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AGRICULTURAL FINANCE

Are U.S. Farmers Winning or Losing When it Comes to Global Trade?

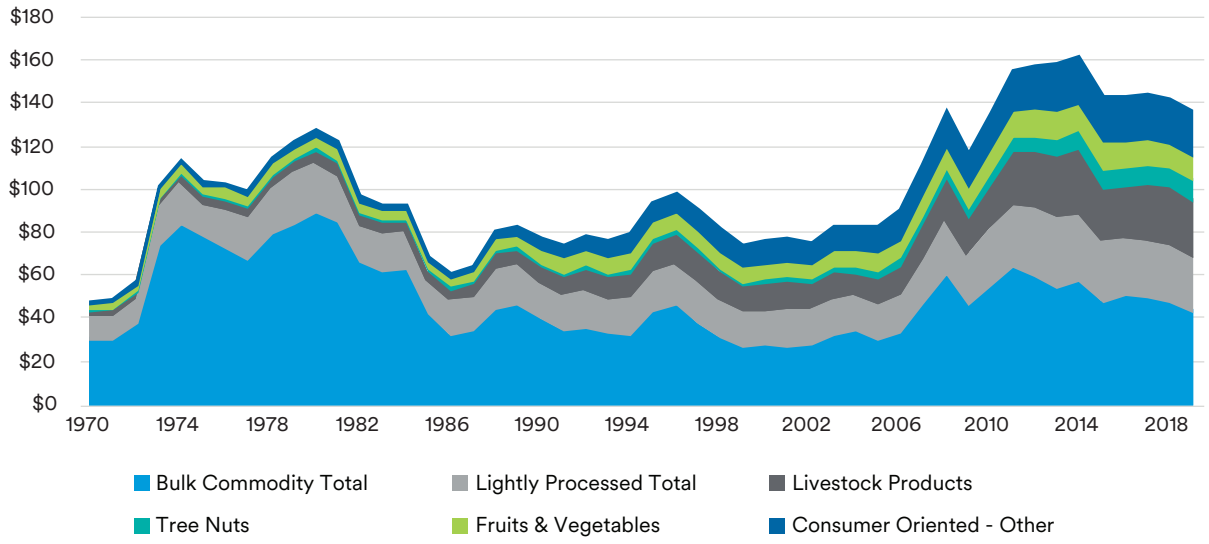
Global trade enhances opportunities to export agricultural commodities from all levels of the supply chain and complements robust domestic markets. Notwithstanding short-term disruptions, we expect based on long-run trends that U.S. farmers will remain well positioned to capitalize on a growing global middle-class appetite and commensurate growth in agricultural trade and feed. Indeed, planes, trains, automobiles, and boats collectively have shipped about 20% of U.S. agricultural production abroad annually since 2000.[1] Historically and presently, global trade has direct implications for the success of U.S. agriculture and the value of farmland used in production. The composition of exports continues to shift, though, scattering opportunities and challenges disproportionately among agriculture sectors.

MetLife Investment Management

Increased Export Diversification Bolsters U.S. Relevance in Global Agricultural Markets

Exports are a key demand source for the U.S. agricultural sector, representing over $100 billion in revenue for the sector annually. However, over the past 30 years, the growth in this value has been achieved largely by increasing exports of higher value agricultural products. These products are classified as lightly processed or consumer-oriented and include tree nuts, fruits and vegetables, and livestock products (Figure 1). This trend has occurred in response to both refined global appetites, but also increased competition from other agricultural exporters. Growing global demand for bulk agricultural commodities, such as corn and soybeans, has encouraged farmers in other areas of the world to expand production. In many cases, though, the U.S. agricultural sector has pivoted in the face of increased competition and shifted the form in which commodities are exported.

