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2018 Trade War, Mitigation Payments, and California Agriculture

Colin A. Carter, Jiayi Dong, and Sandro Steinbach

The U.S. substantially increased a number of import tariffs in 2018, precipitating a trade war that was very costly to U.S. agriculture, given its dependence on international trade. The losses arose because several trading partners retaliated with import tariffs targeted at U.S. agricultural exports. The U.S. government then created the Market Facilitation Program (MFP) to compensate U.S. farmers for trade-war losses. Except for cotton and rice, California farmers were not made whole by the MFP payments. California's producers of tree nuts, dairy, and processed fruits and vegetables were the biggest losers.

President Trump launched a trade war in 2018 to pressure reforms of the Chinese economic system that facilitated unfair trade practices, including forced technology transfer, limited market access, intellectual property theft, and subsidies to state-owned enterprises. The U.S. government argued that new import tariffs would narrow the U.S. trade deficit with China and convince multinational companies to bring manufacturing jobs back home. While the United States imposed tariffs on more than $550 billion of Chinese products, China retaliated with tariffs on more than $124 billion of U.S. goods between July 2018 and August 2019. The trade war caused economic pain on both sides of the dispute and led to the diversion of trade away from China and U.S. bilateral flows. It also forced American companies to accept lower profit margins, cut wages and jobs for U.S. workers, and raised prices for U.S. consumers and companies. U.S. farmers lost billions of dollars in export sales to China due to retaliatory tariffs.

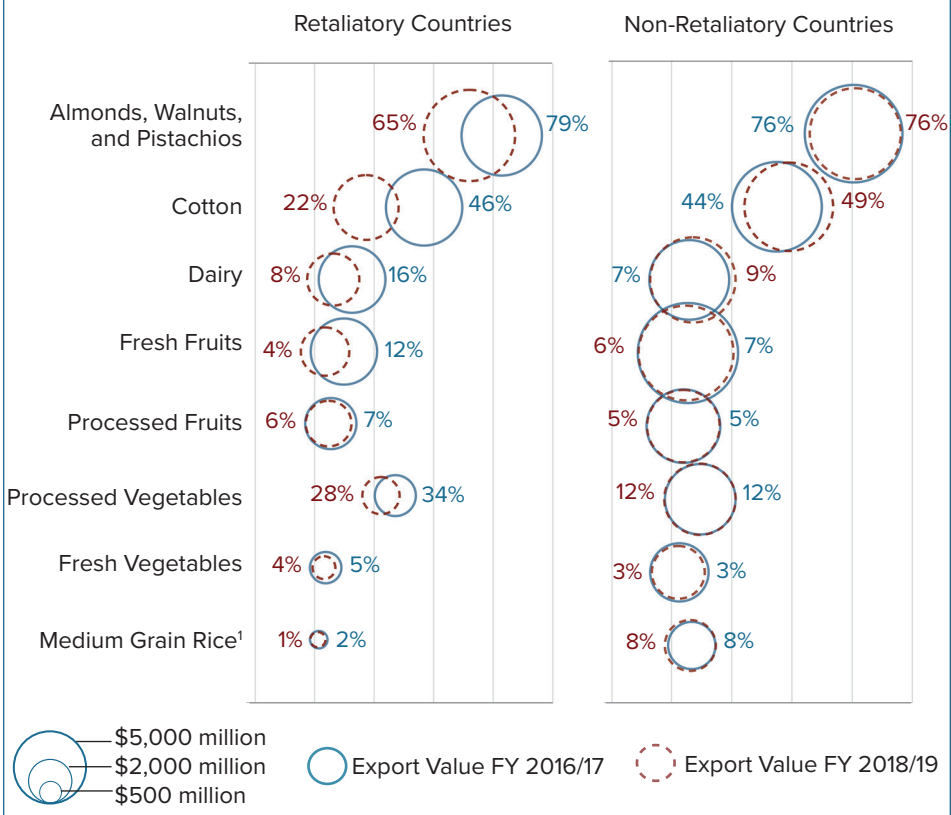
In this article, we report on research that estimates the impact of the 2018 trade war on California agriculture. We measure the lost value of exports due to the trade war and then compare the trade-war losses with the government compensation payments—under the Market Facilitation Program (MFP). We find that overall, California's losses from the trade war far exceeded the government compensation payments. The stated objective of the MFP was to provide taxpayer assistance to farmers that had been harmed by the trade war. However, in reality, the MFP program was mostly about political patronage, especially for producers of certain commodities in selected states.

