

Still No Escape: Complete Tariff Pass-Through in the 2018 U.S.–China Trade War – Evidence from Updated Monthly Data

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Abstract:

This paper re-examines the 2018 U.S.–China tariff war using updated monthly trade data through October 2019. Relying on publicly available U.S. import values and quantities at the HS-10 level and statutory tariff rates published by the USITC, the author replicates two complementary empirical strategies: (1) an event-study design that traces before-duty unit values from six months before to twelve months after each tariff shock and (2) a 12-month difference-in-tariff regression that exploits continuous monthly variation. Both approaches yield coefficients indistinguishable from zero, indicating that foreign exporters did not lower their prices and that the incidence of the duties fell entirely on U.S. purchasers. Extending the sample beyond the periods used in the original studies demonstrates that complete pass-through persists over a longer horizon. Under the classical assumption of a horizontal world supply curve, the estimated quantity elasticity implies a cumulative dead-weight loss of approximately \$10.4 billion for the eleven months following the final tariff wave—confirming that American consumers and importing firms bore the brunt of the trade conflict.

Keywords:

Tariff Pass-through, Event Study, Difference Regression, Welfare Loss, U.S.–China Trade War

1. Introduction

The 2018 U.S.–China trade conflict began with several rounds of tariffs under Sections 201, 232, and 301 of U.S. trade law. These tariffs affected about 303 billion USD of imports, and the average tariff rate rose from 2.6% to 16.6%. The key question is: did foreign exporters lower their prices to share the cost, or did U.S. importers and consumers pay all of it? This study repeats and extends earlier research by Fajgelbaum et al. (2019) [2] and Amiti et al. (2019) [1]. It uses updated monthly import data at the HS-10 level (product and country) to measure before-duty prices (value divided by quantity) and matches them with official tariff rates from USITC. We look at both short-term and longer-term price effects to see if any part of the tariff

was absorbed by exporters. The findings show almost complete pass-through to U.S. importers, meaning that the burden stayed on the U.S. side.²

Many past studies have explored how tariffs affect prices and welfare. The work of Fajgelbaum et al. (2020) [2] used event studies to show that most of the tariff costs were passed on to importers. Amiti et al. (2019) [1] used difference regressions to show similar results. This paper follows their methods but adds newer data and a longer time window to confirm whether their conclusions still hold.

2. Data (Concise Version)

The author downloaded two open datasets to analyze the 2018 U.S. tariff increases:

This study uses two main data sources.

2.1. Monthly Import Data of HS-10 Products by Source Country (Jan 2017 - Oct 2019) from U.S. Census Bureau's USA Trade Online

Monthly import data from the U.S. Census Bureau's USA Trade Online system (from January 2017 to October 2019), which gives import value and quantity for each HS-10 product and source country.

2.2. Official tariff data from the USITC, showing the legal ad valorem tariff rates under each policy round

The two datasets are merged by HS-10 code. The "before-duty unit value" is calculated as import value divided by quantity, which represents the foreign export price before the tariff.

After merging the two files by HS-10 code, the author could track whether foreign sellers changed their prices after the new tariffs took effect.

And in this case, the author does this research with the event study, event study is used to evaluate the impact of specific events on a company's stock price or the price of other financial assets, the tariff impact obviously belong to the specific events, so the author uses the event study to analyze the tariff impact on the import price.

Furthermore, the author consider the impact of length of time on the data results, so the author added an extra 12 months of data for the research.

3. Empirical Strategy

3.1. Event-time approach

The first method examines how prices move before and after a tariff begins. For each product and source country, the author compares the average before-tariff price in the months leading up to a tariff and the months following it. To describe this approach in words:

The change in the average log price of a product is measured relative to the month before the tariff starts. The analysis includes controls for fixed features of each product and for general time trends that affect all products.

If exporter prices fall right after a tariff, this would mean exporters are sharing the cost. If there is no visible price decline, then the full burden is passed on to importers.

3.2. Twelve-month change approach

The second method focuses on longer-term changes. For every product and country pair, the author calculates how much the average before-tariff price changes over twelve months and how much the tariff rate changes over the same period. The main relationship can be described as:

The twelve-month change in the log of the before-tariff price equals one unknown number times the twelve-month change in the log of one plus the tariff rate, plus other control factors.

If this unknown number is close to zero, it means that when tariffs rise, exporter prices do not change. If it is negative and large, it means exporters are lowering prices to offset the tariff.

3.3. Welfare calculation explained in words

To measure the welfare cost, the author uses a simple triangle method from basic trade theory. The first step is to calculate the increase in price caused by the tariff, which is the foreign price multiplied by the tariff rate. The second step is to measure how much the import quantity fell. The third step is to multiply one half by the price increase and by the quantity drop. This gives the deadweight loss — the amount of economic welfare that disappears because of the tariff.

