

When Elephants Make Peace

The Impact of the China-U.S. Trade Agreement on Developing Countries

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Abstract

Should the China-U.S. trade agreement prompt relief because it averts a damaging trade war or concern because selective preferential access for the United States to China's markets breaks multilateral rules against discrimination? The answer depends on how China implements the agreement. Simulations from a computable general equilibrium model suggest that the United States and China would be better off under this "managed trade" agreement than if the trade war had escalated. However, compared with the policy status quo, the deal will make everyone worse off except the United States and its input-supplying neighbor,

Mexico. Real incomes in the rest of world would decline by 0.16 percent and in China by 0.38 percent because of trade diversion. China can reverse those losses if, instead of granting the United States privileged entry, it opens its market for all trading partners. Global income would be 0.6 percent higher than under the managed trade scenario, and China's income would be nearly 0.5 percent higher. By creating a stronger incentive for China to open its markets to all, an exercise in bilateral mercantilism has the potential to become an instrument for multilateral liberalization.

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**When Elephants Make Peace:
The Impact of the China-U.S. Trade Agreement on Developing Countries¹**

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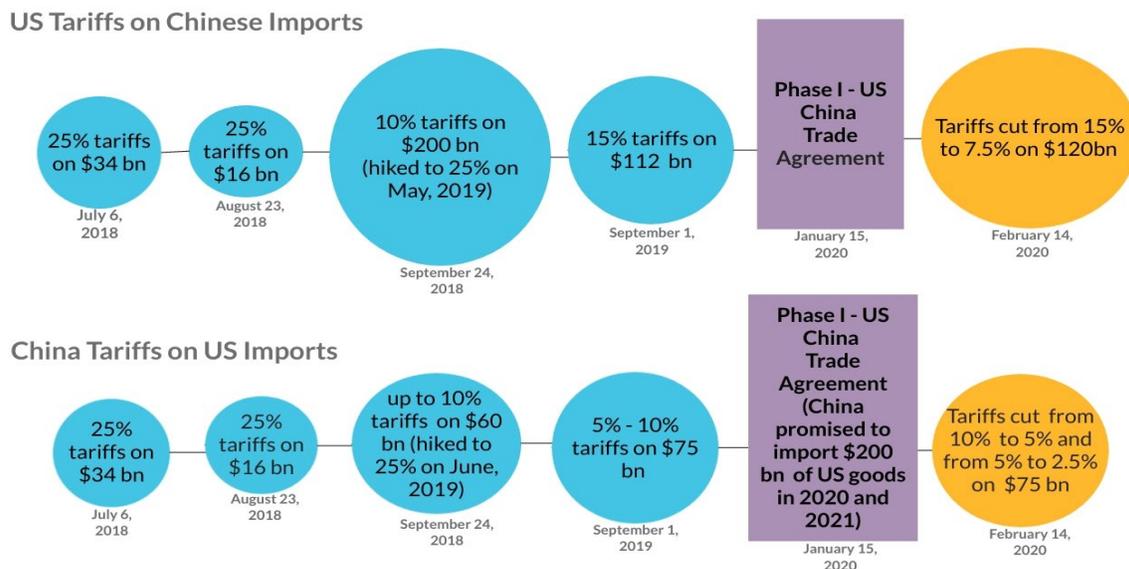
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1. Introduction

The China-U.S. trade agreement has provoked contrasting sentiments. Relief because the agreement averts (at least temporarily) a damaging trade war. Anguish because the agreement to grant the United States selective, preferential access to the Chinese market breaks multilateral rules that prohibit (at least in principle) discrimination between trading partners. This note argues that the implications of the agreement for developing countries depend on how China implements it. If China accommodates U.S. demands by granting the United States privileged access to a still-protected Chinese market, then the United States will benefit, but other countries and probably China will lose. If instead, China accommodates U.S. demands by liberalizing access to its market for all trading partners, then all countries including the United States and China would benefit. Therefore, an exercise in bilateral mercantilism can, by offering China an added incentive to open its markets to all, become an instrument for multilateral liberalization.

The China-U.S. trade agreement is a step in an evolving relationship between the two largest economies in the world. Figure 1 provides a timeline of the trade tensions in the last two years. Before the agreement, the main policy tool the United States and China have used is tariffs. As noted in Bown (2020a), there have been two main breaking points in the China-U.S. relationship, both characterized by an escalation of tariffs. The first happened in the summer of 2018, when the average U.S. import tariff on Chinese goods went up from 3.8 to 12 percent and the Chinese import tariff on U.S. goods increased from 8.3 to 18.3 percent. The second breaking point took place in the summer of 2019, with U.S. tariffs increasing from 12 to 21 percent and Chinese tariffs also rising to 21 percent. While the China-U.S. agreement does not mention tariffs, upon its entry into force on February 14, 2020, both the United States and China have reduced their bilateral tariffs. Despite these changes, tariff protection remains high at 19 percent for U.S. tariffs on China's exports and 20 percent for China on exports from the United States.

Figure 1: A timeline of China-U.S. trade tensions



Source: Li, M. (2018) CARD Trade War Tariffs Database. <https://www.card.iastate.edu/china/trade-war-data/> (Accessed 02-06-2020).

In this evolving context, this paper looks at the Phase 1 China-U.S. trade agreement from three different points of view. First, we examine key features of the legal text of the agreement and compare it with other preferential trade agreements (PTAs) signed by the United States. Second, we draw on economic theory to analyze the implications of the agreement, especially for third countries. Finally, we use a computable general equilibrium model to quantify the effects of the agreement on trade and income under different scenarios.

The comparison of the legal text of the Phase 1 China-U.S. trade agreement with existing U.S. PTAs shows how different the current deal is from previous ones, while recognizing that subsequent phases may add other dimensions to the agreement. First, despite the few novelties such as regulation of technology transfers and macroeconomic policies, the scope of the China-U.S. agreement is more limited even in areas such as intellectual property protection, which are also covered in other PTAs. Second, the focus of the agreement is less on providing general obligations and more on specific actions by China to grant additional market access to U.S. exporters to achieve explicit import targets—admittedly, the main novelty and the most noticeable component of the deal. These elements, combined with other aspects of the agreement, such as the absence of any independent mechanism to solve disputes associated to the agreement, mark a significant departure from current practices in preferential arrangements. As discussed below, they could also pose risks to third countries.

Economic theory sheds light on some of the potential consequences of the China-U.S. trade agreement. For products that are freely traded, import targets above market-determined levels lower the welfare of the importing country more than they increase the welfare of the exporting country, and hence reduce global welfare. When trade is not free, increasing trade boosts welfare of the importing and exporting countries, but import targets are generally inferior to a reduction in the trade barriers that impair trade flows in the first place. A key issue, especially from the perspective of third countries, is how these trade barriers are lowered, whether preferentially or on a non-discriminatory basis. Discrimination leads to trade diversion, implying a negative welfare effect on third countries and an ambiguous welfare effect on the importer. This analysis therefore supports two main policy conclusions: (i) increases in imports should be achieved through a reduction in trade barriers in protected sectors rather than pursuing quantitative targets through other means such as an explicit or implicit (e.g. through purchases of state-owned enterprises) import subsidy; and (ii) an expansion of imports should be implemented through non-discriminatory measures.

The computable general equilibrium model quantifies the trade and income effects of the China-U.S. agreement on the two countries and on the rest of the world. Consistent with theory, these effects depend on the way China decides to implement the agreement. When China meets the import targets through preferential treatment of the United States, the result is a positive income effect for China and the United States relative to the escalation of the trade war. However, compared to the policy status quo, the deal will make all countries worse off except the United States and its input-supplying neighbor, Mexico. Discriminatory measures, such as the preferential reduction in tariff or non-tariff barriers or a subsidy for goods and services imports from the United States, disadvantage the exports of third countries in the Chinese market, leading to income losses. The biggest losses of income would be for China (0.38 percent), which will have to source some imports from less efficient sources, and for its current suppliers of manufactured goods in East Asia (0.32 percent) and commodities in Latin America (0.27 percent). But if China accommodates U.S. demands not by granting the United States privileged entry, but by liberalizing

access to its market for all trading partners, then all countries would benefit. Global welfare would be 0.37 percent higher than under the managed trade scenario and China’s welfare would be 0.46 percent higher.