Figure 1 | U.S. Agricultural Exports ($ billions - real)



Sources: MIM, USDA, United States Census Bureau

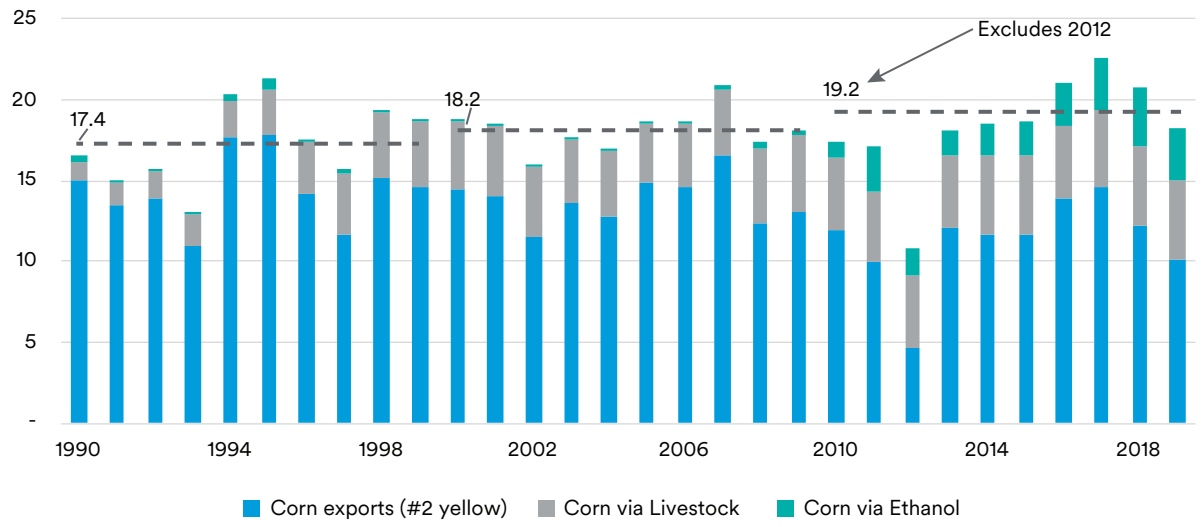
How Many Acres of Corn are Exported Annually?

A shift in the composition of corn exports showcases the ingenuity of U.S. agricultural producers in the face of increased global competition. Corn represents a good proxy for the U.S. agricultural sector as it tends to be the most widely grown crop in the U.S.[2] Given the U.S. share of the global corn trade fell from over 75% in 1980 to less than 30% by 2019, one might conclude U.S. farmers are losing when it comes to global agricultural trade.[3] The challenge with using shares of trade is that it fails to consider that global corn trade has exploded from 3.2 billion bushels in 1980 to 8.6 billion bushels in 2019.[4] If the U.S. maintained its 75% of global corn exports today, growers would have to deliver 4 billion more bushels to global markets, or 30% of U.S. corn production in 2019.[5] Notably, in 1980 the U.S. exported 2.391 billion bushels of corn, which is nearly the exact same amount exported in 2019 (2.408 billion bushels).[6]

Just as the composition of U.S. agricultural exports have changed over time, so has the form in which commodities such as corn are exported. U.S. corn was primarily exported as a bulk commodity up until 1990. Since then, annual exports of products that consume a significant amount of corn, such as livestock products and ethanol, have increased by over 500 percent.[7]

