Mississippi MarketMaker Newsletter

MISSISSIPPI STATE UNIVERSITY EXTENSION

ECONOMIC IMPACTS OF THE GLOBAL COVID-19 PANDEMIC ON U.S. RETAIL PRICES OF SELECTED FISH SPECIES

Abstract

In this issue, Dr. Posadas measured the direct losses in selected fish species' retail prices due to the current global pandemic. Three methods were used in calculating the direct impacts of the Covid-19 global pandemic on retail fish prices. Results showed that U.S. retail prices of selected fish species rose and fell over the years, from warm to cold months, and due to recessions, US-China trade war, and the global Covid-19 pandemic.

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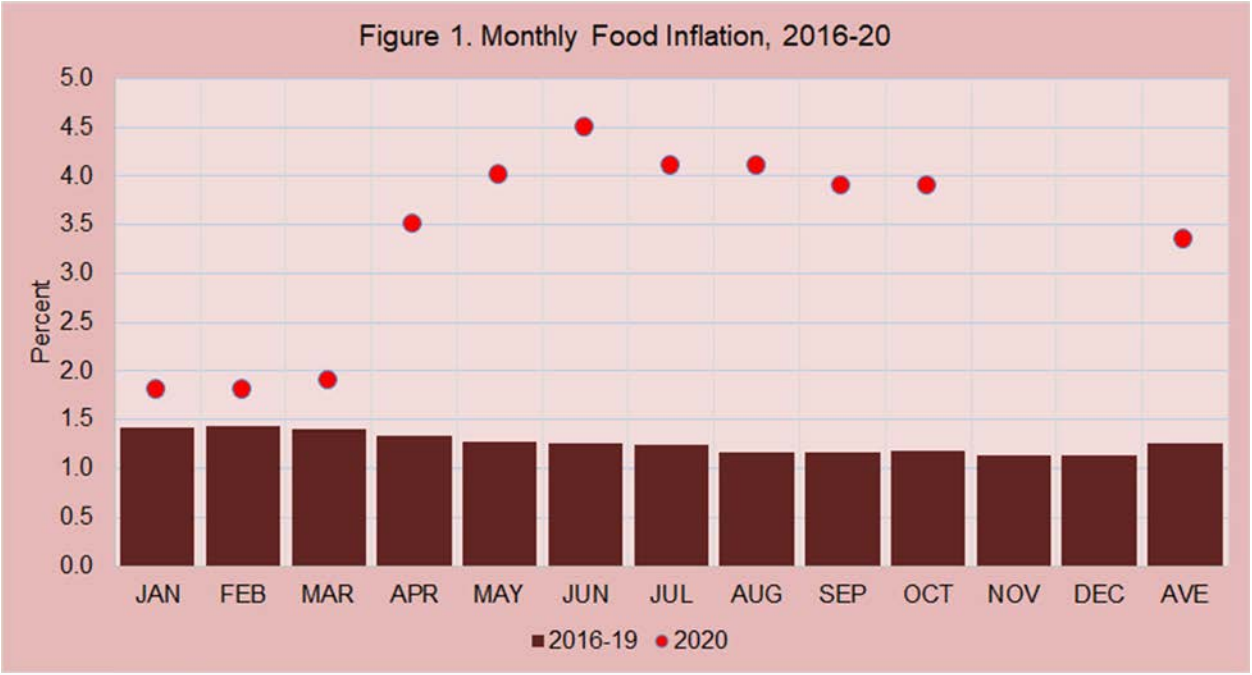
INTRODUCTION

The COVID-19 pandemic was declared a national emergency in the United States on March 13, 2020. With the severe disruptions in seafood sales to eating and dining places, producers have to develop ways to directly sell their products to consumers.

INTRAFISH reported that globally, restaurants would lose 25 to 30 percent of total restaurant sales compared to 2019. U.S. consumers spent an estimated $102.2 billion on fishery products in 2017, including $69.6 billion at restaurants and other foodservice venues and $32.5 billion at retail. U.S. restaurants had sales of $450 billion during the 12 months ending in January. Just over 48 percent of this is from off-premise dining such as takeout or delivery.

During this global pandemic, consumers eat more meals at home, indicating that they are making more regular trips to the grocery stores. Consequently, the rush in consumer purchases in retail establishments will push demand higher and jack up retail prices. The U.S. rate of food inflation in 2020 far exceeded as much as three times more than the average food inflation rate during the benchmark period (Fig. 1).



