



# Agricultural Trade Aid

IMPLICATIONS AND CONSEQUENCES  
FOR US GLOBAL TRADE RELATIONSHIPS  
IN THE CONTEXT OF THE WORLD TRADE  
ORGANIZATION

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**AGRICULTURAL POLICY IN DISARRAY**  
**REFORMING THE FARM BILL**

AMERICAN ENTERPRISE INSTITUTE

# Executive Summary

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US agricultural producers have been hard hit by the actions of Canada, China, Mexico, and other countries that have imposed tariffs against US agricultural products in retaliation for adverse trade actions from the Trump administration against the countries' exports to the United States. To shore up political support from an important constituency, the Trump administration has authorized an estimated total of \$28 billion in 2018 and 2019 to farmers and ranchers in compensation packages for their losses in those years.

In 2018, about 75 percent of total payments went to soybean growers and were concentrated in corn belt states, where the bulk of soybean production can be found. The US Department of Agriculture (USDA) used a new payment formula for 2019 that included more crops and resulted in more payments going to corn, wheat, and cotton producers.

While those payments will help the sector in the short term, the subsidies have been criticized. Critics at home have questioned whether the level of compensation is commensurate with the losses absorbed

by the agricultural sector due to the tariffs. Several empirical studies have suggested that the actual damages could be more than 50 percent less than USDA's payment formula.

Critics abroad have questioned whether the level of trade aid payments provided to farmers, when combined with existing farm program and crop insurance payments authorized under the 2018 Farm Bill and other legislation, are consistent with US domestic support obligations under the World Trade Organization (WTO). Preliminary analysis suggests that while 2018 support levels are within US domestic support commitments, 2019 payments may exceed WTO bindings. Moreover, the size of those payments could encourage WTO members to challenge US agricultural spending before the WTO Dispute Settlement Body.

A longer-term concern is how trade compensation comports with US obligations in the WTO and, more generally, how it will affect future US efforts to seek further reforms in the WTO.



# Agricultural Trade Aid

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## IMPLICATIONS AND CONSEQUENCES FOR US GLOBAL TRADE RELATIONSHIPS IN THE CONTEXT OF THE WORLD TRADE ORGANIZATION

**Joseph W. Glauber**

US agricultural producers have been hard hit by the actions of Canada, China, Mexico, and other countries that have imposed tariffs against US agricultural products in retaliation for adverse trade actions from the Trump administration against the countries' exports to the United States. Consequently, US agricultural exports to China have fallen from almost \$22 billion in fiscal year (FY) 2017 to \$7.3 billion projected for FY2019,<sup>1</sup> and prices paid to US farmers for some commodities have been lower than would otherwise have been the case.

US soybean exports have been a major casualty of the trade war with China. In recent years, by value, US exports of soybeans have constituted over 60 percent of total US agricultural exports to China. Those exports have accounted for production from between a quarter to a third of the 85 million acres farmers annually plant to soybeans. While US soybean exports to other destinations such as the European Union increased in 2018 and 2019, compared to 2017, for 2019 total US soybean exports to all countries are projected to fall by about 22 percent in volume, compared to 2017.<sup>2</sup> Exports of numerous other agricultural commodities also have been hurt by increased tariffs, although in most cases the impacts have been much smaller. The affected commodities include row crops such as cotton, wheat, corn (maize), sorghum, pork, and dairy products and some fruits, vegetables, and tree nuts (e.g., almonds, pistachios, and walnuts).

To shore up political support from an important constituency, the Trump administration has authorized an estimated total of \$28 billion in 2018 and 2019 to farmers and ranchers in compensation packages for their losses in those years. While those payments will help the sector in the short term, the subsidies have been criticized. First, commenters have questioned whether the level of compensation is commensurate with the losses the agricultural sector has absorbed due to the tariffs. While several producer groups argue that the aid has been insufficient, several empirical studies indicate that agricultural producers have been substantially overcompensated for their losses. Second, the level of trade aid payments provided to farmers, when combined with existing farm program and crop insurance payments authorized under the 2018 Farm Bill and other legislation, threatens to provoke some countries to initiate trade dispute cases against the United States.<sup>3</sup>

One cause for concern is that US domestic support levels for agricultural commodities are in danger of exceeding US "bound commitments" under the World Trade Organization (WTO) agreements that place a clearly defined limit on those support levels. Current WTO rules require that annual US domestic supports that distort trade flows not exceed a maximum of \$19.1 billion. Since the WTO disciplines went into effect in 1995, United States levels of support have remained in that annual limit.

In 2016, the most recent year for which the US reported information, US trade-distorting support was less than \$5 billion. However, with the additional subsidies provided under the 2018 trade aid package, trade-distorting support for 2018 will likely be more than triple those levels. Further, at more than \$15 billion the 2019 package could push the United States over its limits, potentially prompting WTO members to challenge US support programs and, if successful, seek damages or other trade concessions.

This report examines the effects of the 2018 and 2019 trade aid packages on the domestic support levels that the United States is likely to report to the WTO. It then assesses the potential consequences for US trade relations. Payments for 2018 losses were structured differently from the payments for 2019 losses, which affects, in turn, how they are likely to be notified to the WTO and whether the amounts reported will violate current US WTO commitments. In addition, the trade aid payments must be viewed with other domestic subsidies that are made to producers under the price and income support and crop insurance programs authorized by Congress through the 2018 Farm Bill and other pre-existing legislation.

## The 2018 and 2019 Trade Aid Packages

In 2018 and 2019, the US Department of Agriculture (USDA) implemented two ad hoc assistance programs totaling an estimated \$28 billion to compensate producers who have been hurt by counter-retaliatory trade measures. To fund these programs, the USDA drew on its budget authority under the Commodity Credit Corporation Charter Act to fund the following programs to assist producers.

### 1. The Market Facilitation Program (MFP).

The USDA's Farm Service Agency administers this program and gives producers of eligible commodities direct payments to compensate for trade damages suffered because of the retaliatory tariffs Canada, China, the EU, Mexico, and other countries imposed.

### 2. The Food Purchase and Distribution Program.

The USDA's Agricultural Marketing Service administers this program and uses funds to purchase surplus commodities affected by trade retaliation, such as fruits, vegetables, processed foods, beef, pork, lamb, and poultry. The USDA's Food and Nutrition Service distributes the commodities to food banks, schools, and other outlets serving low-income individuals.

### 3. The Agricultural Trade Promotion Program.

The USDA's Foreign Agricultural Service administers this program and provides funding to assist in developing new export markets on behalf of US agricultural producers.

Funding levels for the three programs for 2018 and 2019 are shown in Table 1.

The amounts reported in Table 1 reflect funding levels, not outlays. Actual outlays depend on program eligibility and participation and may be subject to limits on payments to individual farms.<sup>4</sup> MFP payments are independent of and supplement any payments producers may receive under other federal farm programs such as price and income supports and crop insurance. Beyond funding levels, there are several important differences between the MFPs in 2018 and 2019, including the commodities eligible for payment, how payments rates were established, and payment limitations.

**The 2018 MFP.** The 2018 MFP, announced in July 2018, was restricted to producers of five crops—soybeans, corn, cotton, sorghum, and wheat—and hog and dairy producers.<sup>5</sup> Producers of two other crops, sweet cherries and shelled almonds, were added in September 2018.<sup>6</sup> Payments for soybeans, corn, cotton, sorghum, wheat, sweet cherries, and almonds were based on the farm-level harvested production of each crop in 2018 as certified by the USDA's Farm Service Agency.<sup>7</sup> Hog producers were eligible for payments based on hog inventories held on the farm between July 15 and August 15, 2018. The 2018 MFP payments for dairy producers were based on each

**Table 1. Funding Levels for 2018 and 2019 Trade Aid Programs (Billion USD)**

Program	2018	2019
Market Facilitation Program	\$10.0	\$14.5
Food Purchase and Distribution Program	\$1.2	\$1.4
Agricultural Trade Promotion Program	\$0.2	\$0.1
<b>Total Funding Levels</b>	<b>\$12.0</b>	<b>\$16.0</b>

Note: Total funding levels may exceed sum of individual program estimates.