To our knowledge, this is the first study that attempts to quantify the global impact of the China-U.S. trade agreement using a computable general equilibrium model. Earlier analyses focused on specific aspects of the agreement (e.g. Cohen, 2020, on issues concerning intellectual property rights) or on providing a first assessment based on existing trade patterns (Bown, 2020b; Ciuriak, 2020). Two recent notes by Chowdhry and Felbermayr (2020a, 2020b) are closer to our exercise. They use a gravity model to predict trade between China and its trading partners and compare these flows with the ones under the China-U.S. agreement. They show that, because the import targets foreseen by the deal are above predicted trade flows, the agreement could lead to substantial trade diversion. Following a similar approach, Cali (2020) finds that the agreement would divert exports from Indonesia and other East Asian developing countries away from the Chinese market. Our study fits into the growing literature on the economic effects of the trade tensions between China and the United States and, more broadly, on the re-emergence of protectionism. A partial list of recent contributions includes Amiti et al. (2019), Blanchard et al. (2019), Constantinescu et al. (2019), Fajgelbaum et al. (2020), Freund et al. (2018), and Handley et al. (2020).

The rest of the paper is organized as follows. Section 2 reviews the salient features of the China-U.S. agreement and compares it with other trade agreements signed by the United States. Section 3 focuses on the economics of import targets, while the results of the quantification exercise are presented in Section 4. Conclusions and policy implications are presented in Section 5.

2. The content of the “China-U.S. Economic and Trade Agreement”

This section briefly reviews the various chapters of the “Economic and Trade Agreement between the Government of the United States and the Government of the People’s Republic of China” (henceforth referred to as, “the China-U.S. agreement” or simply “the agreement”).² Instead of conducting a detailed legal analysis of the text, we compare the agreement with other preferential trade agreements (PTAs) signed by the United States, relying on information on the content of trade agreements (Mattoo, Rocha and Ruta, 2020). The goal is to highlight similarities and significant points of departure of the agreement with other PTAs as a first step to understand its potential effects on the two parties and on third countries.

A focus on the content of the agreement is particularly pertinent in the context of the China-U.S. deal. PTAs typically aim at lowering (or eliminating) tariffs and other duties on “substantially all the trade” between members—a condition specified by the WTO rules on PTAs.³ These rules are designed to ensure that countries do not circumvent the most favored nation (MFN) rule against discrimination between

² The agreement is sometimes referred to as the “Phase 1 Agreement.” The text can be accessed here: https://ustr.gov/sites/default/files/files/agreements/phase%20one%20agreement/Economic_And_Trade_Agreement_Between_The_United_States_And_China_Text.pdf.

³ See Article XXIV of the General Agreement on Tariffs and Trade (GATT), which regulates preferential trade agreements in goods, and Article V of the General Agreement on Trade in Services, which regulates preferential trade agreements in services between members of the World Trade Organization (WTO).

trading partners by forming “trading blocs” for selected goods or services. The China-U.S. agreement does not mention tariff liberalization (although tariffs could be reduced to meet import targets) and focuses on regulating a set of policy areas beyond tariffs. While previous U.S. PTAs cover on average 19 policy areas,⁴ the China-U.S. agreement is limited to the seven listed below, leaving the negotiation of additional areas for an undefined Phase 2. The agreement seems to be conceived of as an instrument for one-sided, selective preferential access in a limited number of sectors rather than as either a means of broad-based liberalization or a full-fledged PTA.⁵

Chapters 1 and 2: Intellectual property and technology transfers

Chapters 1 and 2 of the agreement regulate intellectual property rights and technology transfers. As in other U.S. PTAs, the issue of technology transfer is (occasionally) touched upon in IP chapters. There are, however, marked differences between the agreement and other agreements signed by the United States.⁶ First, for two sets of provisions, the agreement is deeper than other U.S. PTAs. These include trade secrets (Chapter 1, Section B), which are covered in the recently negotiated USMCA but not in other U.S. PTAs, and technology transfers (Chapter 2), which are either absent from PTAs or feature in terms of general principles rather than concrete obligations.⁷ Second, the agreement contains rules on topics such as patents, geographical indications, trademarks, and copyright (Chapter 1, Sections C-H), but with fewer details than previous PTAs. Third, the China-U.S. agreement does not include detailed rules on transparency, exhaustion of patent rights, and national treatment, as well as the ratification and incorporation of existing international IP agreements—presumably relying on existing WTO rules in these areas, which are in some cases more limited than those in other U.S. PTAs.

Chapter 3: Trade in food and agricultural products

Differently from the chapter on IP, it is difficult to find a counterpart to Chapter 3 on trade in food and agricultural products in other U.S. PTAs. Some of these provisions can be found in chapters covering sanitary and phytosanitary (SPS) measures or agriculture. In the chapter, there are two sets of provisions. First, and similarly to other U.S. PTAs, the agreement includes provisions on general obligations, including intensified cooperation, adoption of SPS measures that are science and risk-based, and the prohibition of disguised restrictions on international trade (Article 3.1.1) that apply on an MFN basis. A second group of provisions aim at facilitating the access for U.S. products to the Chinese market through greater acceptance in China of U.S. standards and conformity assessment procedures for agricultural products (Annexes 1-17). Examples include commitments for China to take into consideration U.S. legislation (as in the case of infant formula), and specific time frames for China to allow importation of regulated products from the United States (as for meat, poultry and processed meat).

⁴ Policy areas most frequently covered in U.S. PTAs include areas that are not regulated by the WTO, such as investment, competition policy and movements of capital. In other policy areas under the domain of the WTO, such as subsidies, technical barriers to trade or public procurement, U.S. PTAs often include deeper commitments than those agreed at the multilateral level (Hofmann, Osnago and Ruta, 2019).

⁵ Indeed, the agreement does not feature on the USTR webpage showing free trade agreements.

⁶ See Annex Table 1 for a detailed a summary of findings.

⁷ For example, the China-U.S. agreement prevents the use of trade secrets, protects them from unauthorized disclosure, including by government authorities, and provides for criminal procedures and penalties for unauthorized disclosure and misappropriation of a trade secret (Articles 1.5-1.9).

Chapter 4: Financial services

U.S. PTAs generally contain chapters on financial services, most recently including USMCA. These chapters are typically more complex than Chapter 4 of the China-U.S. agreement, containing provisions on definitions and scope, national treatment, transparency, market access and sector-specific dispute resolution that apply to both parties. The scope of Chapter 4 is more limited in two respects. First, it primarily focuses on providing market access to specific U.S. financial institutions in China (e.g. institutions providing securities investment fund custody, credit rating, electronic payment, financial asset management, insurance, and securities, fund management and future services), setting specific time frames for approving licenses by the Chinese authorities (Articles 4.2-4.7). Second, the United States generally accords non-discriminatory treatment to Chinese financial institutions, but without specific obligations or time frames to comply. This asymmetry is also reflected in the language, which is overall binding for China (e.g. “shall remove,” “shall allow”) and softer for the United States (e.g. “will continue to allow,” “affirms”), whereas in other agreements the United States too assumes binding obligations.

Chapter 5: Macroeconomic policies and exchange rate matters and transparency

Issues concerning macroeconomic policies and exchange rate matters are new to U.S. trade agreements. Other than this agreement, only USMCA has a chapter dedicated to these issues. The agreement shares many similarities to the chapter in USMCA, although the latter contains additional provisions on definitions and scope and establishes an institutional framework for cooperation, i.e. a Macroeconomic Committee. Provisions in Chapter 5 apply to both parties and follow closely the language of USMCA on the same matter. Specifically, the provisions cover guiding principle and international commitments, including under the IMF Articles of Agreement to “avoid manipulating exchange rates or the international monetary system.” Moreover, parties commit to a “market-determined exchange rate regime” and to “refrain from competitive devaluations” (Article 5.2). In case of a dispute on these issues, parties can resort to the mechanism established in Chapter 7 of the agreement or, if the latter fails to arrive at a “mutually satisfactory resolution,” they can turn to the IMF for surveillance of macroeconomic policies and formal consultations (Article 5.4).

Chapter 6: Expanding trade

Chapter 6 outlines quantitative import commitments for China or “voluntary import expansions” (VIEs) as these measures have been called in the trade literature (explained in more detail below). The chapter sets out the general objective of improving the bilateral relationship through an expansion of trade. The chapter requires China over the years 2020 and 2021 to ensure that purchases and imports from the United States of specific manufactured goods, agricultural goods, energy products, and services exceed the corresponding 2017 baseline amount by no less than \$200 billion. The chapter provides that the United States “shall ensure to take appropriate steps to facilitate the availability of U.S. goods and services to be purchased and imported into China” (Article 6.2.4), suggesting that the United States bears some of the burden of ensuring the targets are realized. The agreement allows China flexibility on how to achieve the targets, but states that “The Parties acknowledge that purchases will be made at market prices based on commercial considerations ...” (Article 6.2.5). The limits of the practical applicability of this provision are discussed in the next section.