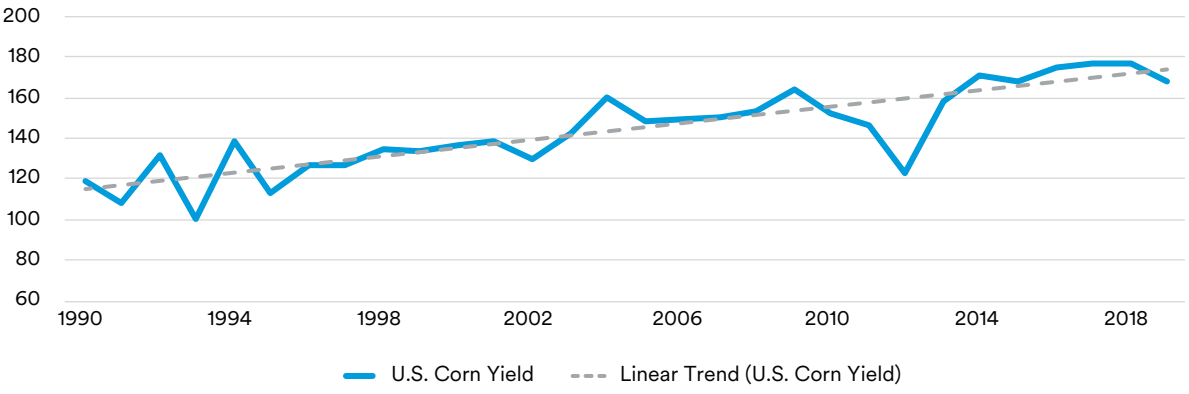
On average, the U.S. has exported approximately 18 million acres of corn production annually since 1990 (Figure 2).[8] If focused solely on bulk exports of corn, this chart shows that number of corn acres devoted to fulfilling export demand has declined 32 percent from 1990 to 2019. Some of this decline can be attributed to increased production in other areas of the world and the increased productivity of U.S. corn acres.[9] An acre of corn in the 2010s yielded 31% more than an acre in the 1990s (Figure 3). In isolation, the decline of bulk exports in terms of acres could indicate U.S. producers no longer have a comparative advantage in producing corn. However, after factoring in the corn used to produce U.S. exports of livestock products and ethanol, the decadal average has increased nearly 2 million acres exported per year.[10] This indicates, on average, that a greater number of U.S. corn acres are exported today through various products than in previous decades. Robust domestic markets that add value to corn are a strong complement to the bulk commodity market.

Figure 2 | Acres of Corn Exported (millions-using trend adjusted yields)



Sources: MIM, USDA, HAVER, United States Census Bureau

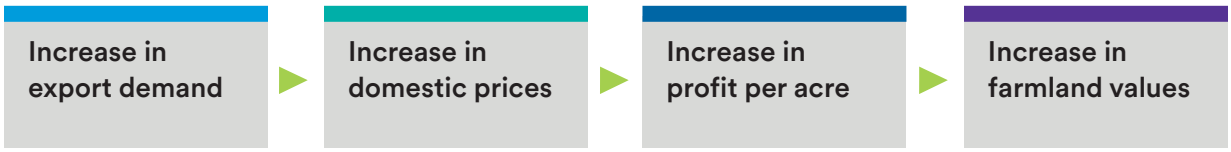
Figure 3 | Corn Yield (U.S. average, bushels per acre)



Sources: MIM, USDA

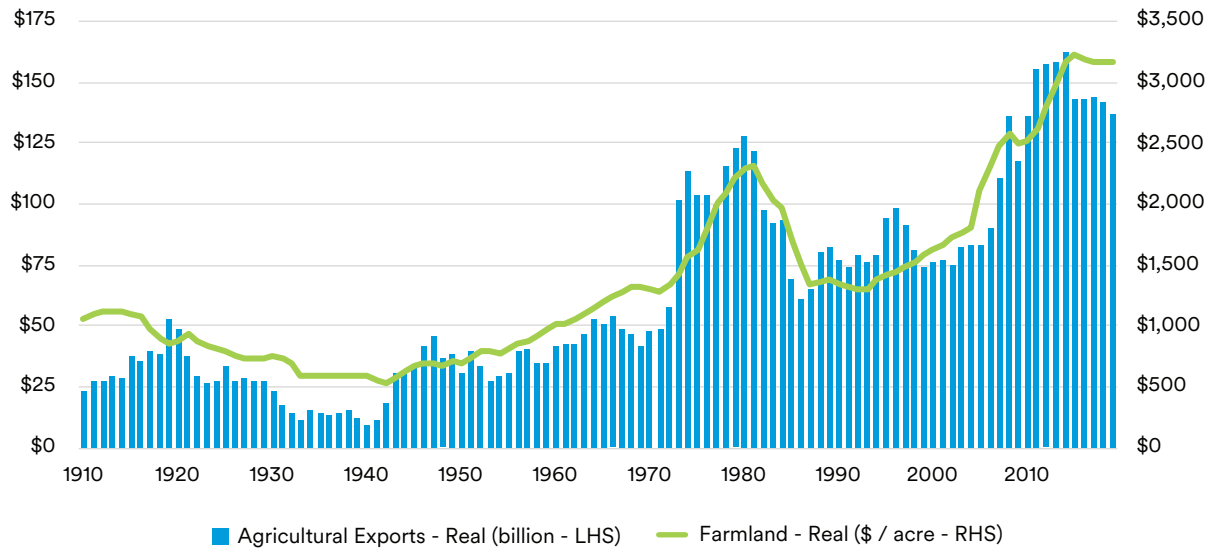
The Relationship between Farmland Values and Exports

