018 Section 301 report.
December 1	Trump and Xi announce commencement of negotiations. Scheduled US tariff increase from 10 percent to 25 percent on $200 billion of imports from China (List 3) put on hold for 90 days.
December 28	US begins to grant temporary exclusions to Section 301 tariffs. (Over the next two years, it will make 50 such announcements.)
2019	
January 1	China suspends retaliation tariffs on imports of US autos and parts that had been imposed on July 6, 2018.
January 1	China reduces MFN tariffs for 2019.
February 7	US reduces Section 201 tariffs on solar panels and washing machines, following guidance of initial announcement.
February 24	Trump tweets that he will delay the tariff increase from 10 percent to 25 percent scheduled to go into effect March 1, 2019, and is planning a summit with Xi.
May 5	Trump tweets that US will increase the 10 percent tariff on $200 billion of imports from China to 25 percent on May 10 and will "shortly" impose 25 percent tariffs on all remaining US imports from China.
May 10	US raises Section 301 tariff from 10 percent to 25 percent on $200 billion of imports first hit with tariffs September 24, 2018
May 15	US modifies May 10 action so that products "on the water" by May 9 arriving at a US port of entry before June 1 (later changed to June 15) continue to face 10 percent tariff.
May 17	US announces proposed list of Chinese products worth $300 billion on which it will impose Section 301 tariffs of up to 25 percent.

Table continues

Appendix table 2 continued
Timeline of key policy developments in US-China trade war, 2017–21

Date	*Action*
May 20	US exempts Canada and Mexico from Section 232 tariffs on steel and aluminum in exchange for both agreeing to VERs.
May 21	US reduces Section 232 tariff on steel imports from Turkey from 50 percent to 25 percent.
May 23	Trump authorizes USDA to provide up to $16 billion of additional subsidies for US farmers adversely affected by retaliatory tariffs.
June 1	US raises Section 301 tariff from 10 percent to 25 percent on $200 billion of imports (List 3). Initial announcement was that products "on the water" by May 9 continue to face 10 percent tariff as long as they arrive at a US port of entry before June 1. (Date was later changed to June 15.)
June 1	China increases tariffs on a subset of the product list it hit with tariffs on September 24, 2018 in retaliation to US Section 301 tariff increase on List 3 effective June 1.
June 10	US extends original "on the water" provision of the List 3 tariff increase from June 1 to June 15.
June 17–25	US conducts public hearings on list of products of $300 billion of imports (List 4, announced May 17) to be subject to proposed 10 percent tariff under Section 301.
July 1	China cuts MFN tariffs on IT products.
July 25	USDA announces details of $16 billion of subsidies for US farmers adversely affected by retaliatory tariffs.
August 1	US announces that it will impose 10 percent tariff (not 25 percent as earlier threatened) on an additional $300 billion of imports from China under Section 301.
August 13	US announces plan for 10 percent tariff on imports from China of $101 billion (List 4A) starting September 1 and $151 billion (List 4B) starting December 15.
August 23	China announces plan to retaliate on $75 billion of US exports, effective September 1 and December 15, 2019, in response to Trump's forthcoming tariffs on $300 billion of Chinese goods.
August 23	US announces increase to 15 percent for the originally scheduled 10 percent tariffs of September 1 (List 4A) and December 15 (List 4B) and increase to 30 percent for the 25 percent tariffs on $250 billion (Lists 1, 2, and 3) starting October 1.
September 1	US imposes tariffs of 15 percent on $101 billion of imports from China (List 4A).
September 1	China increases tariffs on a subset of $75 billion of imports from US in retaliation to US Section 301 tariffs on List 4A.
September 2	China files WTO dispute over additional US Section 301 tariffs.
September 11	US announces plans to delay from October 1 to October 15 the tariff increase from 25 percent to 30 percent of $250 billion (Lists 1, 2, and 3) of imports from China.
October 11	US cancels tariff increase (from 25 percent to 30 percent of $250 billion of imports) scheduled for October 15, pointing to phase one agreement with China.
October 18	US imposes Section 301 tariffs on imports of selected European products after WTO authorizes retaliation in *EU–Large Civil Aircraft* dispute.
December 13	US announces agreement with China; 86-page legal text to be signed in January 2020. US cancels 15 percent tariff on $151 billion of imports from China (List 4B), and China cancels its scheduled retaliation.
December 31	Wuhan Municipal Health Commission reports a cluster of cases of pneumonia in Wuhan. It later identifies the cases as a novel coronavirus (COVID-19).