Chapter 7: Bilateral evaluation and dispute resolution

Chapter 7 creates an institutional structure to deal with the implementation of the agreement (Art.7.2) and potential disputes (Art.7.4). The chapter foresees the creation of a Trade Framework Group, which is led by the United States Trade Representative (USTR) and a designated Vice Premier of the People's Republic of China. The Trade Framework Group is the organ in charge of implementation and dispute resolution, with clear working procedures and time frames. Relative to recent U.S. PTAs, including USMCA, there are three main differences in this area. First, previous U.S. trade agreements establish independent panels from rosters that take full control of a dispute. Second, while the general idea of resolving a dispute through consultations and an institutional structure is in line with other U.S. PTAs, the main difference is the USTR and its Chinese counterpart will be involved in the whole process and never hand over to an adjudicated body. Finally, the agreement lacks a "choice of forum" clause typical of other PTAs, confirming that third, independent parties are not envisioned in the dispute resolution process.

Summing up, a comparison of existing U.S. PTAs with the China-U.S. trade agreement shows that the latter has a number of significant differences: (i) while there are some new elements (e.g. trade secrets, technology transfers, macroeconomic policies), the scope of the agreement is more limited even in areas such as IP where similar chapters can be found in other PTAs; (ii) the focus of the agreement is less on providing general obligations that can be applied on an MFN basis and more on specific actions by China to grant additional market access to U.S. exporters; and (iii) the dispute settlement framework, while reflecting some of the elements of other U.S. PTAs, departs from previous practices, as it dispenses completely with an independent mechanism.

3. The simple economics of import targets or "voluntary import expansions" (VIEs)

Import targets, a defining element of the China-U.S. trade deal, aim at expanding the import of a specified set of products over a certain period. These quantitative targets are infrequent but not new tools of trade policy. In the trade literature, they are referred to as "voluntary import expansions" (VIEs)—a terminology that was first introduced by Bhagwati (1987) in the context of U.S.-Japan trade tensions of the 1980s.⁸

Import targets or VIEs are the counterpart of Voluntary Export Restraints (VERs). Just like VERs, voluntary import expansions aim at directly affecting quantities traded internationally. But rather than a ceiling on a country's exports, they imply a floor on a country's imports. While the goal of expanding trade may be viewed more positively than restricting it, VIEs are considered inefficient policy tools (Irwin, 1994). The reason is that they lead to economic distortions that depend on: (i) whether trade in the specific market

⁸ In July 1986, Japan and the United States signed an agreement in which Japan accepted that the foreign share of its semiconductor market would increase to 20 percent, from a level of 8 percent, over a period of five years. Irwin (2017) reports that Japan's government had difficulty in getting domestic firms to comply with the agreement. Indeed, eight months after the agreement was signed, the United States declared Japan in non-compliance and imposed retaliatory tariffs. Eventually, retaliatory tariffs were lifted as the foreign share of Japan's semiconductor market increased. Another agreement was signed between the United States and Japan in 1992 and concerned a voluntary import expansion in automobile parts. In the early 1993, the United States considered to negotiate a number of other VIEs with Japan, but the policy was not pursued. The United States focused instead on completing the negotiation of the Uruguay Round, which gave rise to the World Trade Organization.

subject to the VIE is free or impeded by some explicit or hidden protection; and (ii) whether we focus on the exporting country, the importing country or third countries.⁹

In this section, we briefly review the economics of import targets and informally establish a number of findings that are helpful to understand the quantification analysis in the next section. For ease of exposition, we initially focus on a world with two economies: the United States (the exporter) and China (the importer). In this simpler setting, we show that under free trade a VIE requires an (implicit or explicit) import subsidy and then study the welfare effects of this policy. We further argue that in a market where the importing country imposes tariff and/or non-tariff barriers, an increase in trade boosts welfare both for the importer and the exporter but a VIE is generally inferior to a reduction in trade barriers that would result in the same increase in trade as the VIE. Finally, we augment the model to consider a third country, the Rest of the World (ROW), which also exports the product to China. Because now there are two exporters, it makes a difference whether the increase in imports is achieved through discrimination or through non-discriminatory policy. We informally show that a discriminatory VIE leads to trade diversion, implying a negative welfare effect on third countries and an ambiguous welfare effect for the importer.

Under free trade, a VIE requires the use of an import subsidy, explicit or implicit (e.g. through purchases of state-owned enterprises).

Consider a market of a good that is freely traded internationally. Assuming that there are no other frictions such as transportation costs, a single price prevails to buy and sell this product independently of the location. The effect of an import target is to increase the flow of goods in China (the importing country), causing a decrease in the domestic price of the product and an expansion of its import demand. In the United States (the exporting country), the effect of the VIE is the opposite: the lower supply of the good increases its price in the United States and its export supply. In this context, importers of the good in China would face a loss, as they would buy products in the United States for a higher price than what they could obtain in China. This implies that the only way the VIE can be implemented in practice is if the Chinese government offers an import subsidy equal to the difference between the price of the product in the United States and the price in China for each unit imported. An alternative to this explicit import subsidy is a situation where an importer, say a state-owned enterprise or another public entity, incurs the loss. This is a form of implicit subsidy, as the loss would eventually appear as a negative entry in the balance sheet of the importing country's government.

Under free trade, a VIE lowers the welfare of the importing country more than the increase in the welfare of the exporting country and hence reduces global welfare.

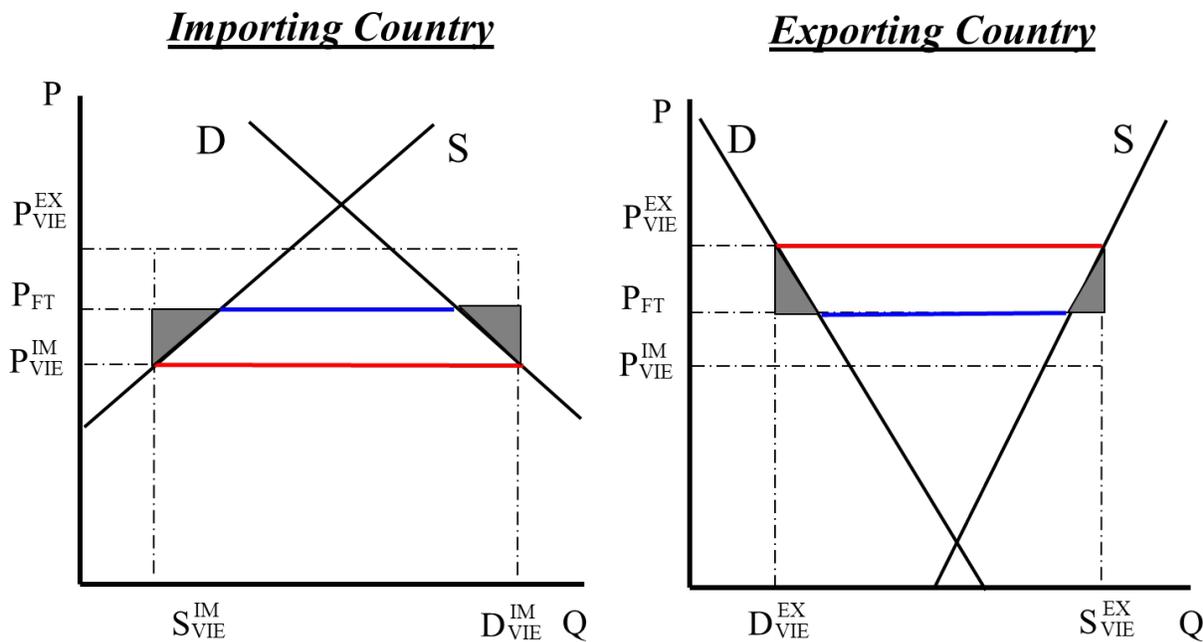
As we have established, implementing an import target requires an explicit or an implicit import subsidy. The subsidy/VIE lowers the price of the good in China (the importer) and increases it in the United States (the exporter). Producers are worse off in China, where they need to compete with subsidized foreign producers, and are better off in the United States, as the subsidy stimulates production to be sold in China. Consumers in China benefit from the lower prices, while the opposite is true for U.S. consumers. Finally, the Chinese government will have to bear the (direct or indirect) fiscal cost of the

⁹ The effects of VIE also depend on whether the market operates under perfect or imperfect competition. For simplicity, we assume perfect competition, but the key results in this brief discussion generally apply also to imperfectly competitive markets. For a broader treatment of VIEs under imperfect competition, see Irwin (1994) and the references therein.

subsidy/VIE. Summing the gains and the losses, the net impact is a negative effect on welfare in China and a positive effect in the United States.