Source: Congressional Research Service, "Farm Policy: USDA's 2018 Trade Aid Package," June 19, 2019, <https://fas.org/sgp/crs/misc/R45310.pdf>.

farm's historical milk production as reported for a Dairy Margin Coverage Program introduced in the 2014 Farm Bill.<sup>8</sup>

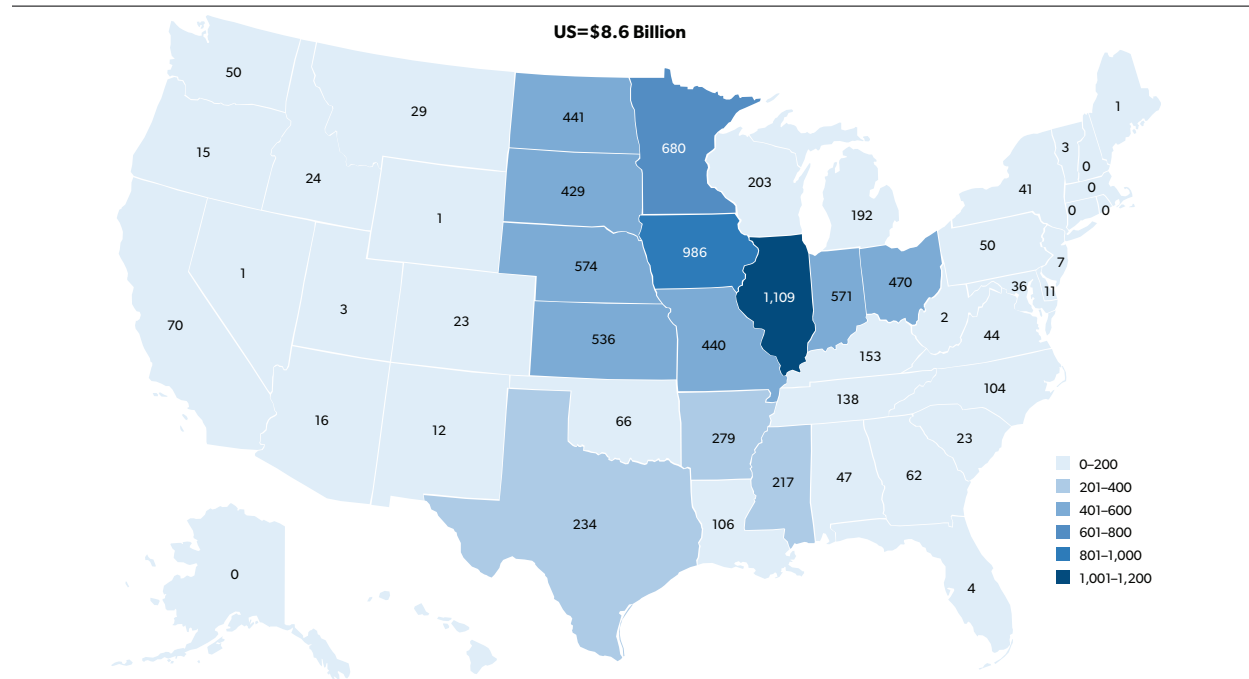
The USDA determined payment rates for each commodity using a global trade model to estimate the value of US exports after countries implemented retaliatory tariffs in 2018. That value was then compared to the actual value of trade to those countries in the previous year.<sup>9</sup> The difference between the two

figures was the estimated gross trade damage the tariff caused. This value was divided by 2017 production to estimate a per-unit value of damage. That estimate was then used to determine the per-unit level of assistance for producers. The rates for each affected commodity are reported in Table 2, which also includes an estimate of total MFP payments by commodity for the 2018 crop year. As of October 1, 2019, 2018 MFP payments totaled \$8.6 billion.<sup>10</sup>

**Table 2. Estimated 2018 MFP Payments**

Commodity	2018 Payment Rate	Estimated 2018 Payments (Million USD)	Payments as Percentage of Total
Soybeans	\$1.65/Acre	7,259.4	75.9
Hogs	\$8.00/Head	580.6	6.1
Cotton	\$0.06/Pound	553.8	5.8
Sorghum	\$0.86/Bushel	313.6	3.3
Dairy (Milk)	\$0.12/Hundred Pounds	254.8	2.7
Wheat	\$0.14/Bushel	238.4	2.5
Corn	\$0.01/Bushel	192.0	2.0
Fresh Sweet Cherries	\$0.16/Pound	111.5	1.2
Shelled Almonds	\$0.03/Pound	63.3	0.7
<b>Total</b>		<b>9,567.4</b>	<b>100.0</b>

Source: Congressional Research Service, "Farm Policy: USDA's 2018 Trade Aid Package," June 19, 2019, <https://fas.org/sgp/crs/misc/R45310.pdf>.

**Figure 1. Estimated 2018 MFP Payments (Million USD)**

Source: US Department of Agriculture, Farm Service Agency, "Market Facilitation Program," 2019, <https://www.farmers.gov/manage/mfp>.

Soybean producers are the largest beneficiaries, not surprisingly given that soybean exports to China typically accounted for over 60 percent of US agricultural export sales to that country. By contrast, the small share of payments for corn and wheat reflect the small share of overall trade with China in 2017 for those commodities. With the largest share of 2018 MFP payments going to soybean producers, it is also not surprising that 2018 MFP payments are largely concentrated in the Midwest (Figure 1). According to the data reported as of May 2019, Illinois producers received \$1.1 billion in 2018 MFP payments, followed by Iowa (\$986 million), Minnesota (\$680 million), Nebraska (\$574 million), and Indiana (\$571 million).<sup>11</sup>

**The 2019 MFP.** The 2019 MFP was announced in May 2019.<sup>12</sup> While the methodology used in estimating aggregate trade damages from retaliatory tariffs was similar to the approach used for the 2018 MFP payments, there are important differences on how the 2019 MFP payments are being made. First, the number of eligible commodities was increased from nine

in 2018 to 41 in 2019. The following crops (termed "non-specialty" crops by the USDA) became eligible for 2019 MFP assistance: alfalfa hay, barley, canola, corn, crambe, dried beans, dry peas, extra-long staple cotton, flaxseed, lentils, long- and medium-grain rice, millet, mustard seed, oats, peanuts, rapeseed, rye, safflower, sesame seed, small and large chickpeas, sorghum, soybeans, sunflower seed, temperate japonica rice, triticale, upland cotton, and wheat. However, in terms of acres, the total acres for which a farm can receive 2019 MFP payments cannot exceed the area that was planted by the farm to the 41 crops eligible for those payments in 2018 (the previous year).

In addition, in contrast to 2018, when unique payment rates were established for each eligible crop, 2019 non-specialty crop producers received the same per-acre payment rate for each eligible crop in a given county. (For example, if the countywide payment rate was \$50 per acre, a producer planting corn to 100 acres and soybeans to 50 acres would receive \$50 per acre for each of those 150 acres.) The rates were established for each county based on the aggregate



**Table 3. 2019 MFP Payment Rates for Specialty Crops, Hogs, and Dairy**

Commodity	2019 MFP Payment Rate	Estimated Compensation
Dairy (Milk)	\$0.20/Hundred Pounds	\$354 Million
Hogs	\$11.00/Head	\$831 Million
Nuts (Almonds, Hazelnuts, Macadamia Nuts, Pecans, Pistachios, and Walnuts)	\$146/Acre	\$318 Million
Cranberries	\$0.03/Pound	\$28 Million
Ginseng	\$2.85/Pound	\$6 Million
Sweet Cherries	\$0.17/Pound	\$111 Million
Table Grapes	\$0.03/Pound	\$70 Million

Source: US Department of Agriculture, Office of the Chief Economist, "Trade Damage Estimation for the 2019 Market Facilitation Program and Food Purchase and Distribution Program," August 22, 2019.

trade damage for affected commodities in the county divided by the average total acres of eligible crops reported to the USDA's Farm Service Agency over 2015–18.<sup>13</sup> Those rates were subject to a \$15 per-acre minimum cap and a \$150 per-acre maximum cap.

