What are the Price Effect of Trade?
New Evidence from the U.S.

Executive Summary

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International trade is widely viewed as creating winners and losers in the economy. Influential work documented that U.S. labor markets were heavily disrupted by the surge of imports following China's joining the WTO in 2001, a historic change in trade widely referred to as the "China shock". Much less is known about the extent to which the "China shock" may have benefited U.S. consumers by reducing prices and thereby increasing their purchasing power. What were the price effects of the China shock and its consequences for U.S. consumers?

We study comprehensive price data on hundreds of thousands of products to estimate the price effects of the China shock, focusing on the period from 2000 to 2007. Our analysis yields two main lessons.

Lesson 1: U.S. consumers benefited from large price declines in product categories in which imports from China increased.

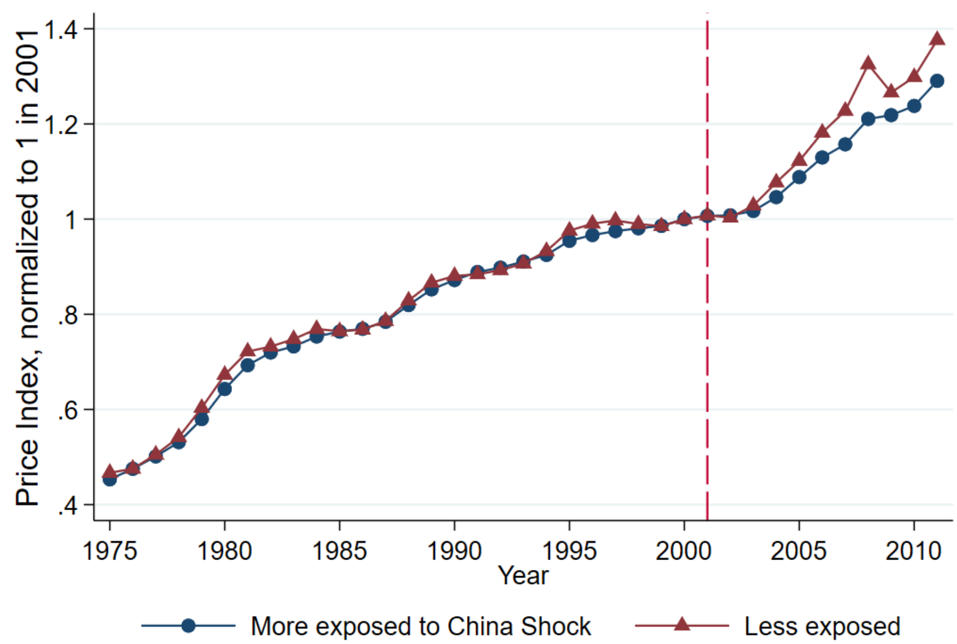
> *The annual purchasing power of each U.S. household increased by $1,500 thanks to trade with China.*

We find that prices fell substantially in product categories where imports from China increase. Specifically, we find that prices fall by 2% when China's market share increases by one percentage point. To interpret how large of a price decline this is, it is useful to compute the gain in purchasing power this represents for U.S. consumers. Our findings indicate that, on average, each U.S. household saw its annual purchasing power increase by $1,500 thanks to lower prices caused by increased trade with China from 2000 to 2007. These gains from lower prices were broadly shared across all income groups in the economy, although they were proportionally larger for low-income groups (with gains about 15% larger than average).

The comprehensive price data we use for this analysis has several advantages, which are described in the paper. We estimate price changes while holding products' quality constant, so that price declines reflect a true increase in purchasing power (not a decline in quality). Furthermore, through a series of statistical analyses we can estimate the causal impact of trade on prices (rather than simple correlations). Essentially, we compare two groups of products that are similar in every way except that one group faced a greater increase in imports from China. Figure 1 depicts this comparison and shows that prices fell in product categories that were more exposed to the China shock.

We find that much of the large price response to the China shock comes from a fall in the price of domestically-produced goods, rather than from the prices of products imported from China alone. This finding indicates that increased competition led to lower prices for U.S. consumers. In a time a rising market concentration, trade may be particularly valuable to U.S. consumers.

Figure 1. The Effect of the China Shock on Prices



This figure shows price trends before and after China joined the WTO in 2001 (indicated by the red bar).

Lesson 2: The positive impact of the China shock on the purchasing power of U.S. consumers is very large in comparison to its negative impact on U.S. jobs.

Trade creates winners and losers: in the case of the China shock, U.S. consumers benefited through lower prices while some U.S. workers were hurt. How do these effects compare to each other? We linked the price data to detailed labor market data to precisely compare the employment and price effects of the China shock.

We find that the economy-wide increase in purchasing power for U.S. consumers is very large in comparison to the labor market disruptions. Specifically, we find that trade with China increased the total purchasing power of U.S. consumers by $411,464 for each displaced job (while average annual pay for jobs in these industries is about $40,000). This finding implies that the overall gains to U.S. consumers through lower prices are large enough to compensate all U.S. workers who lost their jobs due to increased competition from China in their industries.

In the aggregate, trade with China increased the purchasing power of U.S. consumers by $411,464 per displaced job.

In practice, compensating the exact individuals who lost their jobs because of trade may be challenging. It requires policy makers to find and implement the proper policies to redistribute the gains from the winners to the losers. But our results indicate that there is much room to organize such transfers, because the consumer gains are large. For example, this could potentially be achieved through job training, relocation allowances or income support within federal programs such as the Trade Adjustment Assistance (TAA).