At the world level, the subsidy/VIE induces inefficiencies in production and consumption, which lower world welfare. Figure 2 provides a textbook illustration of the welfare effects of a subsidy/VIE in a two-country model (Suranovic, 2010). The red and the blue segments represent the quantity traded under free trade and under the VIE, respectively. A higher price in the exporting country (P_{VIE}^{EX}) and a lower price in the importing country (P_{VIE}^{IM}) correspond to the new quantity under the VIE. The consumption and production distortions in the two countries (i.e. the net welfare losses) are the triangles in grey. The extent of these welfare losses depends on the slopes of the demand and supply curves (the demand and supply elasticities) and the size of the VIE. Larger deviations from the free trade equilibrium would be more costly, particularly when the demand or supply elasticity is larger. As the import targets in the China-U.S. agreement are defined at the aggregate level—not at the product level—there is some scope to design the policy to reduce policy distortions.

Figure 2: Welfare Effects of a VIE, Two-Country Model



When trade is not free, increasing trade boosts welfare of the importing and the exporting country, but a VIE is generally inferior to a reduction in trade barriers.

An argument in favor of a policy that expands imports can be made when international trade is impeded by a policy barrier, being a tariff or a non-tariff barrier. Trade barriers create a wedge between the domestic price of the good in the importing country and the price in the exporting country, causing distortions in consumption and production in both countries. Expanding imports would therefore lower these inefficiencies and increase welfare. To achieve this goal, lowering or eliminating the trade barrier is

a more efficient policy option than setting a quantitative target through a VIE. Intuitively, since trade barriers and VIEs both create distortions, the most efficient way to increase imports is to reduce the barrier, not to combine the barrier with an offsetting VIE. One could argue that this logic does not capture the main appeal of a quantitative target: a VIE implies a precise outcome, irrespective of prevailing conditions in the economy over the period of the agreement. The targeted outcome, however, is also its main drawback: lowering or removing a trade barrier allows market forces to shape outcomes responding to changes in fundamentals, such as demand and technology shocks, through changes in prices. Thus, the economic distortions created by complying with the quantitative targets may be magnified by the Coronavirus shock. A related problem with quantitative targets is that they leave substantial discretion to a government to pick winners in an arbitrary way, increasing the risk of rent-seeking activities.¹⁰

A discriminatory VIE leads to trade diversion, implying a negative welfare effect on third countries and an ambiguous welfare effect for the importer.

We next move to a three-country model and consider a discriminatory VIE, where the Chinese government commits to import from the United States only. U.S. producers benefit from the privileged access to the Chinese market. As discussed above, China will increase imports from the United States, putting upward pressure on the U.S. export price, and reduce imports from the rest of the world (ROW). The decline in demand for ROW exports will put downward pressure on their export price. This trade diversion has a negative welfare effect for ROW and a positive welfare effect for the United States.¹¹ The impact on China's welfare is negative if the market is under free trade and ambiguous in the case of a protected product. As is well-known from the economics of preferential liberalization, the ambiguity for the importing country depends on the fact that increased imports from the United States may drive out less efficient domestic producers or more efficient producers from ROW.¹² A second set of effects may result from the distortions created by the VIE in the importing market. Chinese producers, seeing the domestic price decline, may sell part of their production abroad. This form of "trade deflection" will have negative consequences for producers in third countries, which will suffer from the increased competition from Chinese exporters, and a positive effect on third-country consumers that will benefit from lower prices.

Summing up, this section supports three policy conclusions: (i) import targets should not be implemented for products that are freely traded; (ii) in protected sectors, increases in imports should be achieved through a reduction in trade barriers rather than through pursuing quantitative targets by other means; and (iii) an expansion of imports should be implemented through MFN rather than discriminatory liberalization.

¹⁰ Moving away from perfect competition, Irwin (1994) shows that VIEs are likely to lead to forms of collusion, such as the creation of cartels, between producers in imperfectly competitive markets. Hence, also in this context, a VIE is a suboptimal tool to increase trade.

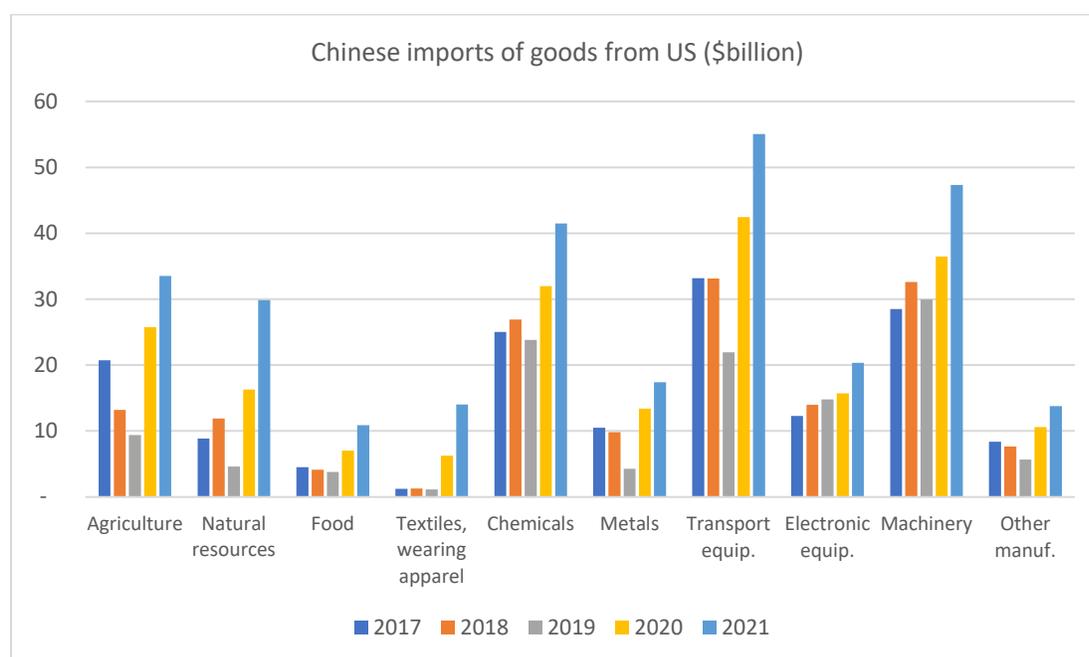
¹¹ In a general rather than partial equilibrium model with upward sloping supply curves, as the United States expands sales to China, it is likely to sell less at home and in third markets. Other countries that are now disadvantaged in China are likely to sell more to the United States and in third countries. In this broader context, welfare declines because of the costly reallocation of exports to destination markets induced by discriminatory conditions in China's market.

¹² See, for instance, Baldwin and Wyploz (2004), Chapter 5.

4. Quantifying the trade and income effects of the China-U.S. trade agreement

In this section, we quantify the impact of import targets in the China-U.S. trade agreement on the trade and income of these two countries as well as on third countries under different scenarios.¹³ The simulations are based on a global dynamic computable general equilibrium model, Linkage, which uses the GTAP database (Freund, Ferrantino, Maliszewska, and Ruta, 2018). The model tracks historical GDP growth, trade balances and investment up to 2019 and then projects the developments in the global economy up to 2025. The commitments of China to buy more U.S. goods and services as per the text of the agreement are aggregated to the CGE model sectors (Figure 3).¹⁴

Figure 3: Chinese imports of goods from the United States (\$billion) in 2017-2019 and assumed targets under the China-U.S. agreement in 2020-2021.



Source: WITS and authors' assumptions based on China-U.S. trade agreement.

Note: 2019 has been estimated based on Jan-Nov 2019 data.