The following crops (termed "specialty crops" by the USDA) were also eligible for 2019 MFP payments: almonds, cranberries, cultivated ginseng, fresh grapes, fresh sweet cherries, hazelnuts, macadamia nuts, pecans, pistachios, and walnuts. As in 2018, hog and dairy producers were also eligible for 2019 MFP payments. In contrast to county-level payment rates for non-specialty crops, 2019 MFP payments for "specialty" crops, hogs, and dairy were based on a single, national payment rate either multiplied by acres under cultivation in 2019 (for specialty crops), hog inventories, or milk production history. Rates and associated trade damage estimates are shown in Table 3. Finally, under certain conditions, farmers who could not plant crops in 2019 because of adverse weather conditions would also be eligible for MFP payments.<sup>14</sup>

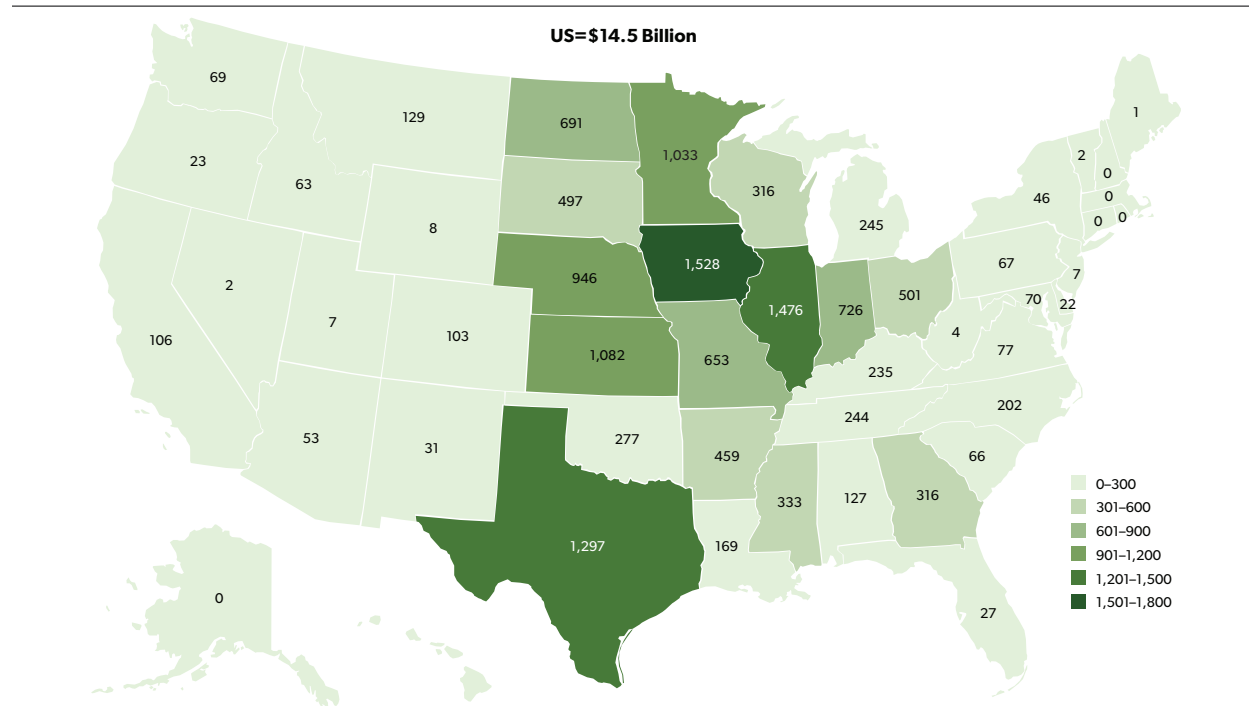
How does the geographic distribution of 2019 MFP payments differ from 2018? To estimate the final distribution of 2019 MFP payments, authorized by the Trump administration to be up to \$14.9 billion, payments in each county were estimated by multiplying

the county payment rates announced by the USDA by the acres planted to each eligible crop farmers reported to the USDA Farm Service Agency in August 2019. This approach yields a total of nearly \$14.5 billion in estimated 2019 MFP payments. The USDA reported that by September 30, 2019, of the \$14.9 billion authorized for 2019 compensation payment losses, about one-third, nearly \$5.2 billion, had already been paid out. The top five recipient states were Iowa, Illinois, Minnesota, Nebraska, and Kansas, four of which are in the corn belt.<sup>15</sup> The geographical distribution of the estimated payments is presented in Figure 2.

Several caveats apply to the analysis. First, the analysis is at the county rather than farm level; thus, it does not account for any effects of farm-specific payment limitations and caps on total farm areas eligible for assistance. The analysis also assumes every farm participates fully in the MFP. All these caveats suggest that the MFP payment estimates presented here may be biased upward. Nonetheless, the estimates indicate both the geographical distribution of MFP outlays and, as reported in Table 4, the likely distribution of those payments across eligible commodities.

These results suggest that in contrast to the 2018 MFP, in which almost 76 percent of payments went to soybean acres, the 2019 MFP payments will be more evenly distributed across corn acres (\$5.1 billion) and



**Figure 2. Estimated 2019 MFP Payments (Million USD)**

Source: Author's calculations based on 2019 FSA acres (August 2019) and county 2019 MFP payment rates.

**Table 4. Estimated Payments and National Average Payment Rates for Selected Commodities Under the 2019 MFP**

Commodity	Acres (Million Acres)	Average Payment Rate (\$ per Acre)	Payments (Million USD)	Percentage of Total MFP Payments
Alfalfa	9.8	38.20	373.8	2.6
Barley	2.5	24.46	60.8	0.4
Corn	85.4	59.88	5,116.1	35.7
Upland Cotton	12.3	98.84	1,218.4	8.5
Peanuts	1.4	102.61	144.0	1.0
Rice	2.4	72.17	176.2	1.2
Sorghum	4.7	61.79	293.4	2.0
Soybeans	73.9	64.47	4,766.7	33.2
Wheat	45.9	35.68	1,639.0	11.4
Other	14.4	38.36	552.4	3.9
<b>Total</b>	<b>252.7</b>	<b>56.76</b>	<b>14,340.8</b>	<b>100.0</b>

Source: Author's calculations based on 2019 FSA acres (August 2019) and county 2019 MFP payment rates.

**Table 5. Estimated US Farm Income with and Without MFP (Billion USD)**

	2014	2015	2016	2017	2018	2019*
Net Cash Income	131.3	106.8	95.6	102.5	105.0	112.6
Without MFP	—	—	—	—	99.9	101.9
Net Farm Income	92.1	81.4	62.0	77.7	84.0	88.0
Without MFP	—	—	—	—	78.9	77.3

Note: \*The asterisk denotes “forecast.”

Source: US Department of Agriculture, Economic Research Service, “Farm Income and Wealth Statistics,” 2019, <https://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/>.

soybean acres (\$4.6 billion). However, given that most soybean farmers also raise corn, in 2019 those operations will continue to receive close to 70 percent of all MFP outlays just as they did in 2018. Payments to wheat and cotton acres are estimated to be far higher than they were in 2018. For wheat, \$1.6 billion is estimated to be paid in 2019, compared to \$238 million in 2018; for cotton, 2019 MFP payments are estimated at \$1.2 billion, compared to \$551 million in 2018. While the midwestern states are expected to receive a large portion of the 2019 MFP payments (reflecting corn and soybean production in that region), large payments are also expected in cotton-producing regions such as Texas, the Mississippi Delta states, and the southeastern United States (Figure 2).

The 2018 and 2019 MFPs are estimated to significantly affect US farm income. The USDA’s Economic Research Service estimates that net cash income was \$5.1 billion higher in 2018 due to the 2018 MFP payments and forecasts that net cash income for 2019 will be \$10.7 billion higher because of the 2018 and 2019 MFP payments.<sup>16</sup> With the infusion of MFP payments, net cash and net farm income measures in 2019 are projected to be at the highest levels since 2014 (a near record year for farm income); without those payments, both measures would be below 2017 levels but still substantially higher than in 2016 (Table 5).

An important question is whether the 2018 and 2019 MFP payments are commensurate with the actual losses producers suffered. The USDA established

its compensation formula based on the value of displaced trade with China and other countries that imposed counter-retaliatory tariffs on the United States in 2018 and 2019. In justifying their approach, the USDA argued that estimates of gross trade damage are often employed in adjudicating trade dispute cases.<sup>17</sup> However, a number of factors suggest that the trade damage estimates the USDA calculated likely substantially overestimated the impact for some US producers (and potentially underestimated the impact on others).

In the 2018 program, compensation was restricted only to commodities for which there was substantial trade with China in 2017. Thus, corn producers, who saw market prices fall by 15–20 percent after China imposed retaliatory tariffs in 2018, received little compensation because US corn exports to China were relatively small in 2017. In the 2019 program, the USDA used the same general “gross trade damage” methodology but increased payments substantially by basing losses for each commodity on the highest level of US exports for that commodity over the past 10 years.