This economic analysis attempts to measure the direct economic impacts of the Covid-19 pandemic on selected fish retail prices. Retail prices are expected to rise or fall over the years, from warm to cold months, recessions, due to the US-China trade war, and due to the global Covid-19 pandemic.

ECONOMIC MODELS

Three methods were used in estimating the direct economic impacts of the global Covid-19 pandemic on U.S. retail prices of selected fish species.

1. The first method is the differences from the benchmark means. The benchmark period used in the estimation of economic losses was the years 2015-19. Data from January to December 2020 were compared to the benchmark period. Economic losses are measured by the differences between the 2020 retail prices and the 2015-19 benchmark retail prices (Mean loss or gain 1). Only the average loss for the 12 months is reported here.

2. The second method is by multiple linear regression. The dependent variables are retail prices. The independent variables are time, month, covid19, recession, the trade war with China, and the dollar index. Economic losses are measured by the differences between the actual retail prices and the predicted retail prices (Mean loss or gain 2). Only the average loss for the 12-month period is reported here.

   regress retailprice time timesq timecube i.month i.covid19 i.recession i.tradewar dollarindex, vce(r)

3. The third method is to compare the predicted retail prices with crisis and the predicted retail prices without a crisis (Mean loss 3). Only the average loss for the 12-month period is reported here.

RETAIL PRICES OF FRESH AND FROZEN FISH FILLETS (MARKET AND DEFLATED BY CPI-2019)

The sources of raw data used in the economic modeling are the following:

1. The source of retail prices of selected fish species is Urner Barry Comtell.

2. The Federal Reserve Bank of St. Louis is the source of the dollar index. The dollar index is a weighted average of the foreign exchange value of the U.S. dollar against the currencies of a broad group of major U.S. trading partners.

3. The source of food inflation is https://www.usinflationcalculator.com/. Food inflation includes pricing changes for food away from home and food at home.

4. The source of the consumer price index is the Bureau of Labor Statistics.

U.S. retail prices of selected fresh/frozen fish fillets included in the analysis are the following:

1. Salmon fillets
2. Cod fillets
3. Catfish fillets
4. Tilapia fillets

DIRECT LOSSES IN RETAIL PRICES OF SELECTED FRESH AND FROZEN FISH FILLETS

The direct losses in the deflated retail fish prices were estimated in three different ways, as described in the three measurement methods above.

1. Mean loss or gain 1 (%)
2. Mean loss or gain 2 (%)
3. Mean loss or gain 3 (%)

Direct Loss in Retail Prices of Fresh/Frozen Salmon Fillets (Fig. 2)

1. The mean loss 1 of the retail prices of fresh/frozen salmon fillets averaged 8.39 percent in 2020.

2. The estimated regression equation explained two-thirds of the variations in retail prices of fresh/frozen salmon fillets. Recessions and the US-China trade war exerted significant downward effects on retail prices of fresh/frozen salmon fillets. The mean loss 2 of the retail prices of fresh/frozen salmon fillets averaged 6.92 percent in 2020.

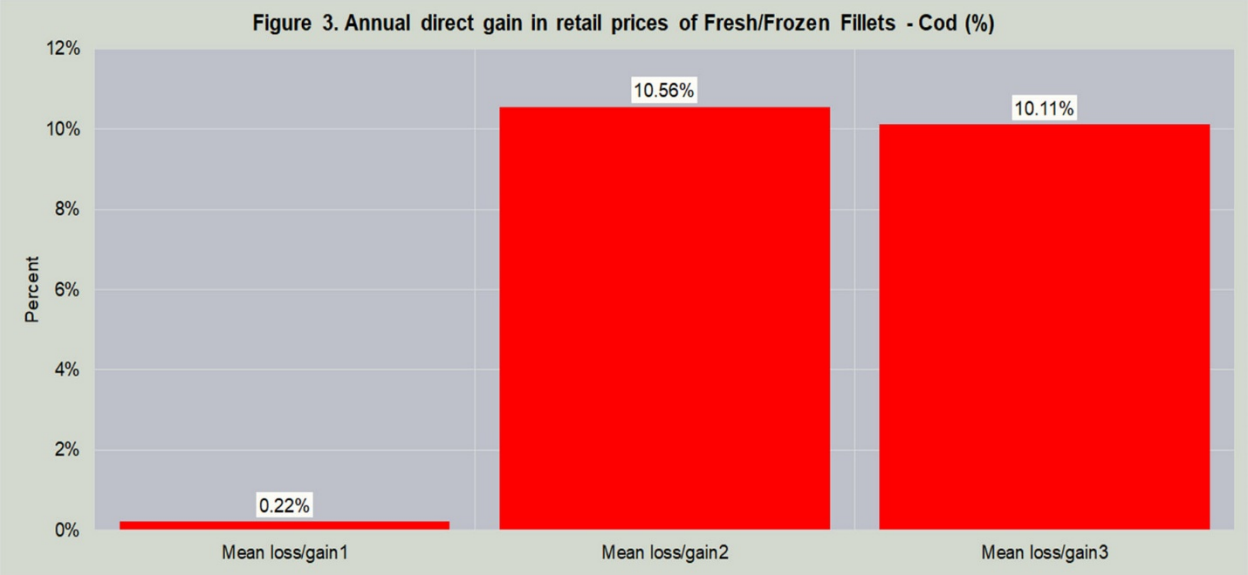
3. The mean loss 3 of the retail prices of fresh/frozen salmon fillets averaged 7.66 percent in 2020.