¹³ The import targets in 2020 may be less feasible in light of the negative demand shock from the Coronavirus. As the focus of the note is on the trade agreement and the extent and duration of the Coronavirus shock is uncertain, the scenarios assume demand in 2020 is not affected by the virus—though that does not preclude a temporary shock. To the extent demand is lower for the year in China, the attempt to reach the import targets will lead to more trade diversion and a larger loss in income for China and the ROW.

¹⁴ “For the category of manufactured goods identified in Annex 6.1, no less than \$32.9 billion above the corresponding 2017 baseline amount is purchased and imported into China from the United States in calendar year 2020, and no less than \$44.8 billion above the corresponding 2017 baseline amount is purchased and imported into China from the United States in calendar year 2021.”

The China-U.S. agreement does not specify how the import targets should be met by China. In what follows, we present three main comparisons. First, we compare managed trade with a baseline where there is no agreement. Tariffs are assumed to remain unchanged at the end-2019 levels and China meets the import targets by subsidizing imports of goods and services from the United States. Our simulations suggest that managed trade makes the United States (and its input supplying neighbor, Mexico) better off but everyone else is worse off. Second, we compare managed trade with a trade war in which U.S.-China tariffs escalate, in order to understand what led to the agreement.¹⁵ China and the United States are better off with the agreement than with an escalated trade war, but the rest of the world is worse off. Finally, we compare a situation in which China meets the import targets from the United States through a non-discriminatory reduction of tariff and non-tariff barriers rather than through managed trade. We show that non-discriminatory liberalization leads to higher income for China and the rest of the world.

Managed trade is better for the United States (and Mexico) but makes everyone else worse off (Table 1).

Compared to the status quo, an expansion of U.S. exports to the still-protected Chinese market delivers significant benefits for the United States, with total income higher by 0.9 percent and total exports higher by 3 percent in 2021 (see Table 1). But these gains come at the expense of nearly all other countries. China loses 0.4 percent of its income in 2021 because of the inefficient diversion of trade away from other more efficient sources, even though there is also significant trade creation (not just increased imports, but also increased exports due to higher growth in the United States and the balanced trade assumption in our model).

The impact on the rest of the world is also negative, with income lower by 0.17 percent and trade lower by about 0.3 percent in 2021. The biggest relative loss of income and exports is in East Asia and the Pacific (excluding China) (-0.32 and -0.5 percent, respectively in 2021), followed by Latin America (-0.27 and -0.7 percent, respectively in 2021). For Mexico, the indirect benefits of improved U.S. access to China's market through strong input-output linkages with the United States outweigh the direct costs of diminished competitiveness in the Chinese market vis-à-vis the United States. The forced, partial liberalization of the Chinese market slightly enhances global income, as anticipated in the analytical discussion.

Countries that are likely to suffer losses due to trade diversion include exporters with the highest shares in the Chinese market for products targeted under the China-U.S. agreement (see Annex 3). In the agriculture sector, Brazil and Argentina are likely to export less oilseeds, meat and cotton to China, while the Russian Federation's and Ecuador's seafood exports could suffer from trade diversion. In manufacturing, the biggest absolute market share losses are expected to be experienced by Japan and Germany, particularly in electrical equipment, aircraft, industrial machinery, optical and medical instruments and vehicles, followed by Vietnam, the Republic of Korea, Indonesia, and Malaysia. In energy sectors, Saudi Arabia, Australia, Russia and Korea as well as Angola, Indonesia, Mongolia, Turkmenistan, Singapore and Malaysia face potential risk of losses due to China's commitment to buy more U.S. goods. Australia, Indonesia and Mongolia supply coal, while Angola is an important exporter of crude oil.

¹⁵ The "trade war" scenario assumes that both China and the United States impose 25 pp surcharges on trade from each other.

Table 1. Impacts of the managed trade scenario as compared to the trade policy status quo scenario (percent)

	Income		Total exports		Total imports	
	2020	2021	2020	2021	2020	2021
USA	0.65	0.91	2.17	3.07	1.68	2.33
CHN	-0.29	-0.38	1.47	2.04	1.59	2.24
EAP excl. China	-0.25	-0.32	-0.36	-0.52	-0.34	-0.47
SAR	-0.07	-0.11	-0.09	-0.15	-0.07	-0.13
Mexico	0.09	0.11	-0.14	-0.21	-0.13	-0.19
LAC	-0.17	-0.27	-0.44	-0.68	-0.33	-0.54
AFR	-0.10	-0.17	-0.19	-0.33	-0.15	-0.29
ECA	-0.08	-0.11	-0.15	-0.21	-0.13	-0.17
MENA (Egypt, Arab Rep.)	-0.06	-0.09	-0.11	-0.17	-0.10	-0.15
HICs	-0.15	-0.21	-0.29	-0.43	-0.27	-0.39
ROW	-0.11	-0.17	-0.23	-0.34	-0.20	-0.30
Global	0.03	0.03	0.20	0.28	0.21	0.30
World excl. USA and CHN	-0.11	-0.16	-0.21	-0.31	-0.19	-0.27

Source: Linkage model simulations.

Managed trade is better than trade war for the United States and China but makes everyone else worse off (Table 2).

Relative to an escalation of the trade war, managed trade improves the outcome for both the United States and China. The impact on the United States is significant, with income higher by 1.2 percent and total exports higher by 5 percent in 2021. The impact on Chinese income is smaller but positive. The impact on total Chinese exports is positive, at 4 percent, due to a combination of the positive income effect of higher growth in the United States and the assumption of the total trade balance as a share of GDP being the same in both scenarios.

The impact on the rest of the world is negative, with income lower by 0.2 percent and exports lower by 0.45 percent in 2021. The biggest relative loss of income and exports is expected in East Asia and the Pacific excluding China (-0.43 and -0.8 percent, respectively, in 2021), followed by Latin America (-0.21 and -0.6 percent, respectively, in 2021). The negative impact on the rest of the world is predominantly due to trade diversion, as China imports less from other partners. Losses are more extensive than in the previous scenario because in the trade war scenario exporters from the rest of the world benefit from higher effective preferences in both markets. The negative impact on Latin America is driven by agricultural goods and in East Asia and the Pacific by manufacturing goods. This effect is only in part driven by the reversal of the tariff preferences that China implicitly granted to the rest of the world as it raised tariffs on goods from the United States in 2018 and 2019. In fact, Annex 2 shows that a managed trade scenario imposed in the pre-trade war setting would have reduced income for third countries (although less than when the starting point is the high tariffs imposed during 2018 and 2019 on bilateral trade between China and the United States).

Table 2. Impacts of the “managed trade” scenario as compared to the “trade war” scenario (percent)

	Income		Total exports		Total imports	
	2020	2021	2020	2021	2020	2021
USA	0.92	1.22	4.20	5.18	3.24	3.97
CHN	0.17	0.06	3.47	4.12	3.74	4.43
EAP excl. China	-0.35	-0.43	-0.63	-0.80	-0.61	-0.73
SAR	-0.09	-0.14	-0.15	-0.22	-0.13	-0.20
Mexico	-0.30	-0.28	-1.01	-1.12	-0.94	-1.06
LAC	-0.11	-0.21	-0.40	-0.65	-0.29	-0.50
AFR	-0.10	-0.18	-0.24	-0.38	-0.19	-0.33
ECA	-0.09	-0.12	-0.20	-0.27	-0.16	-0.21
MENA (Egypt, Arab Rep.)	-0.07	-0.10	-0.16	-0.22	-0.14	-0.19
HICs	-0.21	-0.27	-0.47	-0.64	-0.45	-0.58
ROW	-0.14	-0.19	-0.35	-0.46	-0.31	-0.41
Global	0.12	0.13	0.51	0.60	0.52	0.62
World excl. USA and CHN	-0.15	-0.20	-0.34	-0.45	-0.30	-0.39

Source: Linkage model simulations.

Achieving the import targets of the China-U.S. agreement through multilateral liberalization by China rather than managed trade would leave all countries, other than the United States and Mexico, better off (Table 3).

We next assess the impact of the China-U.S. agreement when import targets are met through multilateral liberalization rather than managed trade. Specifically, we compare the managed trade deal with the multilateral liberalization by China (15 percent reduction in tariffs and non-tariff barriers) that achieves the same gains in U.S. exports to China as targeted under the China-U.S. agreement.