Second, the USDA model did not consider that some of the displaced trade was exported to other countries or that some of the displaced exports would be consumed at home. Thus, price impacts were likely overstated. In addition, while many producers were hurt by lower market prices due to tariffs, other producers who purchase those commodities as inputs (e.g., feed) may have even benefited from the trade actions.<sup>18</sup>

**Table 6. Estimated Impact of Retaliatory Tariffs on US Soybean Prices**

Study	Year Affected	Price Impact (\$ per Bushel)
USDA, Office of the Chief Economist (2018)	2018	−\$1.65
USDA, Office of the Chief Economist (2019)	2019	−\$2.05
Adjemian et al. (2019)	2015–19	−\$0.65
Muhammad and Smith (2018)	2018	−\$0.33 to −\$1.76
Sabala and Devadoss (2019)	2018	−\$1.09
Taheripour and Tyner (2018)	2018	−\$0.37 to −\$0.46
Westhoff, Davids and Soon (2019)	2019	−\$0.78
Zheng et al. (2018)	2018	−\$0.36

Source: See the “Notes” section for complete citation information.<sup>21</sup>

Recent empirical studies of the retaliatory tariff actions have reported far smaller effects on US markets and producers (Table 6). Most studies suggest that the price impacts for soybeans were roughly half of what the USDA had estimated. For example, a 2019 study by Pat Westhoff et al. found that China tariffs on soybeans likely caused a \$0.78 per bushel drop in the US soybean price for 2019–20 after accounting for full effects on US exports and domestic use.<sup>19</sup> That compares to the USDA’s estimate of \$1.65 per bushel for the 2018 MFP soybean compensation rate and \$2.05 per bushel for 2019 (the rate used in calculating 2019 damages on a countywide basis). Westhoff et al. estimate that overall losses to US net farm income due to China’s retaliatory tariffs would be \$2.9 billion in 2019 and \$3.9 billion in 2020 for a total of \$6.8 billion, compared to the \$14.5 billion the Trump administration authorized for 2019 MFP payments.<sup>20</sup>

A concern particularly relevant in the context of the WTO is whether MFP payments affected crop production and, in particular, the areas planted to different crops. In this context, the timing of payment announcements and payments is relevant. The 2018 MFP was announced in July 2018, after spring plantings were complete for eligible crops such as

soybeans, corn, cotton, and wheat, so the 2018 payments likely minimally affected 2018 production.

The 2019 MFP was announced on May 23 in the middle of a wet spring, when less than half of the US corn crop and only one-fifth of the US soybean crop had been planted. As outlined above, the USDA established payment rates on a per-acre basis for eligible crops in a county that were “not dependent on which of those crops are planted in 2019.”<sup>22</sup> Nonetheless, producers were only eligible for a 2019 MFP payment rate if the crop was planted, thus coupling the payment to production.

Another relevant issue is whether providing ad hoc MFP support in successive years leads producers to expect MFP or similar payments in future years. For example, during 1998–2001, Congress passed annual ad hoc agricultural assistance programs that provided additional income support to the sector to compensate for low crop prices. That support was used to justify additional spending in the 2002 Farm Bill in the form of a new countercyclical payments program. Whether the current trade aid programs will continue beyond 2019 is uncertain, but President Trump has indicated that he would be open to providing more assistance to the farm sector in 2020 if producers

continued to face retaliatory tariffs.<sup>23</sup> To the degree that producers anticipate future ad hoc assistance programs, they may have incentives to plant crops likely to be eligible for those payments based on expectations of future assistance rather than on market prices. Those expectations could distort production decisions and market prices.

### WTO Disciplines on Domestic Support Measures

The extent to which MFP payments are coupled to current production and the sheer size of the 2018 and 2019 MFP payments have raised questions about whether the United States will remain compliant with its WTO domestic support commitments. Since 1995, the United States has been obligated to report agricultural subsidies to the WTO under the Uruguay Round Agreement on Agriculture (URAA). The URAA domestic support disciplines distinguish between programs that are “minimally trade distorting” and programs that are not.

Subsidies viewed as minimally trade distorting are categorized as “green box” programs and exempt from commitments to reduce domestic subsidies and other forms of support. To be included in the green box, program payments must not be linked to either current production or current market prices and must meet specific policy criteria spelled out in Annex 2 of the URAA.<sup>24</sup> A different “blue box” category of subsidies is addressed in Article 6.5 of the URAA. Any subsidies and other forms of income transfers that would normally be included in the “amber box” as trade distorting can be placed in the blue box if the program is “production limiting.” Such programs must meet specific criteria under which payments are made on fixed areas and fixed yields, not current planted areas and current yields. Under the URAA, blue box expenditures are not capped and are exempt from reduction commitments.<sup>25</sup>

Amber box subsidies are classified as having more than minimal trade-distorting effects and are capped under the terms of the URAA. Amber box support includes payments to producers that are tied to

current production levels, market price support programs, and other policies that make payments based on current output and current market prices such as crop insurance programs. These subsidies are converted into an aggregate measurement of support (AMS) using a set of predetermined and prescribed accounting rules. Under the URAA, each country commits to maintain its total current AMS below an agreed level. For the United States, the cap on its total AMS is \$19.1 billion.

Amber box subsidies are classified into two subgroups: product-specific and non-product-specific supports. Both categories are subject to de minimis tests that exempt support below a specific share of the value of production for the relevant commodities from the reported AMS. For developed countries such as the United States, if the estimated level of support is less than 5 percent of the value of current production, support is considered de minimis and excluded from calculations of the total current AMS.

Table 7 shows how the United States has self-notified major trade-distorting agricultural domestic support programs to the WTO. Most of the programs that provide price or income support to producers are reported as amber unless they meet criteria that qualify them for green box designation. However, many US programs provide product-specific support, including the sugar price support program, premium subsidies under the federal crop insurance program, and payments under the Dairy Margin Coverage Program.

The United States also operates several programs designated as non-product-specific that involve generally available subsidies not tied to a particular commodity. These programs include grazing fee subsidies, water subsidies, and premium subsidies for whole-farm insurance policies. In addition, the United States has generally notified payments under the countercyclical Price Loss Coverage (PLC) and the Agricultural Risk Coverage (ARC) programs as non-product-specific amber programs. The United States has justified reporting PLC and ARC outlays as non-product-specific support by arguing that while both programs establish payment rates based on commodity-specific prices and yields, a producer

**Table 7. Classification of Selected US Production-Distorting Domestic Support Policies for WTO Reporting Purposes**

Type of Support	Examples	Classification for WTO Reporting Purposes
Supply limiting support	Deficiency payment programs under 1990 Farm Bill	Blue box (Article 6.5)
Market price support	Sugar loan program	Product-specific amber support
Output-based income support	Marketing Assistance Loan Program	Product-specific amber support
Crop and livestock insurance	Federal Crop Insurance Program	Product-specific amber support
Margin insurance	Dairy Margin Coverage	Product-specific amber box
Price- and revenue-based countercyclical payments tied to planted areas	PLC and ARC payments made on generic base acres	Product-specific amber support
Disaster programs	Livestock Indemnity Program	Product-specific amber support
Generally available input subsidies	Grazing fee subsidies; water subsidies	Non-product specific amber support
Whole farm insurance	Whole farm crop insurance	Non-product specific amber support
Decoupled Price-Linked Countercyclical Program	PLC	Non-product-specific amber support
Decoupled Revenue-Linked Countercyclical Program	ARC	Non-product-specific amber support