Direct Gain in Retail Prices of Fresh/Frozen Cod Fillets (Fig. 3)

1. The mean gain 1 of the retail prices of fresh/frozen cod fillets averaged 0.22 percent in 2020.

2. The estimated regression equation explained one-half of the variations in retail prices of fresh/frozen cod. The US-China trade war exerted significant upward effects on retail prices of fresh/frozen cod fillets. The mean gain 2 of the retail prices of fresh/frozen cod fillets averaged 10.56 percent in 2020.

3. The mean loss 3 of the retail prices of fresh/frozen cod fillets averaged 10.11 percent in 2020.

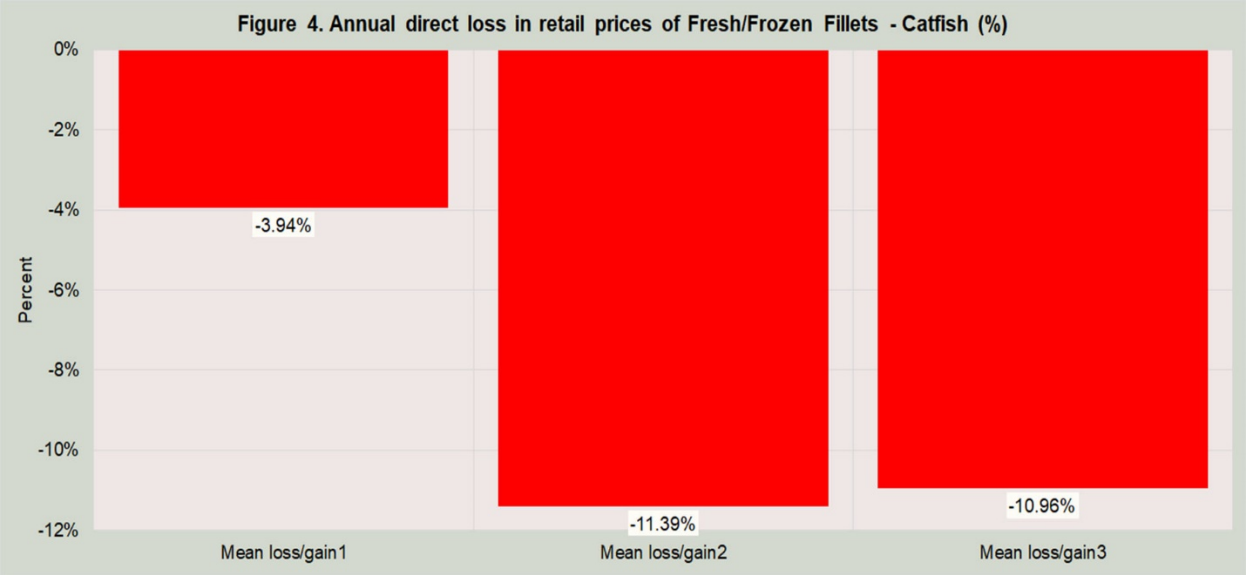


Direct Loss in Retail Prices of Fresh/Frozen Catfish Fillets (Fig. 4)

1. The mean loss 1 of the retail prices of fresh/frozen catfish fillets averaged 3.94 percent in 2020.

2. The estimated regression equation explained 58 percent of the variations in retail prices of fresh/frozen catfish fillets. Covid-19, recessions and the US-China trade war exerted insignificant downward effects on retail prices of fresh/frozen catfish fillets. The mean loss 2 of the retail prices of fresh/frozen catfish fillets averaged 11.39 percent in 2020.