Simulation results show that the United States is better off with China’s MFN liberalization relative to a trade war, but less so than with managed trade because it does not get preferential access to the Chinese market.¹⁶ This is due to a negative terms of trade effect for the United States (i.e. the price of its exports declines relative to the price of imports): because China’s aggregate imports surge substantially more, the price U.S. exporters receive is lower when China opens multilaterally than when the United States receives preferential access. Due to the vertical linkages between the Mexican and U.S. economies, the fate of Mexico is closely tied to that of the United States and it experiences a small loss relative to the managed trade scenario. All other countries, including China, are better off with multilateral liberalization by China. Global income rises by the largest amount, more than ½ a percent in this scenario. The largest income gains would be registered in Latin America and other high-income countries (1.1 and 1.2 percent,

¹⁶ See Annex 4 for the impact of the “multilateral liberalization” scenario compared to the “trade war” scenario, which can be directly compared to the impact of the “managed trade” scenario as compared to the “trade war” scenario.

respectively). But African countries would also experience large increases in income (0.8 percent) driven by higher exports.

Table 3. Impact of the “multilateral liberalization” scenario compared to the “managed trade” scenario (percent)

	Income		Total exports		Total imports	
	2020	2021	2020	2021	2020	2021
USA	-0.24	-0.50	-1.17	-2.05	-0.81	-1.43
CHN	0.84	0.46	27.62	27.61	29.70	29.77
EAP excl. China	0.08	0.25	0.09	0.26	0.22	0.56
SAR	0.03	0.09	0.21	0.37	0.32	0.48
Mexico	-0.02	-0.07	-0.38	-0.45	-0.34	-0.40
LAC	0.82	1.07	2.83	3.28	2.28	2.80
AFR	0.55	0.77	1.33	1.60	1.17	1.49
ECA	0.33	0.35	0.37	0.38	0.67	0.68
MENA (Egypt, Arab Rep.)	0.08	0.16	0.08	0.11	0.18	0.22
HICs	1.14	1.24	2.64	3.01	3.00	3.19
ROW	0.68	0.86	0.99	1.24	1.14	1.39
Global	0.19	0.37	3.59	3.75	3.69	3.84
World excl. USA and CHN	0.53	0.63	0.73	0.90	0.97	1.12

Source: Linkage model simulations.

5. Making the China-U.S. trade agreement work for development

Having identified the valuable opportunity offered by the agreement, it is useful also to highlight four risks—and how they might be averted.

First, even as the United States and China engage in managed coupling, they face internal pressures to decouple. Growing strategic rivalry is creating a strong impulse in both the United States and China to reduce mutual dependence and increase self-sufficiency. Yet, a deal that forces China to buy more from the United States encourages increased intertwining. This outcome may reflect the ascendancy within the United States of those who seek a new equilibrium of greater mutual openness, over those who seek to reduce U.S. dependence; and of those within China who seek a more liberal economy over those who wish to maintain greater state control. But the unresolved tensions could make it hard to implement the deal through mutual liberalization—particularly if the United States persists with export restrictions and China maintains general trade barriers.

Second, even though the deal affirms in its preamble the benefits of market-based “harmonious development and expansion of world trade,” it could turn into an exercise in state-driven, bilateral mercantilism. The preamble emphasizes market-based outcomes, international norms and catalyzing broader international cooperation. But the deal specifies quantitative goals for the expansion of U.S. exports to China, and therefore risks diminishing the role of the market in China. That is because meeting

the quantitative goals could lead to managed trade and strengthen the role of state-owned enterprises—whose reform is desirable and has been deferred.

Third, a deal that seeks trade creation could result in trade diversion, not just in China but also in the United States. As noted above, if China does not liberalize vis-à-vis the rest of the world, China's bilateral commitments to the United States could result in reduced imports from other countries, including otherwise competitive developing countries. And the ability of the United States to realize its sales to China could come from reduced exports to other countries, at least until the capacity of U.S. firms and farms expands sufficiently—even as the United States operates at close to full employment. This double trade diversion could lead to trade distortions rather than beneficial trade liberalization.

Fourth, a deal that seeks to dispel uncertainty could make trade policy permanently unpredictable. In principle, an agreement makes the world more predictable. But this agreement appears to deviate from multilateral rules against discrimination and guarantees against trade protection. By requiring bilateral purchases, the agreement marks a deeper departure from multilateral rules against discrimination than the preferential tariffs associated with typical bilateral and regional agreements. Moreover, instead of independent multilateral dispute settlement, the United States has assumed the right to unilaterally judge and penalize China's non-conformity with obligations that are not always clear, while China must either accept or withdraw from the agreement. The result could be durable uncertainty in the trading system. Finally, the deal disrupts not just existing rules but the established process of reaching trade agreements. Instead of exchanging the carrot of market opening at home for the carrot of market opening abroad, it resorted to the stick of protection to induce enhanced access abroad. Therefore, even existing openness—which had previously been assured by multilateral legal bindings—can no longer be taken for granted.

Many of these risks can be averted if China chooses to multilateralize this bilateral agreement. One route is to implement the provisions unilaterally as far as possible on an MFN basis. The fact that China negotiated the current deal may be ground for skepticism about the likelihood of China implementing broad-based liberalization. However, the agreement itself may encourage greater reform. To the extent there are losses from trade diversion, there will be increased pressure for China to liberalize trade for all partners—to reduce the costly trade diversion and increase imports from the most efficient producers. These pressures are not just a theoretical possibility: evidence from Latin American trade agreements show that PTAs typically induce multilateral liberalization, and these effects tend to be stronger when preferences are granted to important suppliers (Estevadeordal, Freund and Ornelas 2008).

Multilateral liberalization can be accomplished by implementing reforms in areas like services, intellectual property and technology transfer that extend the benefits of the agreement to all trading partners. In some cases, as in the recognition of foreign standards and conformity assessment procedures in agriculture, multilateralization could be a challenge, but China could still strive to establish objective and transparent conditions of eligibility for recognition. In financial services, barriers to entry could be eliminated on an MFN basis and regulatory recognition extended on the basis of prudential considerations that do not discriminate between trading partners with like regulatory conditions. Realizing the quantitative targets may pose the most significant difficulty. As we have seen, the extent of multilateral liberalization needed is likely to be much greater than the required preferential access for the United States alone. Moreover, for a large country like China, the liberalization may involve giving up the freedom to impose “optimum tariffs” that exploit its market power. Nevertheless, the costs of any such

“concession” are likely to be outweighed by the benefits on non-discriminatory liberalization, as the simulations in this paper suggest.

A more ambitious route is for China to institutionally multilateralize its reforms by offering to legally bind them in the World Trade Organization. Such a “down payment” by China could dispel some of the skepticism about the possibility of achieving meaningful liberalization in the WTO context and may galvanize multilateral negotiations. Such a course could also make China’s obligations subject to an independent multilateral dispute resolution mechanism and may even help to revive this valuable function of the WTO. These developments would be in China’s interests as it emerges as a major trading nation. In this role, it will need the WTO as a means of anchoring its own policies to reassure trading partners and also as a forum for negotiations without having to resort to costly bilateral negotiations, which create painful political frictions.

References

- Amiti, M., S. J. Redding, and D. Weinstein (2019). "The Impact of the 2018 Trade War on U.S. Prices and Welfare," *Journal of Economic Perspectives*, 33 (4), 187–210.
- Bhagwati, J. (1987). "VERs, Quid Pro Quo DFI and VIEs: Political-Economy-Theoretic Analyses". *International Economic Journal*, 1:1, 1-14.
- Baldwin, R. and C. Wyplosz (2004). *The Economics of European Integration*. McGraw Hill.
- Blanchard, E. J., C. P. Bown, and D. Chor (2019). "Did Trump's Trade War Impact the 2018 Election?". NBER Working Paper No. 26434.
- Bown, C. (2020a). "US-China Trade War Tariffs: An Up-to-Date Chart". Peterson Institute for International Economics.
- Bown, C. (2020b). "Unappreciated hazards of the US-China phase one deal". Peterson Institute for International Economics.
- Cali, M. (2020). "The trade impact of the US-China Trade Deal for Indonesia". Unpublished manuscript. World Bank Group.
- Chowdhry, S., and G. Felbermayr (2020a). "The US–China Trade Deal: How the EU and WTO lose from managed trade". Kiel Policy Brief 132, Kiel Institute for the World Economy.
- Chowdhry, S., and G. Felbermayr (2020b). "The US–China trade deal and its impact on China's key trading partners". Kiel Policy Brief 132, Kiel Institute for the World Economy.
- Ciuriak, D. (2020). "The US- China Trade Deal: Back of the Envelope Estimates of the Economic Impact". Centre for International Governance Innovation.
- Constantinescu, C., A. Mattoo, M. Ruta, M. Maliszewska, I. Osorio-Rodarte (2019). *Global Trade Watch 2018: Trade Amid Tensions*. World Bank Group.
- Estevadeordal, A., C. Freund, and E. Ornelas (2008). "Does Regionalism Affect Trade Liberalization Towards Nonmembers?" *The Quarterly Journal of Economics*, 123(4), 1531-1575.
- Fajgelbaum, P. D., P. K. Goldberg, P. J. Kennedy, and A. K. Khandelwal (2020). "The Return to Protectionism," *The Quarterly Journal of Economics*, 135 (1), 1–55.
- Freund, C., Ferrantino, M. J., Maliszewska, M., & Ruta, M. (2018). "Impacts on Global Trade and Income of Current Trade Disputes". MTI practice note No. 2. World Bank Group.
- Handley, K., F. Kamal, R. Monarch (2020). "Rising Import Tariffs, Falling Export Growth: When Modern Supply Chains Meet Old-Style Protectionism". NBER Working Paper No. 26611.
- Hofmann, C., A. Osnago, M. Ruta (2019). The Content of Preferential Trade Agreements. *World Trade Review*, 18(3), 365-398.
- Irwin, D. (1994). *Managed Trade: The Case against Import Targets*. American Enterprise Institute. Washington D.C.