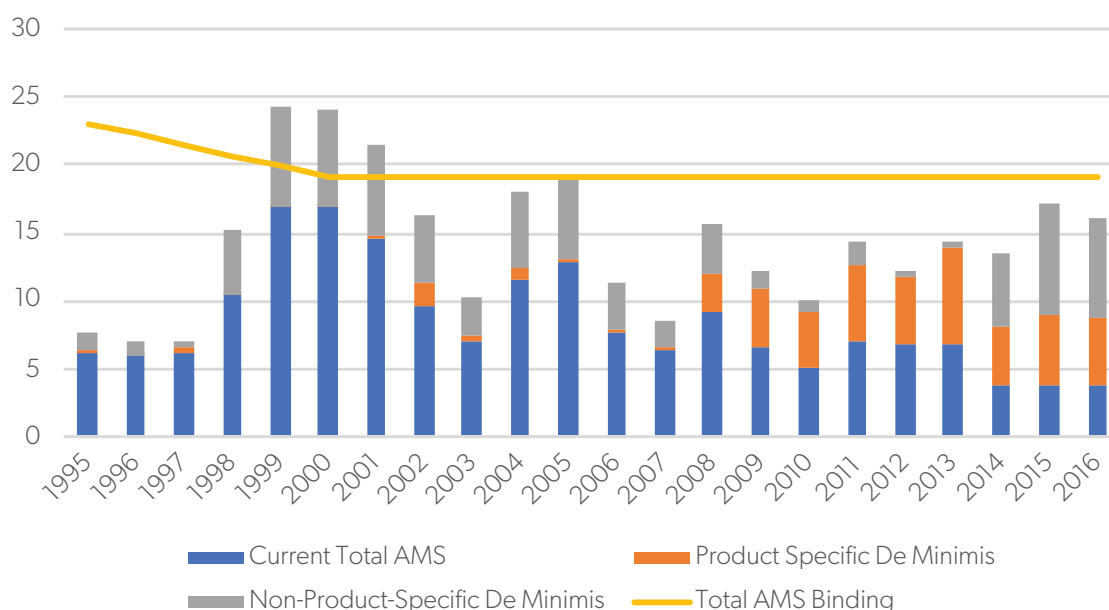
Source: World Trade Organization, "Agricultural Information Management System," accessed October 14, 2019, <http://agims.wto.org>.

receives a payment determined by the amount of the crop historically grown on the farm, not the area planted in the current year.<sup>26</sup>

US domestic support levels, as measured by the reported current total AMS, have remained below the US WTO binding since reporting began in 1995 (Figure 3). The countercyclical nature of many US farm programs causes subsidy outlays and total AMS levels to fluctuate from year to year, raising concerns that countercyclical programs such as ARC and PLC could push total support high enough to breach AMS bindings if prices for major commodities were to fall substantially.<sup>27</sup> In recent years, the levels of reported de minimis support have been quite high, often two to three times the level of the reported total AMS. Premium subsidies for crop insurance account for the bulk of product-specific de minimis support, while

since 2014 ARC and PLC payments have accounted for most of the non-product-specific de minimis support.

Other WTO members have raised concerns about how the United States has classified domestic support measures and, in particular, the designation of commodity support programs such as ARC and PLC as non-product-specific. For example, in 2007, Canada and Brazil brought separate cases to the WTO Dispute Settlement Body arguing that the United States had misclassified several programs such as crop insurance and countercyclical payments as non-product-specific support.<sup>28</sup> As a result, support levels under those programs fell below the 5 percent threshold and were treated as de minimis outlays in US notifications because the de minimis threshold for non-product-specific support has been interpreted as 5 percent of the value of total US agricultural production.

**Figure 3. US Trade-Distorting Domestic Support**

Source: World Trade Organization, "Agricultural Information Management System," accessed October 14, 2019, <http://agims.wto.org>.

So the de minimis threshold averaged about \$10 billion annually during the late 1990s and early 2000s. Brazil and Canada argued that if the US had reported countercyclical and crop insurance program payments as product-specific amber subsidies, then they would have exceeded de minimis levels for some individual products and, as a result, the US total AMS would have exceeded US bindings. The cases were ultimately suspended (in part because support levels had fallen considerably by 2008 in response to what were then record-high commodity prices). Nevertheless, since 2012, the United States has notified crop insurance premium subsidies as product-specific amber support. However, countercyclical payments under the ARC and PLC programs are still reported as non-product-specific except for payments made on what were called "generic base acres" between 2014 and 2018.<sup>29</sup>

Since 2002, farm bills have required the US secretary of agriculture to cut agricultural spending, in consultation with Congress, if it appeared that WTO limits would be breached. Section 1601(d) of the 2014 Agriculture Act stipulates that:

If the Secretary determines that expenditures under this title that are subject to the total allowable domestic support levels under the Uruguay Round Agreements (as defined in section 2 of the Uruguay Round Agreements Act (19 U.S.C. 3501)) will exceed such allowable levels for any applicable reporting period, the Secretary *shall, to the maximum extent practicable*, make adjustments in the amount of such expenditures during that period to ensure that such expenditures do not exceed the allowable levels. (Emphasis added.)

To date, the United States has neither exercised this authority nor published regulations suggesting how those provisions would be implemented if trade-distorting support would likely breach the total AMS cap. One difficulty facing implementation is the timing of payments. For example, payments under price- and revenue-based programs such as PLC and ARC are calculated using season-long average commodity prices, which are not determined until the end of the marketing year. Other measures used to determine de minimis thresholds such as the value of



agricultural production may not be known until after payments are made.

### **Potential Implications of the MFP for US Trade-Distorting Domestic Support Levels**

The most recent US domestic support notification, which was for the 2016 reporting year, occurred in October 2018.<sup>30</sup> Thus, support levels for 2017, 2018, and 2019 have to be estimated using publicly available data from the USDA and applying the same classifications for each program used by the United States in its most recent WTO notifications. For 2017, product-specific amber box payments consisted of crop insurance subsidies, ARC and PLC payments paid on what were known as generic base acres, market price supports for sugar, marketing, assistance loan payments, and interest rate subsidies. Non-product-specific amber box supports included generally available production subsidies (such as grazing fee subsidies, storage subsidies, whole-farm insurance subsidies, and irrigation subsidies) and payments under the ARC and PLC program.

To estimate support levels for 2018 and 2019, determining how “trade aid” payments will be classified is required. The United States has argued in the past that trade promotion programs such as the Agricultural Trade Promotion Program do not provide direct support to producers. So such payments have not been notified to the WTO. Normally, outlays under food purchase and distribution initiatives, such as the Food Stamp Program, are notified as green box expenditures because the aid is distributed to low-income people, children, and the elderly. However, the additional food distribution subsidies made under the Food Purchase and Distribution Program were explicitly targeted to offset adverse price effects for commodities specifically affected by retaliatory trade tariffs. Thus, those purchases are tied to price and quantity and hence could arguably be challenged by other WTO members as amber box support.

Under the 2018 MFP, support payments were based on each farm’s production of an eligible commodity

in that year, multiplied by the commodity-specific payment rate the USDA determined. Hence, the 2018 MFP subsidies would likely be classified as product-specific amber box outlays. The 2019 MFP payments are being made on a similar basis for hogs, dairy, and USDA-designated specialty crops (such as almonds, cranberries, cultivated ginseng, fresh grapes, fresh sweet cherries, hazelnuts, macadamia nuts, pecans, pistachios, and walnuts). Therefore, such payments are also likely to be notified as product-specific amber box subsidies.

For the non-specialty crops covered under the 2019 MFP (such as corn, cotton, rice, soybeans, and wheat), payments are made on a per-acre basis based on a common payment rate across crops in each county. Given the generic nature of the payment rate and based on how other support programs have been notified in the past, the United States will likely notify those payments as non-product-specific support.<sup>31</sup> However, the 2019 MFP payments are tied to the farmer’s decision to plant a specific crop, so those payments could arguably be interpreted as product-specific in nature.<sup>32</sup> Alternatively, since payments are based on a fixed payment rate and the total area eligible for payments cannot exceed 2018 levels, 2019 payments could be arguably notified as blue box payments, even though the program lacks any “production limiting” feature.<sup>33</sup>

Table 8 presents estimates of US amber box product-specific expenditures for 2017, 2018, and 2019. In 2017, product-specific support levels were below \$4 billion, with sugar, cotton, peanuts, sorghum, and wheat accounting for the majority of support. The amount reported as de minimis support is almost \$5 billion, largely reflecting crop insurance subsidies for crops for which total product-specific amber subsidies fell below 5 percent of the value of that crop’s production. In some cases, de minimis support can be quite large. For example, in 2017 crop insurance premium subsidies for corn were about \$2.1 billion. However, even when other product-specific subsidies were included (e.g., \$23 million of corn ARC and PLC payments made on generic base acres), product-specific support for corn was only 4.4 percent of the value of corn production in 2017.



**Table 8. Product-Specific Support<sup>34</sup>**

Commodity	2017	2018	2019 MFP Outlays Notified as Non-Product- Specific Support	2019 MFP Outlays Notified as Product-Specific Support
	Million USD			
Sugar	1,515	1,517	1,519	1,519
Corn	dm*	dm	dm	7,461
Cotton	654	1,354	657	1,876
Peanuts	157	dm	dm	180
Sorghum	124	413	101	394
Soybeans	dm	8,680	dm	5,939
Wheat	602	874	700	2,339
Other	160	705	216	505
Sum of Product-Specific AMS	3,212	13,543	3,193	20,213
Sum of Product-Specific De Minimis	4,876	4,985	6,604	2,915

Note: \*The abbreviation “dm” denotes the outlay is de minimis and is included in total de minimis.