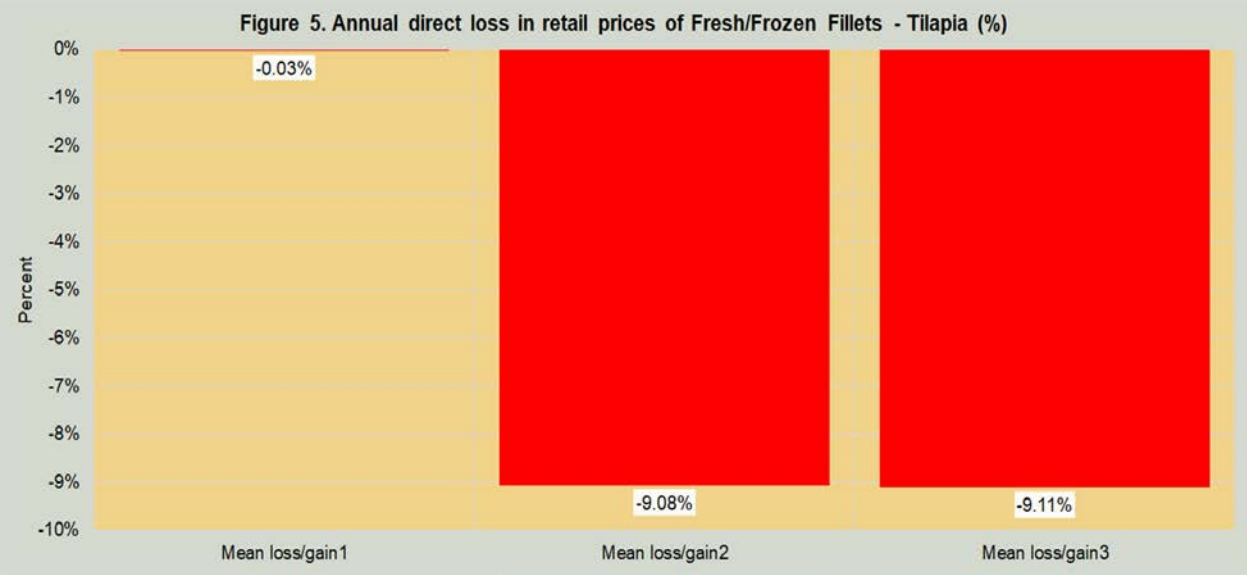
3. The mean loss 3 of the retail prices of fresh/frozen catfish fillets averaged 10.96 percent in 2020.



Direct Loss in Retail Prices of Fresh/Frozen Tilapia Fillets (Fig. 5)

1. The mean loss 1 of the retail prices of fresh/frozen tilapia fillets averaged 0.03 percent in 2020.

2. The estimated regression equation explained 67 percent of the variations in retail prices of fresh/frozen tilapia fillets. Covid-19 and the US-China trade war exerted significant downward effects on retail prices of fresh/frozen tilapia fillets. The mean loss 2 of the retail prices of fresh/frozen tilapia fillets averaged 9.08 percent in 2020.
3. The mean loss 3 of the retail prices of fresh/frozen tilapia fillets averaged 9.11 percent in 2020.



SUMMARY

1. Retail prices of fresh/frozen salmon fillets dropped in 2020. The direct loss in retail prices of fresh/frozen salmon fillets averaged about seven percent in 2020. Recessions and the US-China trade war exerted significant downward effects on retail prices of fresh/frozen salmon fillets.

2. Retail prices of fresh/frozen cod fillets rose in 2020. The direct gain in retail prices of fresh/frozen cod fillets exceeded more than 10 percent in 2020. The US-China trade war exerted significant upward effects on retail prices of fresh/frozen cod fillets.

3. Retail prices of fresh/frozen catfish fillets fell in 2020. The direct loss in retail prices of fresh/frozen catfish fillets could be greater than 11 percent in 2020. Covid-19, recessions and the US-China trade war exerted insignificant downward effects on retail prices of fresh/frozen catfish fillets.

4. Retail prices of fresh/frozen tilapia fillets declined in 2020. The direct loss in retail prices of fresh/frozen tilapia fillets could be greater than nine percent in 2020. Covid-19 and the US-China trade war exerted significant downward effects on retail prices of fresh/frozen tilapia fillets.

MY ECONOMIC OUTREACH ON THE GLOBAL COVID-19 PANDEMIC

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