Irwin, C. (2017). *Clashing over Commerce: A History of U.S. Trade Policy*. University of Chicago Press.

Mattoo, A., N. Rocha, M. Ruta (2020). *Handbook of Deep Trade Agreements*. World Bank. Washington D.C.

Suranovic, S. (2010). *International Economics: Theory and Policy*. Flat World Publisher.

Annex Table 1: Sub-area covered in U.S. preferential trade agreements on intellectual property and technology transfer

CATEGORIES / AGREEMENT	(1) Accession/ratification to existing international IP agreement(s)	(2) Incorporation of existing international IP agreements	(3) National Treatment	(4) Exhaustion	(5) Transparency	(6) Trademarks	(7) Geographical indications (GIs)	(8) Domain Names/(9) Country Names	(10) Patents	(11) Data protection/protection of undisclosed information	(12) Industrial Design	(13) Copyright and Related Rights	(14) Biodiversity/traditional knowledge	(15) Enforcement	(16) Other (e.g. cooperation)	(17) Technology transfer	(18) Trade secrets
US - Korea	1	0	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0
US - Colombia	1	0	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0
US - Peru	1	0	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0
US - Panama	1	0	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0
US - DR - CAFTA	1	0	1	0	1	1	1	1	1	1	0	1	0	1	1	0	0
US - Oman	1	0	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0
US - Bahrain	1	0	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0
US - Morocco	1	0	1	0	1	1	0	1	1	1	0	1	0	1	0	0	0
US - Chile	1	0	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0
US - Australia	1	0	1	0	1	1	1	1	1	1	0	1	0	1	0	0	0
US - Singapore	1	0	1	0	0	1	1	1	1	1	0	1	0	1	0	0	0
US - Jordan	1	1	1	0	0	1	1	0	1	0	0	1	0	1	0	0	0
USMCA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
US - China	0	0	0	0	0	1*	1*	0	1	0	0	1*	0	1	1	1	1

Source: The World Bank database on Deep Trade Agreements (Mattoo, Rocha and Ruta, 2020).

Notes: 1 indicates coverage; 0 no coverage. 1* indicates areas in China-U.S. where there is some coverage but there is significant departure in terms of content compared to other U.S. preferential trade agreements.

Annex 2: A managed trade deal imposed in pre-trade war setting would have reduced welfare for all countries, except the U.S.

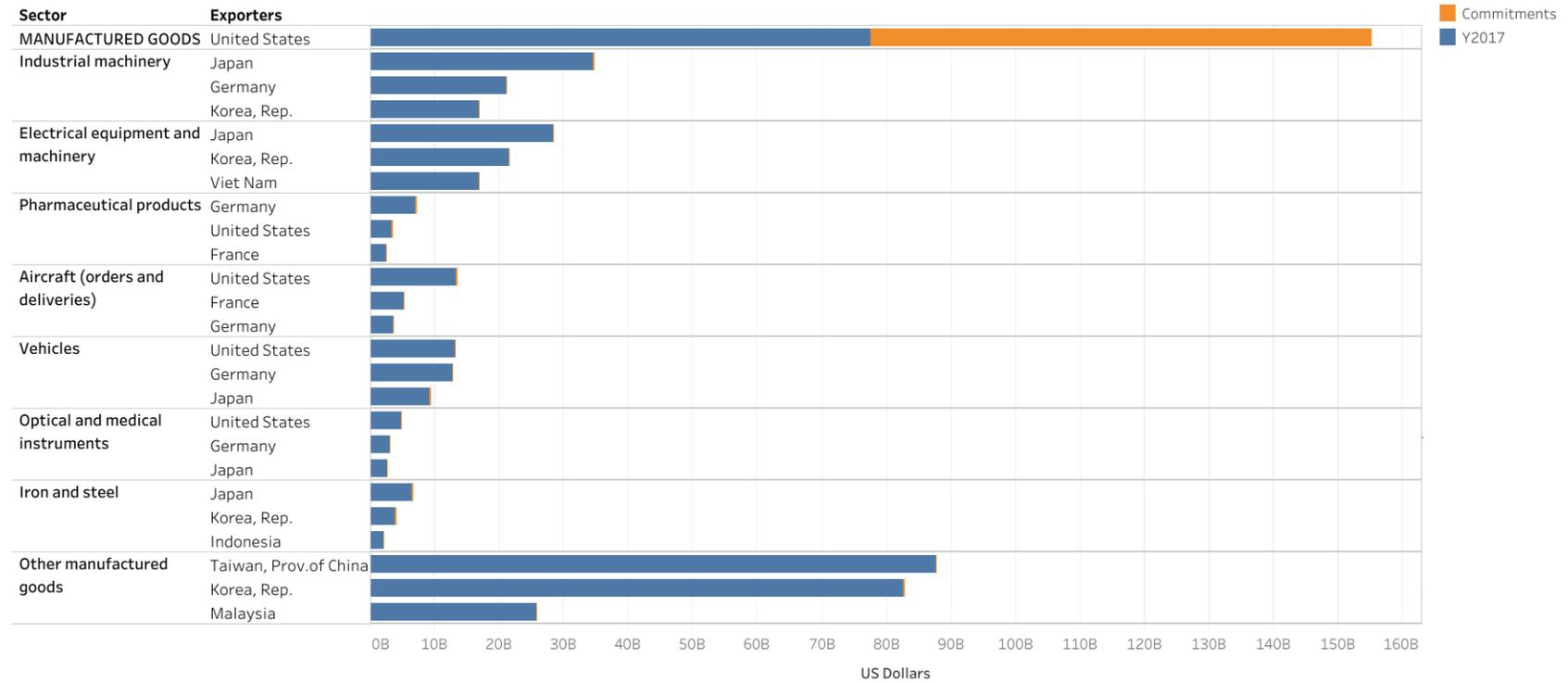
Managed trade imposed in 2018 as compared to the pre-trade war tariffs (percent)

	Income	Total exports	Total imports
USA	0.08	0.24	0.19
CHN	-0.04	0.20	0.21
EAP excl. China	-0.03	-0.04	-0.04
SAR	-0.01	-0.01	-0.01
Mexico	0.01	-0.02	-0.02
LAC	-0.02	-0.05	-0.04
AFR	-0.01	-0.02	-0.02
ECA	-0.01	-0.02	-0.01
MENA (Egypt, Arab Rep.)	-0.01	-0.02	-0.01
HICs	-0.02	-0.04	-0.03
ROW	-0.01	-0.03	-0.02
Global	0.00	0.03	0.03
World excl. USA and CHN	-0.01	-0.03	-0.02