Table continues

Appendix table 2 continued
Timeline of key policy developments in US-China trade war, 2017–21

Date	*Action*
2020	
January 1	China reduces its MFN tariffs for selected products.
January 1	US reduces tariffs on some imports from Japan as US–Japan Trade Agreement goes into force.
January 15	US and China sign phase one agreement in Washington, to go into effect February 14, 2020. China agrees to purchase an additional $200 billion of US goods and services exports over 2020 and 2021. Although not part of the legal agreement, each side also indicates that it will cut in half the last round of bilateral tariffs, imposed on September 1, 2019.
January 20	US Centers for Disease Control and Prevention identifies first US coronavirus case.
January 24	US announces extension of Section 232 tariffs to imports of steel- and aluminum-using products, including from China.
February 7	US reduces Section 201 tariffs on solar panels and washing machines, following guidance of initial announcement.
February 8	US extends Section 232 tariffs to some imports that use aluminum and steel.
February 14	US-China phase one agreement goes into effect.
February 14	US reduces tariffs on $101 billion of imports from China (List 4A) from 15 percent to 7.5 percent.
February 14	China reduces retaliatory tariffs imposed September 1, 2019 by 50 percent.
March 5	US adjusts Section 301 tariffs on imports of selected European products as part of WTO authorization of retaliation in *EU–Large Civil Aircraft* dispute.
July 1	China cuts MFN tariffs on IT products.
August 16	US reimposes Section 232 tariff of 10 percent on certain aluminum products from Canada.
September 9	USDA announces $530 million of subsidies to support lobster and other seafood adversely affected by retaliation.
September 1	US eliminates reimposition of Section 232 tariff of 10 percent on certain aluminum products from Canada (announced October 27, 2020 and made retroactive).
November 3	Joe Biden beats Donald Trump in US presidential election. (Election called on November 7.)
November 24	Department of Commerce finds twist ties from China have been subsidized and applies countervailing duty for first time on an undervalued currency.
2021	
January 1	China reduces its MFN tariffs for selected products.
January 1	US reduces tariffs on some imports from Japan as US–Japan Trade Agreement goes into force.
January 12	US adjusts Section 301 tariffs on imports of selected European products as part of WTO authorization of retaliation in *EU–Large Civil Aircraft* dispute.
January 14	US announces two-year extension to Section 201 tariffs on washing machines.
January 20	Trump leaves office.

Sources: Compiled by the author. See also Bown and Kolb (2021).

Appendix table 3
Product exclusions from US Section 301 tariffs and China's counter-tariffs, 2018–21

Announcement	Initial Publication Date	Initial Effective Date	Extension Publication Date	Effective Date of Extension (if different from initial effective date)
US announcements				
List 1, Announcement 1	December 28, 2018	July 6, 2018	December 23, 2019	December 28, 2019
List 1, Announcement 2	March 25, 2019	July 6, 2018	March 19, 2020	March 25, 2020
List 1, Announcement 3	April 18, 2019	July 6, 2018	April 10, 2020	April 18, 2020
List 1, Announcement 4	May 14, 2019	July 6, 2018	May 15, 2020	May 14, 2020
List 1, Announcement 5	June 4, 2019	July 6, 2018	June 2, 2020	June 4, 2020
List 1, Announcement 6	July 9, 2019	July 6, 2018	July 9, 2020	July 9, 2020
List 1, Announcement 7	September 20, 2019	July 6, 2018	September 22, 2020	September 20, 2020
List 1, Announcement 8	October 2, 2019	July 6, 2018	October 5, 2020	October 2, 2020
List 1, Announcement 9	December 17, 2019	July 6, 2018	October 5, 2020	October 2, 2020
List 1, Announcement 10	February 11, 2020	July 6, 2018	October 5, 2020	October 2, 2020
List 2, Announcement 1	July 31, 2019	August 23, 2018	July 30, 2020	July 31, 2020
List 2, Announcement 2	September 20, 2019	August 23, 2018	September 22, 2020	September 20, 2020
List 2, Announcement 3	October 2, 2019	August 23, 2018	October 5, 2020	October 2, 2020
List 2, Announcement 4	February 25, 2020	August 23, 2018	October 5, 2020	October 2, 2020
List 2, Announcement 5	July 16, 2020	August 23, 2018	October 5, 2020	October 2, 2020
List 3, Announcement 1	August 7, 2019	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 2	September 20, 2019	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 3	October 28, 2019	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 4	November 13, 2019	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 5	November 29, 2019	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 6	December 17, 2019	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 7	January 6, 2020	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 8	February 5, 2020	September 24, 2018	August 11, 2020	August 7, 2020

Table continues

Appendix table 3 continued
Product exclusions from US Section 301 tariffs and China's counter-tariffs, 2018–21

