International Trade Price Stickiness and Exchange Rate Pass-Through in Micro Data: A Case Study on US-China Trade

Mina Kim
Bureau of Labor Statistics

Deokwoo Nam
City University of Hong Kong

Jian Wang
Federal Reserve Bank of Dallas
Hong Kong Institute for Monetary Research

Jason Wu
Federal Reserve Board

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Summary

China's abandonment of its hard currency peg to the US dollar in June 2005 provides an excellent opportunity to study the impact of exchange rate policy on firm's price setting behavior in international trade. We are interested in two questions. First, how has the pricing behavior of Chinese and US exporters changed since 2005? Second, how much of RMB appreciation between 2005 and 2008 has passed on to US import prices (exchange rate pass-through, or ERPT)? We use goods-level micro data of US-China trade prices collected by the US Bureau of Labor Statistics to shed light on the two questions of interest.

These two questions are important due to the role of China's large current account surplus in global economic imbalances. Several prominent policymakers and economic researchers have pressed China to revalue its currency in order to rebalance the global economy. China gradually appreciated the RMB after 2005 under such pressure. How did a change in China's exchange rate policy affect the pricing behavior of US and China exporters and US import prices from China?

Using goods-level micro data of US-China trade prices, we find that firms change prices more frequent after China started to appreciate its currency. For instance, the duration of US export prices to China declined 30% after 2005. This finding suggests that firms have to bear higher costs of changing prices following Yuan's appreciation.

Our second question of interest is the size of ERPT after the regime change of the RMB. A fundamental assumption driving the argument for an RMB revaluation is that the ERPT of RMB appreciation into US import prices is high. However, this assumption was not supported by aggregate price data. Recognizing that heterogeneity in pricing behavior is not reflected through aggregate prices, we estimate ERPT using goods-level US-China trade prices.

In our data, around 40% of US imported goods from China never change prices during their lifetimes. Many of these goods indeed change prices through product replacement, which is usually not captured in aggregate price index. Therefore, ERPT estimated from price indexes is downward biased.

We find that the point estimate of lifelong ERPT that includes only goods with at least one price change is 0.88, compared to 0.39 when all goods are included (0.39 is indeed close to previous studies that use aggregate price indices such as US import price index or China's export price index). This finding shows that the RMB appreciation has much large effect on China's export prices than aggregate trade price indexes suggest.

From a policy perspective, if US-China trade imbalances are caused by RMB undervaluation, our results suggest that RMB appreciation can be much more effective in balancing US-China trade than the literature has previously contemplated. However, if imbalances are caused by other structural factors rather than RMB undervaluation, RMB appreciation may substantially disrupt US-China trade through high ERPT without improving US-China trade imbalances.