

SHRIMP PRICE MARGINS FROM DOCKSIDE-WHOLESALE- RETAIL MARKETS



ABSTRACT

In this issue, Dr. Posadas shows the impacts of the Bonnet Carre Spillway openings, global Covid-19 pandemic, US recessions, and US-China trade war on shrimp price margins from dockside, wholesale and retail markets. Regression results showed that the US-China trade war led to significant reductions in shrimp price margins.

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INTRODUCTION

The livelihoods and way of life of the fishing households, businesses, and communities dependent on the shrimp industry were threatened by lingering effects of the man-made disaster associated with the prolonged and twice opening of the Bonnet Carre spillway (BCS) since February to April and May to July 2019. To save lives, properties and the way of life in New Orleans and surrounding communities, the Bonnet Carre spillway was opened to release floodwater into Lake Pontchartrain and eventually into the Mississippi Sound.

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 developed ways to directly sell their products to consumers. The US economy was in recession from February to June 2020.

The US-China trade war started in July 2018 when the US imposed tariffs on \$34 billion worth of Chinese goods. China reciprocated by imposing equivalent tariffs on US exports.

SHRIMP PRICE MARGINS

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

- The source of retail and wholesale prices of selected shrimp products is Uner Barry Comtell.
- The source of dockside prices of Gulf shrimp products is NOAA-Fisheries.
- 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.
- The source of the consumer price index is the Bureau of Labor Statistics.

U.S. retail prices of selected shrimp products included in the analysis are the following:

- Shrimp, Raw - 21-25
- Shrimp, Raw - 16-20

WESTERN GULF DOCKSIDE, GULF WHOLESALE WHITE AND US RETAIL SHRIMP PRICES, IN \$ PER LB, HEADLESS, 21-25 COUNT

The average prices, deviation and coefficient of covariation of shrimp count 21-25 per pound since 2012 are as follows:

- Dockside prices = \$4.79 ± \$0.95 (20%)
- Wholesale prices = \$6.47 ± \$0.83 (16%)
- Retail prices = \$8.14 ± \$0.95 (10%)

Dockside prices of count 21-25 shrimp fluctuated by 20 percent from its average, \$4.79 per pound in 2012-20. Wholesale prices of count 21-25 shrimp swung by 16 percent from its mean, \$6.47 per pound in 2012-20. Retail prices of count 21-25 shrimp vacillated by 10 percent from its normal level, \$8.14 per pound in 2012-20.

