

# Quantifying Consumer Welfare Impacts of Higher Meat Prices During the COVID-19 Pandemic

Diansheng Dong, Hayden Stewart, Xiao Dong, and William Hahn

## What Is the Issue?

The Coronavirus (COVID-19) pandemic affected all facets of the food system, in particular meat processors. During 2020 some packing plant workers tested positive for COVID-19, which forced the temporary closure of numerous plants and reduced operating capacity at others. U.S. meat production fell. While food supplies remained ample overall, U.S. households faced sharply higher prices for many staple items, including meat. Retail food prices rose about 3.4 percent during 2020, almost twice their usual rate. Meat prices increased at a faster rate, with retail beef and pork prices rising 25 percent and 12 percent, respectively, in June 2020, year-over-year. Prices for retail poultry and other meats (mainly lamb and mutton) also rose more than overall retail food prices, though less than beef and pork prices.

## What Did the Study Find?

The COVID-19 pandemic altered food purchasing patterns by restricting restaurant dining, which encouraged U.S. households to eat out less and consume more food at home. During 2020, U.S. households increased their spending on meat for at-home consumption by 14.5 percent. Households bought more beef, pork, poultry, and other meats at grocery and other retail stores despite higher retail prices for each type of meat. Across the four types of meats, ERS researchers found the following statistics:

- The average retail price paid for meat increased 6.9 percent on a dollars-per-pound basis in 2020 over 2019. Beef prices increased the most at 8.9 percent, with pork, poultry, and other meats (mainly lamb and mutton) increasing by 5.7 percent, 4.9 percent, and 5.3 percent, respectively.
- Households increased their average purchases of meat for at-home consumption by 7.2 percent on a quantity basis in 2020 over 2019. In the four meat categories—beef, pork, poultry, and other meats—purchases of



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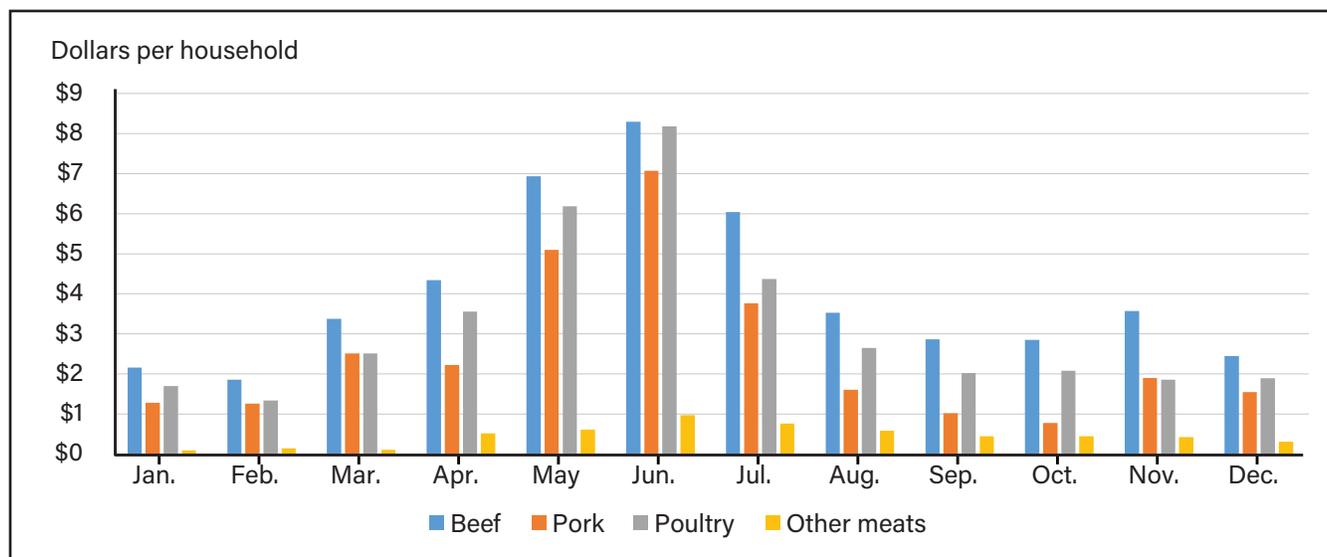
other meats increased the most at 13.5 percent, followed by pork (8 percent), poultry (7 percent), and beef (6.2 percent), which is nearly the reverse pattern of the price increases.

Despite being able to generally maintain their overall level of meat consumption (including consumption of meat both at and away from home), U.S. households' economic well-being fell with higher meat prices at retail stores. Those losses were higher during the spring months when operations at packing plants were most affected by the virus and peaked in June 2020, with U.S. household economic well-being down by \$24.51 per household during that month due to higher prices for meats in general. Higher prices for beef, pork, and poultry accounted for \$8.30, \$7.07, and \$8.18, respectively, during that month. In December 2020, U.S. household economic well-being was down \$6.19 per household with higher prices for beef, pork, and poultry accounting for \$2.44, \$1.54, and \$1.89, respectively.

## How Was the Study Conducted?

The authors undertook a counterfactual analysis in this study. That is, what if retail prices for at-home meats had remained at their 2019 levels throughout 2020? How much better off economically would U.S. households have been? To answer this question and more generally gain a better understanding of U.S. household demand for beef, pork, poultry, and other meats during the pandemic, the authors used scanner data purchased from Information Resources, Inc. (IRI). Prices, expenditures, and purchased quantities in 2020 were compared with those in 2019. An Almost Ideal Demand System (AIDS) model for U.S. households' purchases of each type of meat was then estimated. The results were used to calculate the reduction in welfare that households incurred over each month of the pandemic due to higher meat retail prices compared with the same month of the previous, non-pandemic year.

### U.S. households' welfare was lower in 2020 with higher retail prices for beef, pork, poultry, and other meats



Note: Well-being is defined as the "Reduction in U.S. households' well-being estimated by the method of compensating variation."

Source: USDA, Economic Research Service calculations using Information Resources, Inc. (IRI) household and retail scanner data.