Source: Author’s calculation using data from US Department of Agriculture’s Farm Service Agency, Risk Management Agency, and National Agricultural Statistics Service for 2017 outlays. Congressional Budget Office for estimated 2018 and 2019 farm program payments.

In 2018, estimated total amber box product-specific supports increased significantly to \$13.5 billion, primarily because of \$8.7 billion in payments for soybeans (\$7.3 billion in MFP payments plus \$1.4 billion in crop insurance subsidies). Product-specific subsidies for cotton, wheat, and sorghum also increased because of 2018 MFP payments.

Product-specific support for 2019 depends on how MFP payments for non-specialty crops are notified. If MFPs for non-specialty crops such as corn and soybeans are notified as product-specific support, the total product-specific AMS would likely be \$20.2 billion and would exceed the US binding commitment on total AMS (\$19.1 billion). However, if those payments are notified as non-product-specific support, the total estimated product-specific AMS

for 2019 would decline to \$3.2 billion, \$10 billion less than in 2018 and similar in magnitude to the support levels notified as product-specific amber box subsidies in 2017.

Since the 2014 Farm Bill, the largest component of non-product-specific support has been subsidies paid under the ARC and PLC programs (Table 9). Those outlays are expected to increase in 2018 and 2019 due to lower market prices and provisions in the 2018 Farm Bill that allow producers to switch from the ARC program to the PLC program, which is expected to be more lucrative in 2019.

If MFP payments for non-specialty crops are notified as product-specific amber support, non-product-specific amber support levels for 2018 and 2019 would be \$4.4 billion and \$5.5 billion, respectively. Those

**Table 9. Non-Product-Specific Support**

Item	2017	2018	2019 MFP Notified as Non-Product- Specific Support	2019 MFP Notified as Product-Specific Support
	Million USD			
Irrigation Subsidies <sup>35</sup>	130	130	130	130
Grazing	38	38	38	38
Whole-Farm Insurance Subsidies	102	100	95	95
ARC Individual	29	17	15	15
Storage Facility	5	5	5	5
PLC County	1,822	2,566	4,779	4,779
ARC County	1,031	1,510	450	450
MFP	—	—	12,782	—
Sum of Non-Product-Specific Support	3,157	4,366	18,294	5,512
Value of Production	370,400	373,500	371,100	371,100
De Minimis Threshold	18,520	18,675	18,555	18,555

Source: Author's calculation using data from US Department of Agriculture's Farm Service Agency, Risk Management Agency, and National Agricultural Statistics Service for 2017 outlays. Congressional Budget Office for estimated 2018 and 2019 ARC and PLC payments.

levels would fall below de minimis threshold levels and not be added to the total current AMS. However, if those payments were notified as non-product-specific support, the total value (including ARC and PLC payments and other non-product-specific support) is estimated to be about \$18.3 billion in 2019.

Since the United States began notifying support to the WTO in 1995, US non-product-specific support has never exceeded 5 percent of the value of US agricultural production. Estimates by the USDA's Economic Research Service suggest that the value of agricultural production for 2019 will be \$371.1 billion, which would imply a de minimis threshold of \$18.6 billion. If total production value were to decline

below \$365 billion (or if ARC and PLC payments prove higher than anticipated), the de minimis threshold would be exceeded, and all the non-product-specific support would be reported as part of the total AMS.

Table 10 shows estimated US AMS levels for 2017, 2018, and 2019. Despite the large increase in total AMS projected for 2018 (\$13.5 billion), those AMS levels would still fall below the annual US total AMS bound commitment of \$19.1 billion. Total trade-distorting support (that is, amber box outlays including both product-specific and non-product-specific de minimis support) will likely exceed \$22.6 billion, which would be the highest level of trade-distorting domestic support reported since 2001.

**Table 10. Estimated US AMS for 2017, 2018, and 2019**

Item	2017	2018	2019 MFP Notified as Product-Specific Support	2019 MFP Notified as Non-Product- Specific Support
Product-Specific Support	Million USD			
AMS	3,212	13,543	20,213	3,193
De Minimis	4,876	4,985	2,915	6,604
Non-Product-Specific Support				
AMS	0	0	0	0
De Minimis	3,054	4,261	5,512	18,294
Total AMS	3,212	13,543	20,213	3,193
If NPS > De Minimis	—	—	—	21,487

Source: Author's calculations based on Tables 7 and 8.

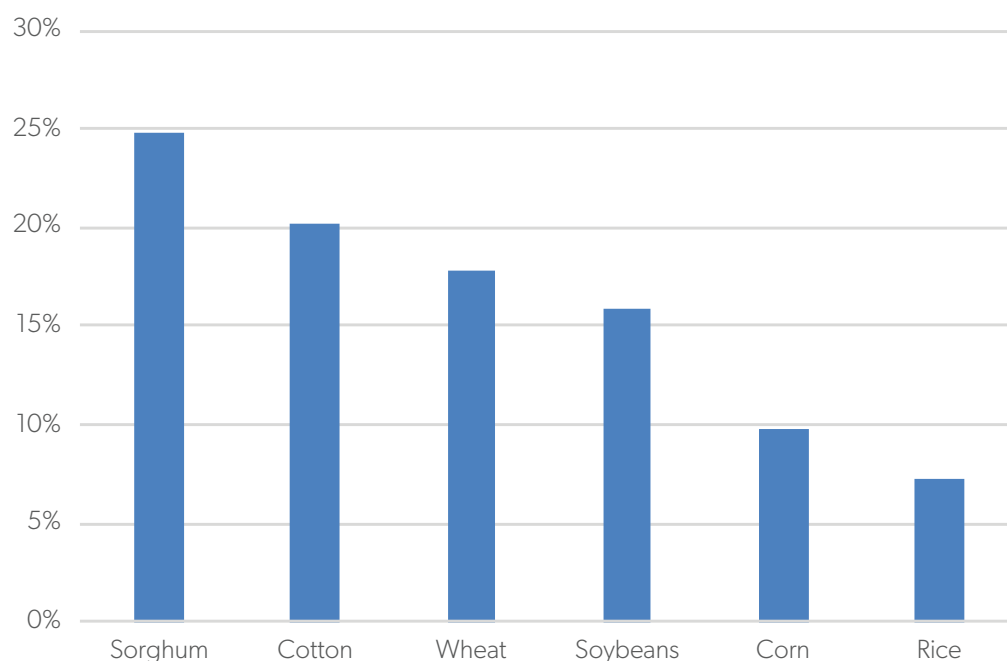
For 2019, the current total AMS depends on how MFP payments for non-specialty crops are notified. If notified as product-specific support, the current total AMS of \$20.2 billion would exceed the US total AMS bound commitment. More likely, the United States will notify the MFP payments for crops such as corn and soybeans as non-product-specific support. In that case, whether the 2019 current total AMS is within the \$19.1 billion cap will depend on whether non-product-specific support exceeds de minimis levels. If total non-product-specific support exceeds 5 percent of the value of agricultural production, current total AMS supports could be as high as \$21.5 billion and exceed the US binding commitment on total AMS of \$19.1 billion.

### Implications of Exceeding AMS Binding Levels of Support

While the preceding analysis suggests that the United States could exceed its domestic support bindings for 2019, what are the risks that they would be challenged by a WTO member under the WTO

dispute settlement mechanism? A number of WTO members raised questions about the 2018 and 2019 MFPs at the June 2019 meeting of the WTO Committee on Agriculture.<sup>36</sup> Because of the almost two-year lag associated with reporting US domestic support levels, the 2019 US domestic support notification to the WTO would likely not occur until sometime in late 2021. By that time, the trade war with China could be resolved and the MFP no longer in operation.

Further, the United States may well not exceed its WTO total AMS bindings because either total non-product-specific support falls below de minimis thresholds or the secretary of agriculture could act to implement Section 1601(d) of the farm bill to reduce payments to not breach bindings. However, that does not mean that the trade aid programs remain immune to challenges under other parts of the WTO agreements. For example, in the cotton case, Brazil charged that a wide range of US cotton subsidy programs had stimulated US cotton production and exports, causing “serious prejudice” (adverse impacts) to Brazil cotton producers because of the subsidies’ effects on world cotton prices.