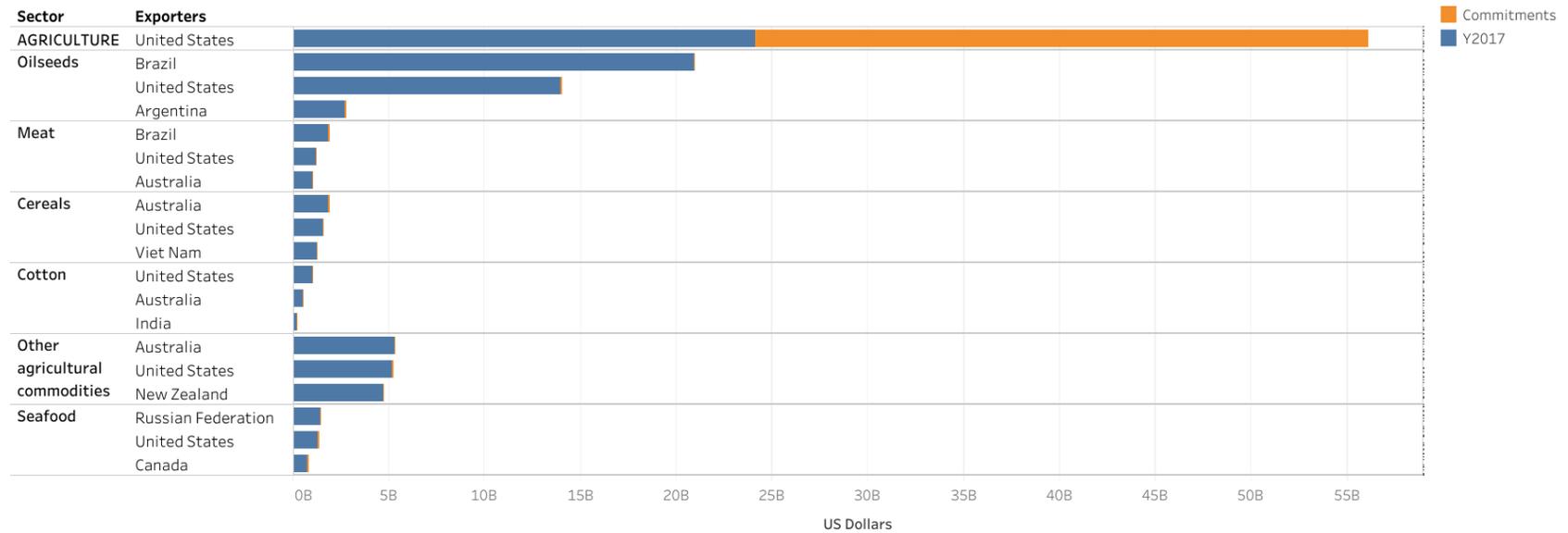
Source: Linkage model simulations.

Annex 3: Chinese imports from top suppliers of goods and services subject to the China-U.S. trade agreement along with the commitments undertaken by China as part of the agreement.

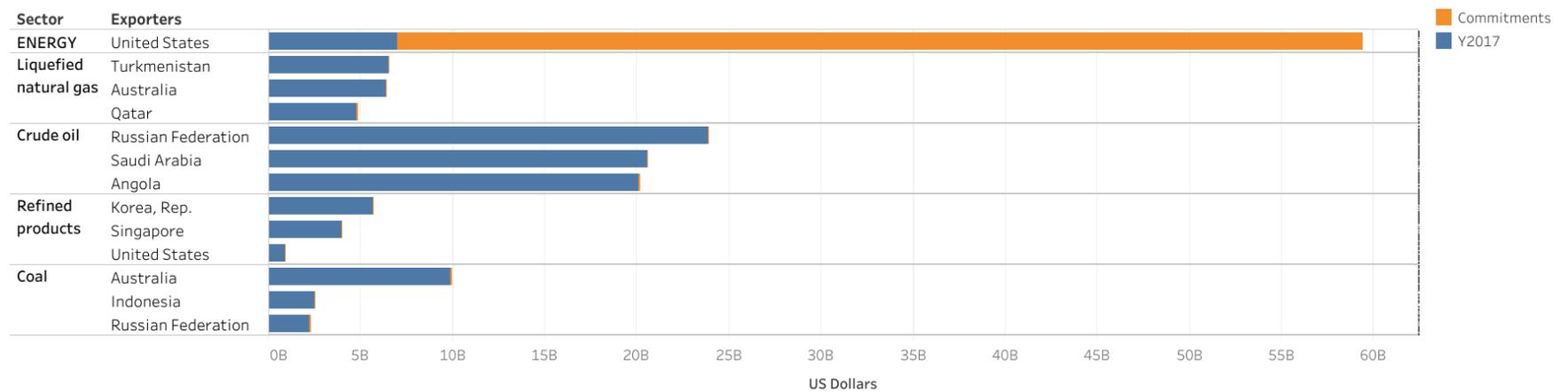
Panel A: Manufacturing



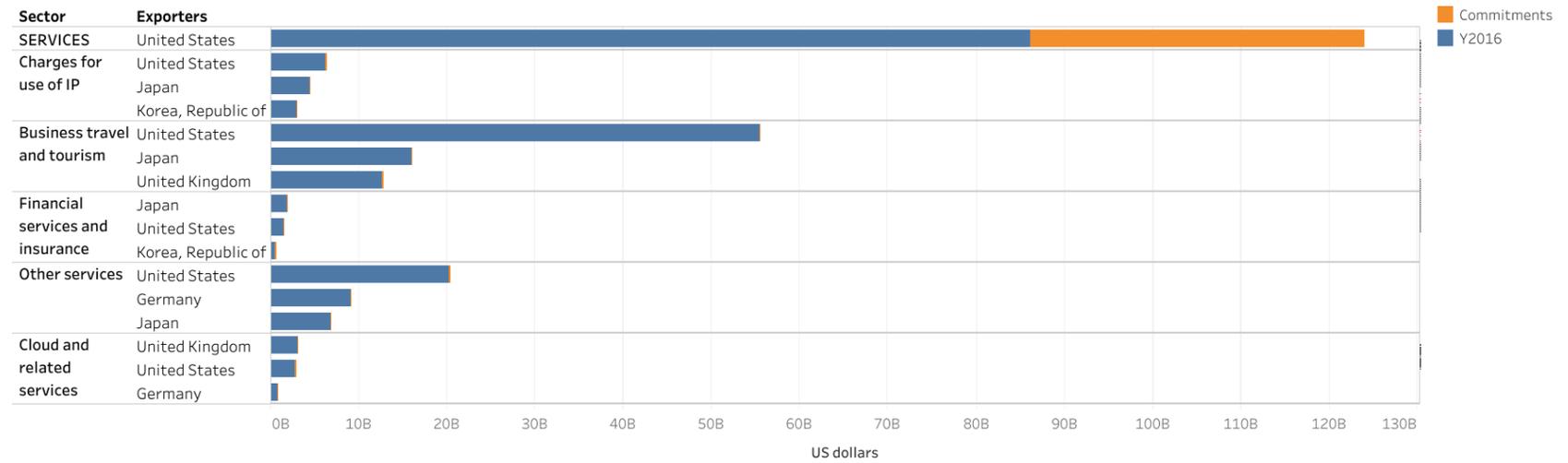
Panel B: Agriculture



Panel C: Energy



Panel D: Services



Source: Panels A, B, C, author's calculations using data from China Customs; Panel D, author's calculation using data from WTO.

Note: In Panel D, year 2016 is the latest year available for bilateral services trade data by sectors.

Annex 4: Impacts of the “multilateral liberalization” scenario as compared to the “trade war” scenario (percent)

	Income		Total exports		Total imports	
	2020	2021	2020	2021	2020	2021
USA	0.67	0.72	2.98	3.03	2.40	2.49
CHN	0.68	0.52	32.05	32.87	34.55	35.52
EAP excl. China	-0.27	-0.19	-0.72	-0.55	-0.39	-0.18
SAR	-0.12	-0.05	0.06	0.14	0.19	0.28
Mexico	-0.31	-0.35	-1.39	-1.56	-1.27	-1.45
LAC	0.70	0.85	2.42	2.61	1.97	2.29
AFR	0.45	0.59	1.09	1.22	0.98	1.16
ECA	0.24	0.23	0.17	0.12	0.50	0.47
MENA (Egypt, Arab Rep.)	0.02	0.06	-0.08	-0.11	0.04	0.03
HICs	0.94	0.96	2.15	2.36	2.53	2.60
ROW	0.55	0.67	0.64	0.77	0.83	0.98
Global	0.31	0.50	4.12	4.37	4.22	4.48
World excl. USA and CHN	0.38	0.43	0.39	0.44	0.67	0.73

Source: Linkage model simulations.