Draft Title: Expected and Unexpected Impacts of COVID-19 on U.S. Markets for Animal Products[1]

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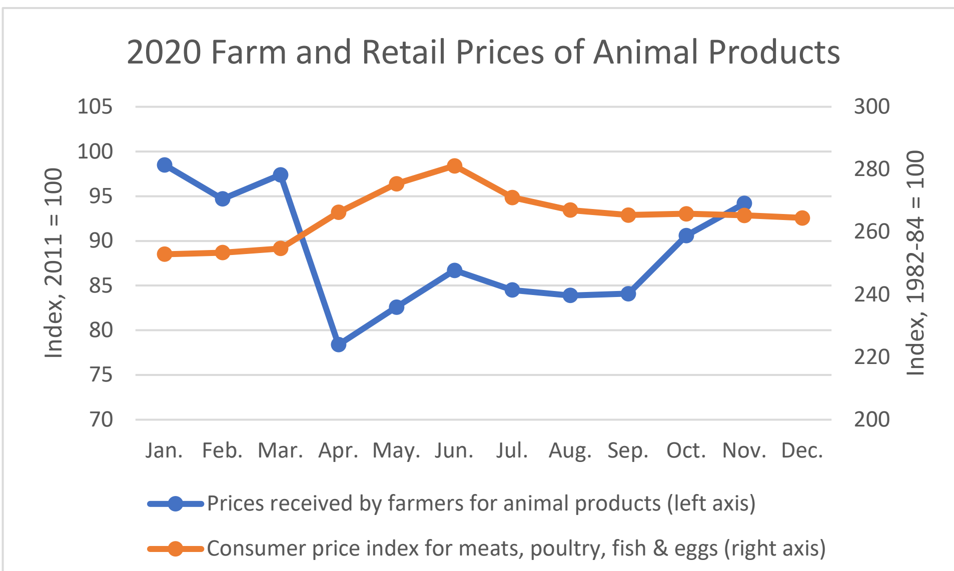
Introduction:

TAMU's Cross-Border Threat Screening and Supply Chain Defense (CBTS) DHS Center of Excellence, and researchers at the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri are looking at the impacts of the COVID-19 pandemic on agriculture, food, and related supply chains. The pandemic has had profound impacts on markets for livestock, meat, poultry and dairy products. Some of these impacts were consistent with the prior expectations of market analysts, but there were also a few notable surprises. Actual market results make clear that common approaches to estimating market impacts were inadequate to the unique set of circumstances.

Some important but unsurprising results

In the spring of 2020, COVID-19 outbreaks among meat packing plant workers caused plants to suspend or slow operations. Other supply chain problems also contributed to a sharp increase in the cost of transforming live animals into consumer-ready meat products. This cost was borne both by livestock producers and meat consumers.



Sources: National Agricultural Statistics Service of USDA and the Bureau of Labor Statistics.

The chart shows that the average price paid to livestock, poultry and dairy producers at the farm level dropped by almost 20% in April. At the same time, consumer prices for meat, poultry, fish and eggs began a sharp increase in April, and by June, consumer prices were more than 10% above the March level. This is consistent with the expected impacts of an increase in meat processing and delivery costs—

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the increase in the wedge between producer and consumer prices would be expected to push down producer prices and push up consumer prices.

As packing plants were able to return to more normal levels of capacity utilization and as other supply chain problems were resolved or at least mitigated, these trends reversed. Consumer prices for meat and other animal products declined by more than 5% between June and November, while farm-level prices for animal products increased by 20% between April and November. It would be a mistake to say things are "back to normal" in the sector, but the situation has improved dramatically since the depths of the crisis last spring.

Some important but surprising results

In analysis conducted in April, FAPRI projected that the pandemic would lead to lower prices for livestock, poultry and dairy producers. In hindsight they note that they incorrectly assumed that supply chain concerns would play only a minor part in the story, and that the main cause of lower producer prices would be weaker consumer demand. They expected a contracting U.S. economy to reduce disposable income, and that consumers with less money in their pockets would choose to buy less meat and other high-value food products.

As shown above, farm prices for livestock and animal products did decline sharply in the spring, but it now appears that supply chain issues were the primary cause, not macroeconomic effects. If a weaker economy had been the cause of lower farm-level livestock and poultry prices, we would have expected to see reduced domestic consumption of meat and/or lower retail prices. Instead, consumer meat prices, as shown in the following table, increased by more than 6% in 2020, while domestic per-capita meat consumption also increased slightly. This is a surprising outcome for a year in which the pandemic's disruptions and negative impact on the domestic economy signaled a weak outlook for livestock producers.

	U.S. domestic meat use per capita (USDA)	U.S. consumer meat prices (BLS)	U.S. real GDP per capita (IHS)	U.S. real disposable income per capita (IHS)
2020 change vs. 2019	+0.3%	+6.2%	-3.6%	+6.0%

Sources: USDA's World Agricultural Supply and Demand Estimates, January 2021, Bureau of Labor Statistics data set, accessed Jan. 15, 2021, and IHS Markit projections, January 2021.

The final column in the table can help explain what has been observed. While real GDP contracted sharply in 2020 in the United States and many other countries, real disposable income actually increased significantly because of various government stimulus programs. Economic models that use real GDP or other similar variables as a proxy for consumer income would have generated reduced estimates of 2020 meat consumption. However, it is easier to understand how meat consumption could have increased slightly in 2020 in spite of higher consumer meat prices once one recognizes that consumers as a group had more money to spend.

A wide variety of other factors also affected consumer purchasing patterns for meat and other food products. Increased spending on the Supplemental Nutrition Assistance Program and the new Food Box program from USDA both directly subsidized food consumption. Lockdowns and restrictions on in-store dining resulted in major changes in where consumers purchased the food they consumed, and people often buy different items from supermarkets than they would from restaurants.

Looking forward into 2021

There are many questions about how markets for meats and other animal products will evolve in 2021 and beyond. While the largest COVID-related supply chain disruptions appear to be behind us, meat packers and others may still have higher costs than they did before March 2020. Though many forecasters expect or at least hope GDP will rebound, the eventual decisions about stimulus programs could weigh on the role disposable income has on food demand in 2021. Finally, many factors completely unrelated to COVID will have important market impacts. For example, feed prices have increased sharply in recent months, primarily because of lower-than-expected crop production in the U.S. and South America. These changes in feed costs will eventually affect livestock sector production and consumer prices for meat and other animal products. The good news that producers weathered the worst the pandemic had to offer in 2020 is tempered by the realization that rising feed costs remind us the that agricultural producers face a wide variety of risks.