**Figure 4. 2019 MFP Payments as Percentage of the Value of Crop Production**

Source: Author's calculation based on data from Table 4.

Figure 4 shows the projected size of 2019 MFP payments as a percentage of the projected value of production for corn, cotton, rice, sorghum, soybeans, and wheat. Sorghum and cotton MFP payments would be equal to about 20 to 25 percent of total crop value. Corn and soybean payments would range between 10 and 15 percent of value. Rice payments are smaller and account for about 5 percent of crop value.

Whether, as some have argued, the United States–Upland Cotton dispute provides a ready legal template for challenges to other crop programs remains to be seen. However, the Brazil cotton case has shown that domestic support programs are subject to successful WTO challenges. Policy innovations such as the 2018 and 2019 MFP may not result in agricultural support levels that exceed US AMS commitments. However, they may lead to successful WTO challenges by other countries that could involve punitive actions against US agricultural exports or hurt other sectors of the US economy.

## Conclusions

The recent trade wars have significantly damaged US agricultural exports, which have, in turn, lowered farm prices and crop receipts. The Trump administration has responded by providing US farmers with large compensatory payments that have added billions to farm program payments and in 2019 will likely increase sector-wide farm income by as much as 14 percent.

While MFP payments proponents argue that the US agricultural sector has borne the brunt of the Trump administration's retaliatory trade actions and should be compensated, critics point out that the so-called trade aid has been disproportionate to the losses suffered in the sector and that the aid has largely served to quiet criticism from a constituency that has largely supported the Trump administration. Concerns have been expressed that the aid will only further embolden unilateral trade policies if those affected believe they will be compensated in the future.

A much broader, longer-term concern is how trade compensation comports with US obligations in the WTO and, more generally, how it will affect future US efforts to seek further reforms in the WTO. The United States has long advocated for trade liberalization and has argued for farm subsidy reforms in the WTO, particularly for large emerging economies whose farm supports have grown considerably in recent years according to the Organisation for Economic Co-operation and Development.

To that end, in the waning days of the Obama administration, the United States launched a WTO challenge against China's support for corn, wheat, and rice producers claiming that China's support levels were inconsistent with China's obligations under the WTO Agreement on Agriculture. In February 2019, a WTO panel largely concurred with the United States, and China agreed to implement the panel's recommendations and rulings by March 2020.<sup>37</sup> The United States has raised similar concerns about India's farm programs and, with Canada, has recently questioned India's support for lentil and pulse producers.

Now, the shoe could be on the other foot. WTO members raised concerns over US trade aid at a recent Committee on Agriculture meeting in Geneva, Switzerland. A formal challenge could be initiated through the WTO Dispute Settlement Body if it appears that US support levels are exceeding their limit. What is more likely, however, is a challenge under the WTO Subsidies and Countervailing Measures Agreement, similar to the challenge brought by Brazil against US cotton subsidies in 2003.

In the cotton case, Brazil successfully argued that large subsidy payments for cotton insulated US producers from price shortfalls, stimulating increased production and hurting agricultural producers in other countries. The United States eventually lost that case and changed its cotton subsidy policies to

comply with the ruling. Under either scenario, an adverse ruling could lead to compensatory actions. It would also further erode the United States' leadership role in seeking further reforms in domestic subsidies and increased market access in the WTO. Given that the United States is a major exporter of agricultural commodities, this could significantly hurt the US farm sector.

Despite hopeful signs that a partial trade deal with China may help normalize agricultural trade, a final deal has yet to materialize. If price levels remain low and exports stagnate, pressures for another round of trade aid will be hard to resist in 2020, particularly in an election year. While that aid may help producers in the short run, the long-term harm in world markets and US relationships with major trading partners could prolong problems for the sector well beyond 2020.

## About the Author

**Joseph Glauber** is a senior research fellow at the International Food Policy Research Institute and a visiting scholar at the American Enterprise Institute. He previously spent 30 years at the US Department of Agriculture, where he served as chief economist from 2008 to 2014.

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# Appendix

**Table A1. Estimated MFP Payments, 2018 and 2019**

State	2018 MFP	2019 MFP
	Million Dollars	
Alabama	47	127
Alaska	—	—
Arizona	16	53
Arkansas	279	459
California	70	106
Colorado	23	103
Connecticut	—	—
Delaware	11	22
Florida	4	27
Georgia	62	316
Hawaii	—	—
Idaho	24	63
Illinois	1,109	1,476
Indiana	571	726
Iowa	986	1,528
Kansas	536	1,082
Kentucky	153	235
Louisiana	106	169
Maine	1	1
Maryland	36	70
Massachusetts	—	—
Michigan	192	245
Minnesota	680	1,033
Mississippi	217	333
Missouri	440	653
Montana	29	129

State	2018 MFP	2019 MFP
	Million Dollars	
Nebraska	574	946
Nevada	1	2
New Hampshire	—	—
New Jersey	7	9
New Mexico	12	31
New York	41	46
North Carolina	104	202
North Dakota	441	691
Ohio	470	501
Oklahoma	66	277
Oregon	15	23
Pennsylvania	50	67
Rhode Island	—	—
South Carolina	23	66
South Dakota	429	497
Tennessee	138	244
Texas	234	1,297
Utah	3	7
Vermont	3	2
Virginia	44	77
Virgin Islands	—	—
Washington	50	69
West Virginia	2	4
Wisconsin	203	316
Wyoming	1	8
United States	8,503	14,340

Note: The em dash denotes payments less than \$1 million.

Source: For 2018 MFP payments, see US Department of Agriculture, Farm Service Agency, “Market Facilitation Program,” 2019, <https://www.farmers.gov/manage/mfp>. The 2019 MFP payments were estimated by the author based on published Farm Service Agency county compensation rates and planted acres reported to the Farm Service Agency in August 2019.

# Notes

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1. US Department of Agriculture, “USDA Announces Support for Farmers Impacted by Unjustified Retaliation and Trade Disruption,” press release, May 23, 2019.
2. US Department of Agriculture, “USDA Announces Support for Farmers Impacted by Unjustified Retaliation and Trade Disruption.”
3. A third level of criticism has questioned the USDA’s use of administrative authority in providing direct payments to farmers under Section 5 of the Commodity Credit Corporation Charter Act. Those arguments are not discussed in this report. See Jeff Stein, “As Billions Flow to Farmers, Trump Administration Faces Internal Concerns over Unprecedented Bailout,” *Washington Post*, September 9, 2019, [https://www.washingtonpost.com/business/economy/as-billions-flow-to-farmers-trump-administration-faces-internal-concerns-over-unprecedented-bailout/2019/09/09/66ec9278-cfe6-11e9-b29b-a528dc82154a\\_story.html](https://www.washingtonpost.com/business/economy/as-billions-flow-to-farmers-trump-administration-faces-internal-concerns-over-unprecedented-bailout/2019/09/09/66ec9278-cfe6-11e9-b29b-a528dc82154a_story.html).
4. Under the 2018 MFP, no applicant could receive more than \$375,000. Under the 2019 program, the overall cap was raised to \$500,000. See Congressional Research Service, “Farm Policy: Comparison of 2018 and 2019 MFP Programs,” August 12, 2019, <https://crsreports.congress.gov>. Critics such as the Environmental Working Group have questioned the effectiveness of payment limits. See Jared Hayes, “Update: Trump’s USDA Trade Bailout Flows to City Slickers, a D.C. Lobbyist and ‘Farms’ on Golf Courses,” *AgMag*, August 15, 2019, <https://www.ewg.org/agmag/2019/08/update-trump-s-usda-trade-bailout-flows-city-slickers-dc-lobbyist-and-farms-golf>.
5. US Department of Agriculture, “USDA Assists Farmers Impacted by Unjustified Retaliation,” press release, July 24, 2018.
6. US Department of Agriculture, “USDA Announces Support for Farmers Impacted by Unjustified Retaliation and Trade Disruption,” press release, December 18, 2018.
7. US Department of Agriculture, “USDA Launches Second Round of Trade Mitigation Payments,” press release, December 17, 2018.
8. Congressional Research Service, “Farm Policy: USDA’s 2018 Trade Aid Package,” June 19, 2019, <https://fas.org/sgp/crs/misc/R45310.pdf>.
9. US Department of Agriculture, Office of the Chief Economist, “Trade Damage Estimation for the Market Facilitation Program and Food Purchase and Distribution Program,” September 13, 2018.
10. US Department of Agriculture, Farm Service Agency, “Market Facilitation Program,” 2019, <https://www.farmers.gov/manage/mfp>.
11. Detailed state-by-state information on MFP outlays is reported in Table A1.
12. US Department of Agriculture, “USDA Announces Support for Farmers Impacted by Unjustified Retaliation and Trade Disruption.”
13. Unlike the 2018 calculation, which used 2017 as its base period, the per-unit trade damage number for 2019 uses as its base period the year with the largest annual exports recorded over 2009–18. See US Department of Agriculture, Office of the Chief Economist, “Trade Damage Estimation for the 2019 Market Facilitation Program and Food Purchase and Distribution Program,” August 22, 2019. By cherry-picking the base period by commodity to maximize trade damages, the per-unit trade damage rates were in general much higher in 2019 than in 2018. For example, soybean damage rates were \$1.65 per bushel in 2018, compared to \$2.05 per bushel in 2019. Corn damage rates were only \$0.01 per bushel in 2018 but \$0.14 in 2019. Cotton damage rates went from \$0.06 per pound in 2018 to \$0.26 per pound for 2019.
14. Producers prevented from planting MFP-eligible crops in 2019 due to adverse weather, but who filed prevented-planting claims under the federal crop insurance program and planted a certified covered crop (with the potential to be harvested) on the unplanted acres, are eligible for the minimum \$15 per acre MFP payment, regardless of their location. Acres planted to an eligible crop in 2018 but not planted in 2019 were not eligible for an MFP payment.
15. US Department of Agriculture, Farm Service Agency, “Market Facilitation Program.”
16. Farm income estimates are reported on a calendar year basis. A portion of the 2018 MFP payments were paid out in 2019.