Announcement	Initial Publication Date	Initial Effective Date	Extension Publication Date	Effective Date of Extension (if different from initial effective date)
List 3, Announcement 9	February 20, 2020	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 10	March 16, 2020	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 11	March 26, 2020	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 12	April 24, 2020	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 13	May 8, 2020	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 14	May 21, 2020	September 24, 2018	August 11, 2020	August 7, 2020
List 3, Announcement 15	June 24, 2020	September 24, 2018	August 11, 2020	August 7, 2020
List 4, Announcement 1	March 10, 2020	September 1, 2019	September 2, 2020	September 1, 2020
List 4, Announcement 2	March 17, 2020	September 1, 2019	September 2, 2020	September 1, 2020
List 4, Announcement 3	March 31, 2020	September 1, 2019	September 2, 2020	September 1, 2020
List 4, Announcement 4	May 13, 2020	September 1, 2019	September 2, 2020	September 1, 2020
List 4, Announcement 5	June 12, 2020	September 1, 2019	September 2, 2020	September 1, 2020
List 4, Announcement 6	July 10, 2020	September 1, 2019	September 2, 2020	September 1, 2020
List 4, Announcement 7	July 23, 2020	September 1, 2019	September 2, 2020	September 1, 2020
List 4, Announcement 8	August 11, 2020	September 1, 2019	September 2, 2020	September 1, 2020
Chinese announcements				
Batch 1, Round 1	September 11, 2019	September 17, 2019	September 14, 2020	September 17, 2020
Batch 1, Round 2	December 19, 2019	December 26, 2019	December 25, 2020	December 25, 2020
Batch 2, Round 1	February 21, 2020	February 28, 2020		
Batch 2, Round 2	May 12, 2020	May 19, 2020		

Note: USTR made 16 rounds of technical amendments to previous exclusion announcements, including modifying product descriptions and updating product codes alongside technical changes in the Harmonized Tariff Schedule. All amendment announcements can be found at China Section 301-Tariff Actions and Exclusion Process | United States Trade Representative (ustr.gov). The 10-digit product codes in author's dataset are updated based on these amendments. USTR exclusions typically expire one year after the initial effective date. USTR has granted extensions to certain products covered by previous exclusion announcements, most of which extended until December 31, 2020. There are three exceptions: 1) For List 1 Announcement 1, the end date of extension was December 28, 2020; 2) For List 1 Announcement 2, the end date of extension was March 25, 2021; and 3) List 1 Announcement 3, the end date of extension was April 18, 2021. The Chinese government granted a one-year extension to all products covered by Batch 1.

Source: Compiled by the author.

Appendix table 4
US export control, forced labor, and other human rights actions affecting trade policy toward China, 2017–21

Date	*Action*
2017	
March 7	Department of Commerce agrees to settlement with ZTE—which had been added to the Entity List on March 8, 2016—for failing to abide by US sanctions prohibiting the sale of certain technology to Iran and North Korea.
2018	
April 16	US enacts denial order against ZTE that would have resulted in export controls for ZTE's violation of terms set out in March 2017 agreement.
May 13	Trump over-rules Commerce Department denial order and tweets "President Xi of China, and I, are working together to give massive Chinese phone company, ZTE, a way to get back into business, fast. Too many jobs in China lost. Commerce Department has been instructed to get it done!"
June 7	Department of Commerce announces ZTE settlement.
July 13	US government lifts ZTE denial order under terms of June 7 settlement.
August 13	Export Control Reform Act of 2018 (ECRA) becomes US law.
October 28	Department of Commerce adds Fujian Jinhua Integrated Circuit Company, Ltd. to the Entity List.
2019	
January 28	Department of Justice indicts Huawei for financial fraud, money laundering, conspiracy to defraud US, obstruction of justice, and sanctions violations.
May 15	Department of Commerce announces addition of Huawei Technologies Co. Ltd. to the Entity List.
May 20	Department of Commerce announces that it will issue a Temporary General License (TGL) amending the Export Administration Regulations (EAR) to authorize specific, limited engagement in transactions involving the export, reexport, and transfer of items subject to the EAR to Huawei Technologies Co. Ltd. and its 68 non-US affiliates, which were added to the Entity List May 16, 2019.
August 19	Department of Commerce adds dozens of new Huawei affiliates to the Entity List.
August 19	Department of Commerce extends the TGL another 90 days, authorizing specific, limited engagements in transactions involving the export, reexport, and transfer of items under the EAR to Huawei and its non-US affiliates that are subject to the Entity List.
September 30	US announces Forced Labor Withhold Release Order on imported garments from Hetian Taida Apparel Co., Ltd.
October 7	Department of Commerce adds 28 entities, including Hikvision, to the Entity List, for being implicated in human rights violations and abuses in the implementation of China's campaign of repression, mass arbitrary detention, and high-technology surveillance against Uighurs, Kazakhs, and other members of Muslim minority groups in the *Xinjiang Uyghur Autonomous Region*.
November 18	Department of Commerce announces that it will extend for 90 days the TGL authorizing specific, limited engagements in transactions involving the export, reexport, and transfer of items under the EAR to Huawei and its non-US affiliates that are subject to the Entity List.