The MFP was a two-year program. In this article, we refer to the 2018 MFP as MFP1 and the 2019 MFP as MFP2. The MFP1 program distributed $8.6 billion and the MFP2 upped the ante to $14.4 billion in direct payments to farmers who were considered financially harmed by trade disruptions and tariffs. Eligible commodities under MFP1 were five non-specialty crops (corn, cotton, sorghum, soybeans, and wheat), two specialty crops (fresh sweet cherries and shelled almonds), dairy, and hogs. MFP1 subsidies were calculated based on percent change in gross trade volume lost, compared to 2017. The *but for* value of trade was then estimated with a global trade simulation model.

MFP2 expanded commodity coverage and eligible commodities included: (1) 27 non-specialty crops such as grains, oilseeds, and cotton; (2) 10 specialty crops (including almonds, fresh grapes, pecans, pistachios, and walnuts); and (3) dairy and hogs. The 2019 payments for non-specialty and specialty crops were based on average county-level yields and farm planted acres. There

Figure 1. Exports of U.S. Products Before and During the Trade War[1]

Retaliated Products Relevant to California, Export Value in $ Millions, and U.S Market Share in Percent



Note: [1] Import data from the retaliatory and non-retaliatory countries used for all categories except medium grain rice. Retaliation (tariff change) identified at HS6 level. For medium grain rice, U.S. export data used for circle size and overall rice (including long grain rice) share used for vertical axis value.

Source: Global Trade Atlas by IHS Markit; authors' analysis.

were uniform county-wide payments made for eligible commodities.

To calculate MFP2 payments, the U.S. government used the maximum annual value of exports over the previous ten years as the baseline, which greatly inflated payments in 2019 compared to 2018. Under MFP2, California farmers received about $355.4 million in total, which worked out to about $31,733 per farming operation eligible for payments. The amount paid out to California was about $99.1 million for non-specialty crops, $186.3 million for specialty crops, and $70.1 million for livestock (mostly dairy and dairy products).

Compared to its share of agricultural commodities impacted by the trade war and the losses incurred, California was not a big recipient of MFP payments. We found that California losses during the first year of the trade war (2018–2019) were about $875.1 million. MFP1 and MFP2 payments amounted to $96.0 and $355.4 million, respectively for 2018 and 2019. So even if we combine the MFP compensation for two years, it is only about one-half of the California trade losses in a single year. Unlike the case for several states in the Midwest and Southern U.S., overall the farmers in California were undercompensated. However, some commodities were overpaid (e.g., rice and cotton), while others were undercompensated (e.g., nuts and dairy), and some received no compensation at all (e.g., processed vegetables and fruits).

The 2018 Trade War

The U.S. government imposed tariff increases against major trading partners in 2018. These new tariffs were implemented for a variety of stated reasons, including national security concerns and the desire to force economic policy change in foreign countries. In response to U.S. tariffs, several trading partners imposed retaliatory tariffs against products imported from the United States. These countermeasures increased the average import tariff from 7.5% to 23.5% for 6,341 products covering about $124 billion (14.4%) of the pre-trade war imports from the United States. This return to protectionism is unprecedented in recent U.S. history (at least not since the Smoot-Hawley 1930 tariffs), measured by the number of countries and products involved, as well as the magnitude of the tariff increases. The retaliatory tariffs depressed U.S. exports of targeted products and impeded the ability of U.S. producers to compete in international markets.

In relative terms, the agricultural and food industry was affected more by retaliatory tariffs than any other sector of the economy. China imposed retaliatory tariffs on almost all agricultural and food products; Canada on processed meats, and fruits, vegetables, coffee, and whiskey; Mexico on processed fruits, and pork, cheese, and vegetables; the EU on processed vegetables, and legumes, grains, fruit juice, peanut butter, and whiskey; and Turkey on tree nuts, rice, some prepared foods, whiskey, and tobacco.

We calculated that the average foreign tariff on U.S. agricultural and food products increased from 8.3% to 28.6%, targeting 908 products and encompassing more than $31.9 billion USD (37.1%) of agricultural and food exports of the United States. The impact of retaliatory tariffs was particularly significant for agricultural and food trade with China. U.S. exports of agricultural products to China decreased by 53% between 2017 and 2018.