Likewise, it is expected that some of the 2019 MFP payments will be paid out in 2020. US Department of Agriculture, Economic Research Service, “Farm Income and Wealth Statistics,” 2019, <https://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/>.

17. US Department of Agriculture, Office of the Chief Economist, “Trade Damage Estimation for the Market Facilitation Program and Food Purchase and Distribution Program.”

18. Some have argued that the trade aid is insufficient since it covers losses in only 2018 and 2019 and does not address longer-term trade losses beyond 2019. See Alan Rappeport, “A \$12 Billion Program to Help Farmers Stung by Trump’s Trade War Has Aided Few,” *New York Times*, November 19, 2018, <https://www.nytimes.com/2018/11/19/us/politics/farming-trump-trade-war.html>.

19. Pat Westhoff, Tracy Davids, and Byung Min Soon, “A Hybrid Model Approach to Estimating the Impacts of China’s Tariffs on U.S. Soybeans” (paper presented at the Agricultural and Applied Economics Association annual meeting, Atlanta, GA, July 21–23, 2019).

20. Westhoff, Davids, and Soon, “A Hybrid Model Approach to Estimating the Impacts of China’s Tariffs on U.S. Soybeans.”

21. US Department of Agriculture, Office of the Chief Economist, “Trade Damage Estimation for the Market Facilitation Program and Food Purchase and Distribution Program”; US Department of Agriculture, Office of the Chief Economist, “Trade Damage Estimation for the 2019 Market Facilitation Program and Food Purchase and Distribution Program”; Michael K. Adjemian et al., “Estimating the Market Effect of a Trade War: The Case of Soybean Tariffs” (paper presented at the Agricultural and Applied Economics Association annual meeting, Atlanta, GA, July 21–23, 2019); Andrew Muhammad and S. Aaron Smith, “Evaluating the Impact of Retaliatory Tariffs on U.S. Soybeans in China,” University of Tennessee Extension, Institute of Agriculture, accessed October 14, 2018, <https://extension.tennessee.edu/publications/Documents/W532.pdf>; Ethan Sabala and Stephen Devadoss, “Impacts of Chinese Tariff on World Soybean Markets,” *Journal of Agricultural and Resource Economics* 44, no. 2 (2019): 291–310; Farzad Taheripour and Wallace Tyner, “Impacts of Possible Chinese 25% Tariff on US Soybeans and Other Agricultural Commodities,” *Choices* 33, no. 2 (2018): 1–7; Westhoff, Davids, and Soon, “A Hybrid Model Approach to Estimating the Impacts of China’s Tariffs on U.S. Soybeans”; and Yuqing Zheng et al., “Predicting Potential Impacts of China’s Retaliatory Tariffs on the U.S. Farm Sector,” *Choices* 33, no. 2 (2018): 1–6.

22. US Department of Agriculture, “USDA Announces Support for Farmers Impacted by Unjustified Retaliation and Trade Disruption.”

23. Kevin Breuninger, “Trump Promises More Aid for Farmers in 2020 ‘If Necessary’ as China Trade War Drags on,” CNBC, August 6, 2019, <https://www.cnbc.com/2019/08/06/trump-promises-more-aid-for-farmers-in-2020-as-china-trade-war-drag-on.html>.

24. The United States notifies numerous minimally trade-distorting programs under Annex 2, including programs that provide general services such as agricultural research and development expenditures, domestic food aid programs, environmental programs such as the Conservation Reserve Program and Conservation Stewardship Payments, and fixed direct payments under the 1996, 2002, and 2008 farm bills.

25. The United States notified its deficiency payment program as blue box in 1995, but that program was eliminated in the 1996 Farm Bill.

26. The 2014 Farm Bill eliminated countercyclical programs for cotton but allowed owners of former cotton payment acres (so-called generic base acres) to receive ARC and PLC payments if they were planted to crops for which ARC and PLC were eligible. Because those payments were tied directly to plantings, such payments were notified as product-specific amber box payments.

27. Joseph W. Glauber and Pat Westhoff, “The 2014 Farm Bill and the WTO,” *American Journal of Agricultural Economics* 97 (2015): 1287–97.

28. Before 2012, the United States notified crop insurance premium subsidies as non-product-specific amber support. See Joseph W. Glauber, “Agricultural Insurance and the World Trade Organization,” International Food Policy Research Institute, October 2015.

29. Base acres for the upland cotton program were eliminated in the 2014 Farm Bill and replaced with so-called generic base acres. Generic base acres were no longer eligible for cotton ARC or PLC payments (which had been eliminated as part of the negotiated settlement of the WTO cotton dispute with Brazil), but producers could receive ARC or PLC payments for eligible crops planted on those acres. Because payments were tied directly to plantings, such payments were notified as product-specific amber box payments. The 2018 Farm Bill eliminated generic base acres and allowed producers to convert them to payment base acres for the ARC and PLC programs for seed cotton.

30. As mentioned above, US notifications typically lag the actual reporting year by 18 to 24 months due to many payments not being finalized until the marketing season is over.

31. See, for example, Congressional Research Service, “Farm Policy: USDA’s 2019 Trade Aid Package.”

32. Commodity support can easily be calculated for each commodity based on reported plantings as we saw in Table 4.

33. Lars Brink has recently argued that the 2019 MFP program could be classified as a blue box program and notes WTO members such as the EU have notified fixed payment programs that lack supply control features under Article 6.5. See L. Brink, “Compatibility of U.S. Market Facilitation Program 2019 with WTO Blue Box Criteria,” Mimeo, September 15, 2019.

34. For 2017–19, the following data sources were used: for crop insurance subsidies, USDA’s Risk Management Agency; for ARC and PLC payments on generic base acres, market price support, and payments for marketing assistance loans, USDA’s Farm Service Agency. Estimates for sugar price support were based on sugar production estimates from USDA’s World Agricultural Outlook Board. Production values for each commodity were obtained from USDA’s National Agricultural Statistics Service.

35. Interest rate subsidies, storage facility payments, irrigation subsidies, and grazing payments were assumed equal to 2016 levels.

36. See questions by Australia, China, the European Union, India, New Zealand, and Ukraine at the October 2019 meeting of the Committee on Agriculture. World Trade Organization, “Agricultural Information Management System,” accessed October 14, 2019, <http://agims.wto.org>.

37. World Trade Organization, “Dispute Settlement: The Disputes,” October 14, 2019, [https://www.wto.org/english/tratop\\_e/dispu\\_e/dispu\\_status\\_e.htm](https://www.wto.org/english/tratop_e/dispu_e/dispu_status_e.htm).