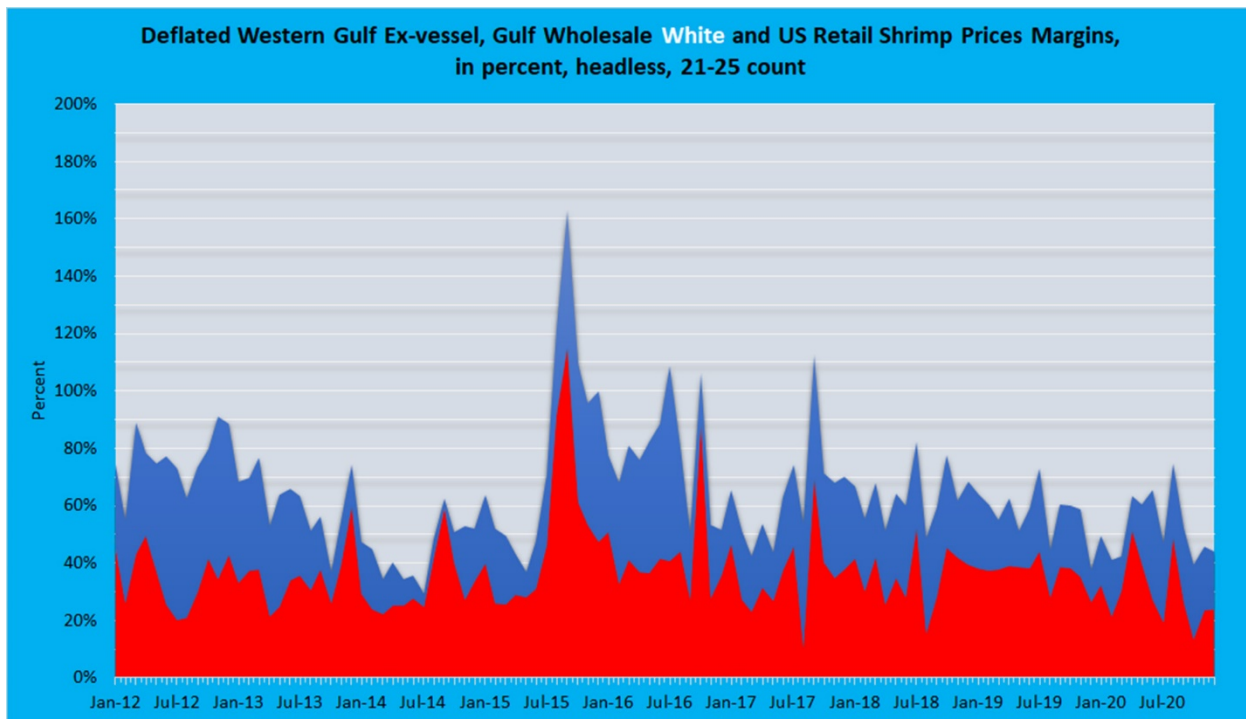


Figure 1

PERCENT SHRIMP PRICE MARGINS OF WESTERN GULF DOCKSIDE, GULF WHOLESALE WHITE AND US RETAIL, HEADLESS, 21-25 COUNT

The average price margins, deviation and coefficient of covariation of shrimp count 21-25 per pound since 2012 are as follows:

- Dockside-Wholesale prices = 37% ± 15% (40%)
- Wholesale-Retail prices = 27% ± 12% (45%)
- Dockside-Wholesale prices = 74% ± 28% (37%)