Several of the retaliatory tariffs were ultimately lifted as a result of ongoing negotiations. In May 2019, Canada and Mexico lifted their retaliatory tariffs to clear the way for the ratification of the United States-Mexico-Canada Agreement (USMCA), as the U.S. also lifted its tariffs on steel and aluminum

from Mexico and Canada. The U.S. and China reached a trade deal in January 2020 that could ease trade tensions, as China committed to significantly increase imports of bulk products such as corn and soybeans from the United States.

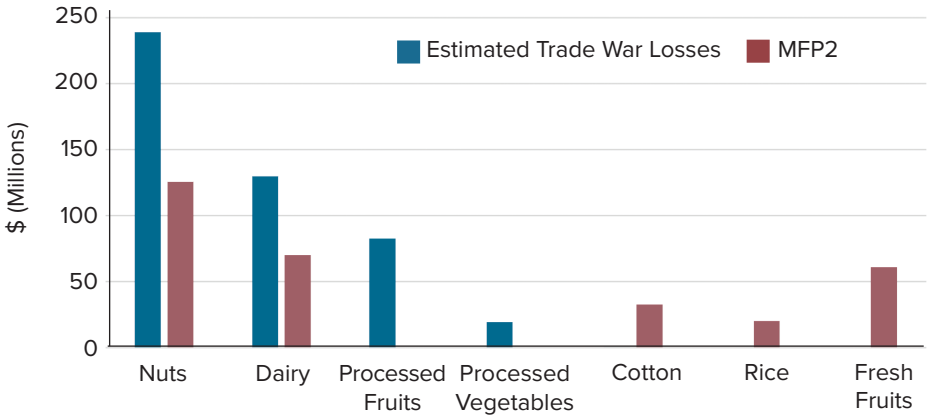
California Impacts

While the trade war had profound implications for the agricultural and food industry in the U.S. as a whole, it had even a more substantial impact on California's farmers and food processors. Research at Iowa State University found that California incurred the largest net economic welfare loss among all states, after accounting for taxpayer cost of the MFP payments. As the trade war winds down, one of the most important questions for California agriculture is what sort of export opportunities were left on the table because of the trade war?

Globally, China is one of the largest importers of agricultural products and China's agricultural imports were growing rapidly in 2018 and 2019. However, to some extent, California was closed out of this market because the retaliatory tariffs favored other exporting countries that were not subject to these tariffs. For instance, Australia (almonds, grapes, oranges, walnuts), Peru (grapes), Chile (walnuts, grapes), Egypt (oranges), and Iran (pistachios) gained from the Chinese tariffs against the United States. Before the trade war, California was the major exporter of walnuts to China, but with the retaliatory tariffs, China shifted to Chile and Australia for imported walnuts. Almost all California products exported to China experienced a significant drop in market share, with the U.S. market share for tree nuts (almonds, pistachios, and walnuts) dropping from 94% to 53%, the dairy market share falling from 9% to 3%, and so on.

We quantified the impact of tariff increases on foreign trade with both retaliatory and non-retaliatory countries in research for the National Bureau of Economics Research (NBER). We developed and estimated an empirical model that accounts for the reallocation of exported products across markets. We measured the reduction in trade of targeted agricultural products with retaliatory countries (i.e., trade destruction) and found some increase in trade with other non-retaliatory countries for some commodities (i.e., trade diversion).

Figure 2. MFP2 Payment vs. FY 2018 Trade Loss for California Products, $ Millions



Source: USDA FSA MFP payment data; authors' analysis

Figure 1 shows summary trade statistics for exports of agricultural products that were: 1) important to California agriculture, and 2) faced steep retaliatory tariffs. Each circle represents a two-year (July–June) cumulative value of U.S. exports. The left side of the figure shows exports to retaliatory countries and the right-side exports to non-retaliatory countries. The blue solid line circles represent exports before the trade war and the red circles show export trade values during the trade war. The size of each circle represents the value of exports. The two horizontal axes represent the share of U.S. exports in the retaliatory and the non-retaliatory countries, and the shares are shown as blue (2016/17) and red (2018/19) percentages, respectively.

With the exception of tree nuts, all of the red circles are smaller than the blue circles for exports to retaliatory countries, indicating the destruction of U.S. exports of named products to the retaliatory countries. The larger red circle for tree nuts does not indicate these products gained from the trade war. As mentioned above, in China alone, California tree nuts experienced a significant loss in market share, in a market that was growing rapidly. That is why for exports to retaliatory countries, the share for almonds, walnuts, and pistachios drops from 79% to 65% during the trade war.