Countless factors influence farmland values, including interest rates and commodity prices, but agricultural exports have been one of the most important drivers over the long term. This relationship exists because exports represent a shift in demand relative to no trade. The shift in demand from exports raises the domestic price for a commodity. Higher prices, in turn, result in higher revenue per acre of land. The additional revenue improves profit margins, which owners capitalize into the value of farmland. Historically, the value of farmland has moved in concert with changes in the total value of exports, both positive and negative (Figure 4).



Major spikes in agricultural exports have paralleled periods of significant appreciation in U.S. farmland values. In the 1970s, the Soviet Union responded to a domestic production shortfall by drastically increasing imports of bulk agricultural commodities. U.S. farmers were the largest beneficiaries of an immediate spike in global grain prices. As export demand waned in the 1980s, demand shifted in an unfavorable direction, sapping commodity prices and incomes. The decline in farm incomes coupled with soaring interest rates sent land values to historic lows.

Figure 4 | U.S. Agriculture: Land Values & Exports



Sources: MIM, USDA, U.S. Bureau of Labor Statistics, HAVER, United States Census Bureau

Two developments in the early 2000s contributed to a significant increase in both U.S. agricultural exports and farmland values. First, China joined the WTO in 2001. Second, the US government enacted the Renewable Fuel Standard in 2004. A shift in demand, from both domestic and foreign sources, combined with a drought in 2012 caused net farm income and agricultural exports to reach record levels in 2013 and 2014, respectively. Commodity prices have since declined from peak

levels, which when coupled with ongoing trade disputes, has caused the value of U.S. agricultural exports to wane in recent years. However, farmland values remain relatively stable, and continue to be supported by low interest rates and government programs that supplemented cash flows.