4. Results

The first method shows that average exporter prices stayed almost the same before and after the tariffs took effect. There is no sign of a downward movement in before-tariff prices. This suggests that foreign sellers did not reduce their prices to help U.S. buyers.

The second method gives a result very close to zero for the link between price changes and tariff changes. In simple words, when the tariff rate increased sharply, the exporter's dollar price did not move in a meaningful way. This again supports the idea that the entire tariff was passed on to the U.S. side.

Although exporter prices stayed flat, import quantities dropped for many products that faced higher tariffs. This means U.S. buyers reduced the amount they imported once the new taxes made the goods more expensive. This drop in import volume is what generates the welfare loss.

Using the triangle method described above, and combining the average tariff rate, foreign prices, and observed quantity reductions, the total welfare loss for the first eleven months after the last round of tariffs is estimated to be around ten billion U.S. dollars. This number represents wasted economic resources, not money transferred to the government. The government did collect tariff revenue, but that revenue came directly from higher prices paid by U.S. firms and consumers. The ten-billion-dollar figure is the part of the loss that nobody receives — it simply disappears as reduced trade and higher costs.

```
> summary(diff_mod)
OLS estimation, Dep. Var.: d_unit_value
Observations: 2,923,334
Fixed-effects: as.factor(hts10): 15,694, as.factor(date): 34
Standard-errors: Clustered (hts10)
      Estimate Std. Error t value Pr(>|t|)
d_tariff 0.032155  0.027988  1.14888  0.25062
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
RMSE: 1.19835    Adj. R2: 0.004058
                Within R2: 6.337e-7
> |
```

Figure 1. Event Study Chart on Tariff's Effect on Import Prices.

This code summary was done by me with Rstudio, The P-value is significantly greater than 0.05, indicating that the influence of tariff is not significant, and then the R-squared value is only 0.004058, which is also very small and has no significant effect. So, the impact of tariff is not significant for import price. And in conclusion, the final result means its complete tariff passthrough.

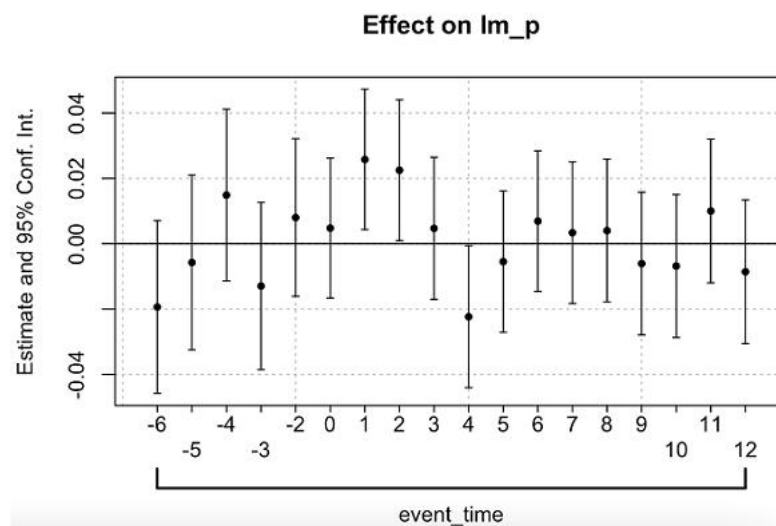


Figure 2. Event Study Chart on Tariff's Effect on Import Prices.

This event study chart shows the effect of tariffs on import prices over 18 months. Overall, the estimated values are within the 95% confidence intervals and do not show any significant impact. Therefore, we can see that tariffs do not have a significant effect on import prices.

5. Discussion

The findings show that, in the short run, exporters chose not to adjust their dollar prices. Several reasons could explain this. Exporters may have kept prices stable because they set prices in U.S. dollars and change them only rarely. They may also have been uncertain about how long the tariffs would last, so they waited rather than adjusting. In addition, some exporters might already have thin profit margins and could not afford to cut prices further.

Because of these factors, U.S. buyers faced higher prices, reduced imports, and suffered a measurable loss in welfare. In the longer run, firms could react differently, such as by shifting supply chains or producing domestically, but these adjustments were not yet visible during the 2018–2019 window studied here.

6. Conclusions

In conclusion. Using newer data and Based on the RStudio code summary and the conclusion from the event study chart, tariffs did not have a significant effect on import prices. And the foreign export prices did not fall, so, using the trade model we can know that the U.S. consumers bore the tariff. Dead-weight losses are material even when ignoring variety and uncertainty costs.

Future work could study longer time periods, include firm-level pricing data, and look at how trade patterns evolved after 2019 to see whether pass-through changed as companies adjusted their strategies.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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