China was the only country to impose retaliatory tariffs on cotton. The U.S. cotton share of imports by China fell from 46% to 22%, a swing that is not unusual in that market. Furthermore, total U.S. exports of cotton did not decline during the trade war. During this time period, U.S. cotton exports to non-retaliatory importers gained market share (from 44% to 49%), evidence of trade deflection.

The right-hand side of Figure 1 tells the story of exports to non-retaliatory countries. For the most part, the circle sizes are very similar before and during the trade war, as are the market shares. This finding means those products that suffered market share losses in the retaliatory countries did not make up for the losses by diverting lost exports to non-retaliatory countries.

The 2018/19 trade losses for California versus MFP2 payments are shown

Table 1. Government Payment vs. Net Farm Income, 2019[1], Selected States, $ Millions

States	Net Farm Income	Total Government Payment[1]	Total Government Payment as % of Net Farm Income	MFP Payment as % of Net Farm Income
	$ Millions		Percent	
California	11,071	420	4	2
Texas	5,646	1,788	32	18
Nebraska	4,158	1,122	27	21
Iowa	3,229	2,066	64	47
Illinois	2,770	1,738	63	52
Georgia	2,676	700	26	11
Florida	2,575	232	9	1
Pennsylvania	2,315	173	7	4
Kansas	2,319	1,410	61	43
North Dakota	1,762	1,056	60	41
Mississippi	1,420	599	42	23
Alabama	1,174	231	20	11
Arkansas	974	990	102	48
U.S. Overall	83,721	22,447	27	17

Note: [1] Government payment refers to federal direct farm program payments, mainly MFP payments for 2019; Data are for 2019 calendar year.

Source: USDA ERS, Farm Income and Wealth Statistics, 2020

in Figure 2. This figure reports the estimated trade losses for fiscal year 2018 (i.e., July 2018–June 2019), shown by the blue vertical bars. Losses in year two of the trade war were likely higher because some tariffs increased. These annual losses measure the net impact of the retaliatory import tariffs on California's agricultural exports, allowing for re-direction of exports to non-retaliatory countries—trade deflection. Tree nuts suffered losses of about $239 million, and the MFP payments ($126 million) were only about 52% of the loss. Similarly, dairy exports experienced losses of about $130 million, much more than the compensation amount of $70 million. Processed fruits and vegetables experienced trade war losses but received no MFP payments.

In contrast, we find that the U.S. government overestimated the true impact of the trade war on fresh fruits, rice, and cotton, and therefore overcompensated these commodities. For instance, the MFP2 payment to cotton was about 40% of the market price, which was unwarranted in our view because we find a *de minimis* loss for cotton as a result of the trade war. U.S. exports of medium grain rice actually increased during the trade war and California exports were steady. In our research, we find no evidence of a trade loss for California rice.

Table 1 shows federal government farm payments (including MFP and other farm subsidies) by state, reported as a share of net farm income for 2019. In the last column, the MFP payments are also reported as a share of net farm income. California stands out as a relatively small recipient of farm payments (4% of net farm income) and a very small recipient of MFP payments (2% of net farm income). In contrast, in a number of states, the MFP payments accounted for a very large share of net farm income, up to 52% in Illinois.

Conclusion

The U.S. government underestimated the overall economic losses incurred by California's agricultural and food producers due to the 2018 trade war. While the MFP program overcompensated some farmers, others faced substantial trade-war losses that outweighed MFP payments. Particularly, export-oriented food processors were heavily affected by retaliatory tariffs but received no compensation from the U.S. government. The unequal treatment of agricultural and food producers impacted by the 2018 trade war is a pattern also observed in other states. However, these inequalities are more pronounced in California than in any other state. California's producers focus on high value-added products and have a significant stake in reducing trade barriers everywhere, and in particular in China. The MFP payments may have jeopardized international trade arrangements because the excessive payments violated U.S. farm subsidy commitments to the World Trade Organization (WTO). Several countries are considering a challenge at the WTO in opposition to these huge payments. This dispute could cause the effects of the trade war to drag on.

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For additional information, the authors recommend:

Carter, C.A., and S. Steinbach. 2020."The Impact of Retaliatory Tariffs on Agricultural and Food Trade." National Bureau of Economic Research, w27147.