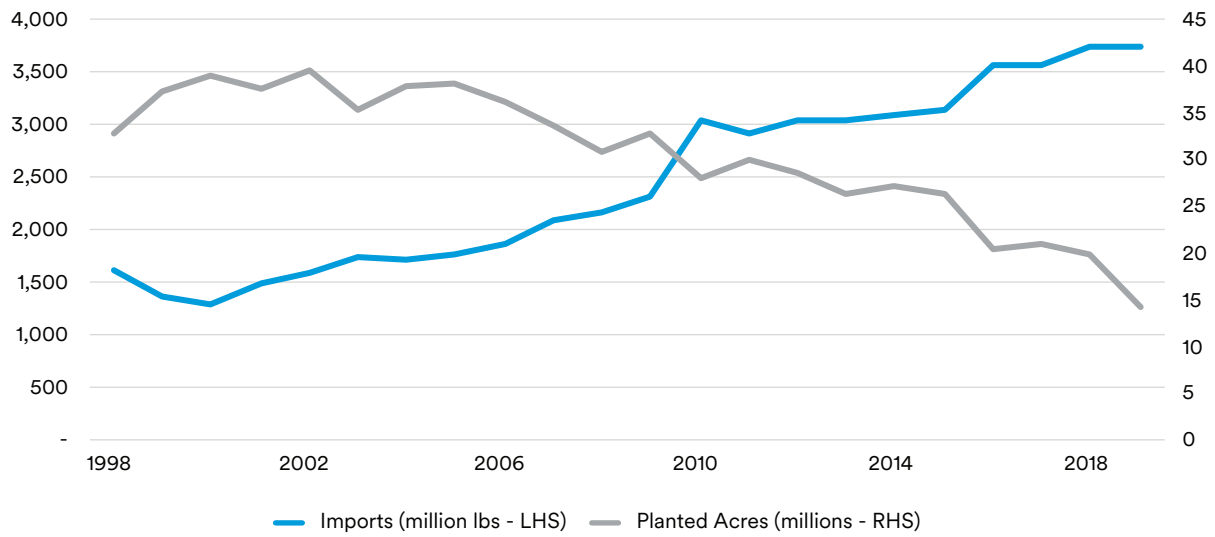
Free Trade Agreements and Agriculture

Free trade agreements (FTAs) have contributed to the growth in U.S. agricultural exports. Countries have historically protected domestic industries using tariffs—which are payments made to government for the right to import a good or service from a foreign country. When in place, tariffs artificially raise domestic prices for those same goods or services in the importing country. Under a free trade agreement, tariffs are either reduced or eliminated altogether for the products included in the free trade agreement.

The first free trade agreement the U.S. entered was with Israel in 1985. Several more recent agreements, though, have had a much greater impact on the U.S. agricultural sector, specifically the United States-Mexico-Canada Agreement (formerly the North American Free Trade Agreement or NAFTA). NAFTA led to a steady increase in demand for U.S. corn, pork, and other commodities. In the decade following NAFTA going into effect, annual exports of U.S. agricultural products to Canada and Mexico increased 75% and 118%, respectively.[11]

While economists tout the benefits of free trade, there can also be negative downstream impacts, such as increased competition for domestic industries. One example is the impact that NAFTA had on the U.S. fresh tomato industry. NAFTA removed import tariffs on most agricultural products produced in Canada and Mexico, causing a steady increase in U.S. imports of tomatoes from Mexico (Figure 5).[12] Since 1994, fresh tomato imports from Mexico resulted in fewer U.S. acres of fresh tomatoes. Increasing imports have weighed on prices and profitability for U.S. fresh tomato producers.

Figure 5 | U.S. Fresh Tomatoes: Planted Acreage vs. Imports from Mexico



Sources: MIM, USDA, United States Census Bureau

The extent to which economists ignored those negatively affected by free trade is the biggest oversight of communicating the consequences of free trade. When producers focus on the goods they have the most advantage in producing, they benefit from trade with others. However, it is difficult for some producers to make the transition to other goods when the rules of the game change. We suggest economists and others should consider how those who benefit could also help ease the transition for those negatively affected.

Conclusion

A growing global appetite presents both opportunities and challenges for U.S. agricultural producers. Remaining a mainstay in global agricultural markets often requires adjusting the form in which a commodity is exported, or the commodity produced altogether. Regardless, exports have historically constituted an important demand source for U.S. agriculture, and the evidence suggests this will remain true moving forward. By embracing advantages in management capability and infrastructure, U.S. producers remain a mainstay in global agricultural markets.

Endnotes

1 Exports expand the market for U.S. agricultural products. USDA Economic Research Service. April 11, 2016.
2 Corn planted acres. United States Department of Agriculture via Haver Analytics. Accessed June 21, 2020.
3 United States Department of Agriculture via Haver Analytics. Accessed June 10, 2020.
4 United States Department of Agriculture via Haver Analytics. Accessed June 10, 2020.
5 World Agricultural Supply and Demand Estimates. United States Department of Agriculture. Accessed June 9, 2020.
6 United States Department of Agriculture via Haver Analytics. Accessed June 11, 2020.
7 United States Department of Agriculture Foreign Agricultural Service Global Agricultural Trade System. United States Department of Agriculture. June 2020.
8 MIM internal calculation using data from USDA Feed Grains Database, Haver, U.S. Census Bureau, and FAS Global Agricultural Trade System. Data accessed June 2020.
9 Major Changes in Export Flows Over the Last Decade Show the U.S. Is Losing Market Share in Global Grain Trade. USDA Economic Research Service. October 1, 2018.
10 The year 2012 is omitted from the third average due to the severe drought that year and the resultant steep decline in production available for trade.
11 United States Department of Agriculture Foreign Agricultural Service Global Agricultural Trade System. United States Department of Agriculture. June 2020.
12 US Census Bureau. June 2020.

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