Table continues

Appendix table 4 continued
US export control, forced labor, and other human rights actions affecting trade policy toward China, 2017–21

Date	*Action*
2020	
February 16	Department of Commerce announces that it will extend for 45 days the TGL authorizing specific, limited engagements in transactions involving the export, reexport, and transfer of items under the EAR to Huawei and its non-US affiliates that are subject to the Entity List.
March 10	Department of Commerce announces that it will extend until May 15 the TGL authorizing specific, limited engagements in transactions involving the export, reexport, and transfer of items under the EAR to Huawei and its non-US affiliates that are subject to the Entity List.
April 27	Department of Commerce expands export controls to cover military end-users in China (as well as Russia and Venezuela), removes license exceptions for civil end-users in countries of national security concern for national security—controlled items, and eliminates license, proposes to eliminate additional license exceptions to Additional Permissive Reexports (APR) provisions for partner countries involving the reexport of national security—controlled items to countries of national security concern.
May 1	US announces Forced Labor Withhold Release Order on imported hair products from Hetian Haolin Hair Accessories Co., Ltd.
May 15	Department of Commerce changes export control regulations by implementing the Foreign Direct Product Rule to restrict access by Huawei and its affiliates (e.g., HiSilicon) on the Entity List to US-origin software-based design tools and equipment, in an effort to thwart their ability to circumvent earlier US controls by designing semiconductors and producing them abroad.
May 15	Department of Commerce issues expected final 90-day extension of TGL authorizations for sales to Huawei and affiliates.
May 22	Department of Commerce adds two dozen Chinese companies to the Entity List for ties to weapons of mass destruction and military activities.
May 22	Department of Commerce adds nine Chinese entities to the Entity List for human rights abuses in the Xinjiang Uighur Autonomous Region.
June 15	Department of Commerce issues new rule so that technology that would not have required a license to be disclosed to Huawei before the company's placement on the Entity List can be disclosed for the purpose of standards development in a standards-development body without need for an export license. In amending the Huawei Entity Listing, the rule promotes US national security and foreign policy interests by facilitating US leadership in standards-development bodies.
June 17	US announces Forced Labor Withhold Release Order on imported hair products from Lop County Meixin Hair Products Co., Ltd.
July 14	Trump issues executive order on Hong Kong normalization, indicating it will no longer be treated differentially from China.
August 11	US announces that imported goods produced in Hong Kong must be marked to indicate China as their origin.
August 11	US announces Forced Labor Withhold Release Order on imported garments from the Hero Vast Group.
August 17	Department of Commerce makes additional adjustments to export control regulations via foreign direct product rule designed to further restrict Huawei from obtaining foreign-made chips developed or produced from US software or technology to the same degree as comparable US chips, adds 38 more Huawei affiliates to Entity List.
August 17	Department of Commerce announces expiration of TGL for Huawei and affiliates first announced on May 20, 2019 and extended five times.
August 25	US announces Forced Labor Withhold Release Order on imported hair products from Lop County Hair Product Industrial Park. US announces Forced Labor Withhold Release Order on imported labor from No. 4 Vocation Skills Education Training Center (VSETC).

Table continues

Appendix table 4 continued
US export control, forced labor, and other human rights actions affecting trade policy toward China, 2017–21

Date	*Action*
August 26	Department of Commerce adds 24 Chinese companies to the Entity List for helping build military islands in South China Sea.
September 3	US announces Forced Labor Withhold Release Order on imported apparel from Yili Zhuowan Garment Manufacturing Co., Ltd. and Baoding LYSZD Trade and Business Co., Ltd.
September 8	US announces Forced Labor Withhold Release Order on imported cotton and processed cotton from Xinjiang Junggar Cotton and Linen Co., Ltd.
September 8	US announces Forced Labor Withhold Release Order on imported computer parts from Hefei Bitland Information Technology Co., Ltd.
November 30	US announces Forced Labor Withhold Release Order on imported cotton and cotton products from Xinjiang Production and Construction Corporation (XPCC) and its subordinate and affiliated entities.
December 18	Department of Commerce adds SMIC (Semiconductor Manufacturing International Corporation Incorporated) and dozens of other companies to the Entity List.
2021	
January 13	US announces Forced Labor Withhold Release Order on imported cotton and tomato products from the Xinjiang Uyghur Autonomous Region.
January 14	Department of Commerce adds China National Offshore Oil Corporation to the Entity List and Skyrizon to the Military End-User List.

Source: Compiled by the author. Dates of withhold release orders taken from US Customs and Border Protection. 2021. Withhold Release Orders and Findings.

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