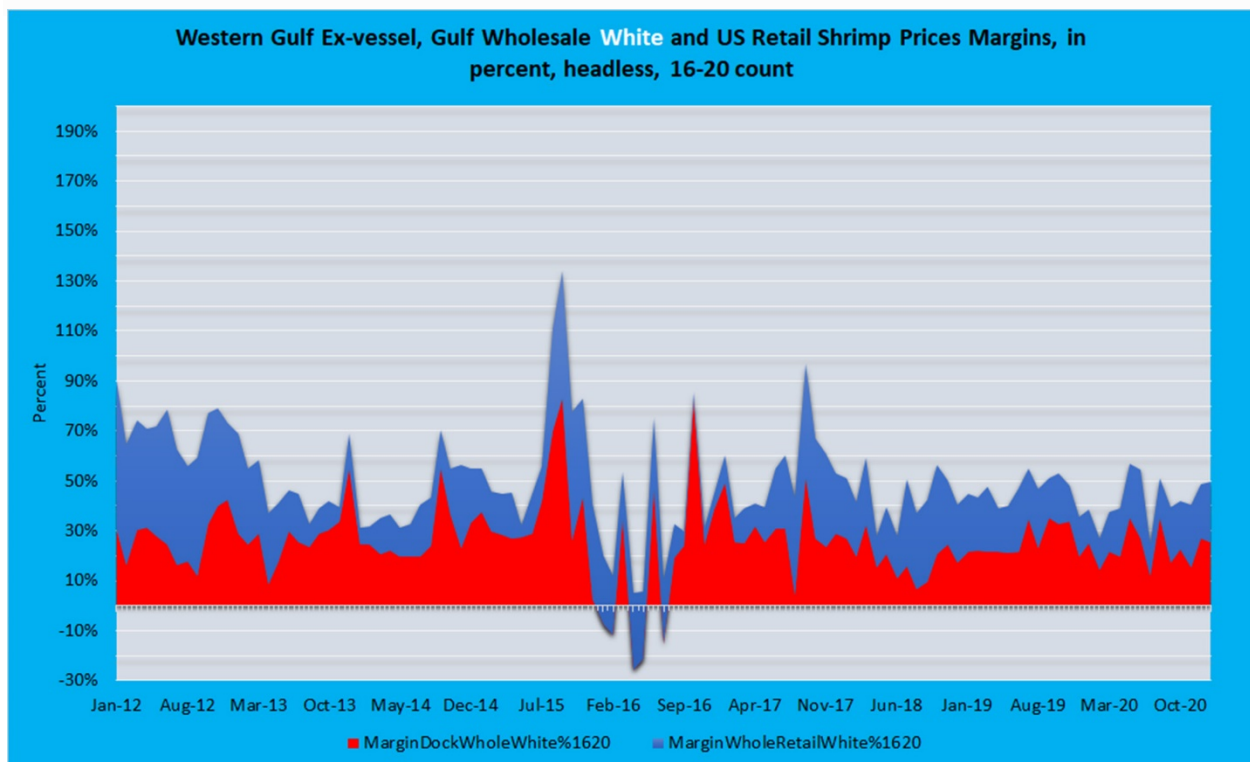


Figure 2

WESTERN GULF EX-VESSEL, GULF WHOLESALE WHITE AND US RETAIL SHRIMP PRICES, IN \$ PER LB, HEADLESS, 16-20 COUNT

Dockside prices of count 16-20 shrimp varied by 19 percent from its average, \$5.86 per pound in 2012-20. Wholesale prices of count 16-20 shrimp swayed by 16 percent from its mean, \$7.27 per pound in 2012-20. Retail prices of count 16-20 shrimp oscillated by 11 percent from its normal level, \$8.14 per pound in 2012-20.

The average prices, deviation and coefficient of covariation of shrimp count 1620 per pound since 2012 are as follows:

- Dockside prices = \$5.86 ± \$1.09 (19%)
- Wholesale prices = \$7.27 ± \$1.14 (16%)
- Retail prices = \$8.92 ± \$1.02 (11%)

PERCENT SHRIMP PRICE MARGINS OF WESTERN GULF EX-VESSEL, GULF WHOLESALE WHITE AND US RETAIL, HEADLESS, 16-20 COUNT

The average price margins, deviation and coefficient of covariation of shrimp count 21-25 per pound since 2012 are as follows:

- Dockside-Wholesale prices = 26% ± 16% (62%)
- Wholesale-Retail prices = 24% ± 12% (52%)
- Dockside-Wholesale prices = 56% ± 26% (46%)

DETERMINANTS OF SHRIMP PRICE MARGINS

The dependent variables are shrimp price margins. The independent variables are time, month, BCS openings, covid19, recession, the trade war with China. The ordinary least square (OLS) equation which was estimated by using Stata 16 is as follows:

`regress marginijk time timesq timecube i.month evpijk wpijk rpijk i.bcsopening i.covid19 i.recession i.tradewar, vce(r)`, where:

- $margin_{ijk} = wp_{ijk} - evp_{ijk}$; $rp_{ijk} - wp_{ijk}$; $rp_{ijk} - evp_{ijk}$,
- time = year,
- month = 1, if Jan.; = 2, if Feb.; ... ,
- evp_{ijk} = West Gulf dockside price,
- wp_{ijk} = Gulf wholesale price,
- rp_{ijk} = US retail price,
- $bcsopening = 1$, if Bonnet Carre spillway was opened,
- $Covid19 = 1$, if Covid-19 occurred,
- $recession = 1$, if recession occurred,
- $tradewar = 1$, if US-China trade war occurred.

THE ESTIMATED EQUATIONS EXPLAINED AT LEAST 92 PERCENT OF THE VARIATIONS IN DEFLATED PRICE MARGINS OF WHITE SHRIMP 21-25 COUNT.

- Increases in dockside prices led to significant reductions in margins.
- Increases in wholesale prices resulted to significant increases in margins.
- Increases in retail prices resulted to significant increases in margins.
- Openings of the BCS resulted to insignificant decreases in margins.
- Global Covid-19 pandemic resulted to insignificant increases in margins.
- US recessions resulted to insignificant decreases in margins.
- US-China trade war led to significant reductions in margins.

THE ESTIMATED EQUATIONS EXPLAINED AT LEAST 94 PERCENT OF THE VARIATIONS IN DEFLATED PRICE MARGINS OF WHITE SHRIMP 16-20 COUNT.

- Increases in dockside prices led to significant reductions in margins.
- Increases in wholesale prices resulted to significant decreases in margins.
- Increases in retail prices resulted to significant increases in margins.
- Openings of the BCS resulted to insignificant decreases in margins.
- Global Covid-19 pandemic resulted to insignificant decreases in margins.
- US recessions resulted to insignificant increases in margins.
- US-China trade war led to significant reductions in margins.

SUMMARY

PRELIMINARY RESULTS SHOWED THAT PRICE MARGINS OF WHITE SHRIMP (COUNT 21-25) WERE SIGNIFICANTLY INFLUENCED BY:

- Increases in dockside prices led to significant reductions in margins.
- Increases in wholesale prices resulted to significant increases in margins.
- Increases in retail prices led to significant increases in margins.
- US-China trade war led to significant reductions in margins.

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- Increases in retail prices resulted to significant increases in margins.
- US-China trade war led to significant reductions in margins.

MY ECONOMIC OUTREACH ON GLOBAL COVID-19 PANDEMIC

- Posadas, Benedict C. Shrimp Price Margins from Dockside-Wholesale-Retail Markets. Mississippi MarketMaker Newsletter, Vol. 11, No. 2. Feb. 23, 2021. <http://extension.msstate.edu/newsletters/mississippi-marketmaker>.
- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach." Shrimp Price Margins from Dockside-Wholesale-Retail Markets. Mississippi MarketMaker Newsletter, Vol. 11, No. 2. Feb. 9, 2021. <https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.

- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach, " 2021 Covid-19 Impacts on Tuna Industry," Mississippi State University, Coastal Research and Extension Center, Virtual Presentation. (January 5, 2021).
<https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.
- Posadas, B.C. Economic Impacts of the Global Covid-19 Pandemic on U.S. Retail Prices of Selected Shellfish Species. Mississippi MarketMaker Newsletter, Vol. 11, No. 1. January 6, 2021.
<http://extension.msstate.edu/newsletters/mississippi-marketmaker>.
- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach, " Economic Impacts of the Global Covid-19 Pandemic on U.S. Retail Prices of Selected Shellfish Species," Mississippi State University, Coastal Research and Extension Center, Virtual Presentation. (January 5, 2021).
<https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.
- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach, "November Commercial Landings and Direct Losses in the Northern Gulf of Mexico Shrimp Fisheries," Mississippi State University, Coastal Research and Extension Center, Virtual Presentation. (January 1, 2021). <https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.
- Posadas, B.C. Economic Impacts of the Global Covid-19 Pandemic on U.S. Retail Prices of Selected Fish Species. Mississippi MarketMaker Newsletter, Vol. 10, No. 11. December 8, 2020.
<http://extension.msstate.edu/newsletters/mississippi-marketmaker>.
- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach, " Economic Impacts of the Global Covid-19 Pandemic on U.S. Retail Prices of Selected Fish Species," Mississippi State University, Coastal Research and Extension Center, Virtual Presentation. (December 8, 2020). <https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.
- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach, "Potential Direct Economic Impacts of the Global

Covid-19 Pandemic to the Mississippi Commercial Fisheries," Mississippi State University, Coastal Research and Extension Center, Virtual Presentation. (November 10, 2020).

<https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.

- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach, "September Commercial Shrimp Landings in the Northern Gulf of Mexico," Mississippi State University, Coastal Research and Extension Center, Virtual Presentation. (October 28, 2020).
<https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.
- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach, "Economic Impacts of Covid-19 on Tilapia Imports, Retail and Wholesale Prices," Mississippi State University, Coastal Research and Extension Center, Virtual Presentation. (September 30, 2020).
<https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.
- Posadas, B. C. (Author & Presenter), Horticulture, Marine, and Disaster Economics Outreach, "Direct Economic Impacts of 2019 BCS Openings and Covid-19 on U.S. Blue Crab Wholesale Prices," Mississippi State University, Coastal Research and Extension Center, Virtual Presentation. (September 18, 2020).
<https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.
- Posadas, B. C. (Author & Presenter), Horticulture and Marine Economic Outreach, "Economic Impacts of 2019 BCS Openings and Covid-19 on U.S. Blue Crab Wholesale Prices," Mississippi State University, Coastal Research and Extension Center, Virtual Conference. (September 11, 2020).
<https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.
- Posadas, B. C. (Author & Presenter), Horticulture and Marine Economics Outreach, "Economic Impacts of Covid-19 on Catfish Production, Imports and Farm-Gate and Wholesale Prices," Mississippi State University, Coastal Research and Extension Center, Virtual presentation. (August 28, 2020).
<https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m>.

[Lk5QQfeJ6m.](#)

- Posadas, B. C. (Author & Presenter), Horticulture and Marine Economics Outreach, "Economic Impacts of 2019 BCS Openings and Covid-19 on Northern Gulf Shrimp Landings, Prices and Imports," Mississippi State University, Coastal Research and Extension Center, Virtual presentation. (July 31, 2020).
[https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m.](https://www.youtube.com/playlist?list=PLB0D9oT09EZIQGjeX6QSBg-Lk5QQfeJ6m)