

Was China Behind a Manufacturing Decline?

BY ERIC LaROSE

Since 2000, the number of Americans employed in manufacturing has decreased by nearly 30 percent, falling from roughly 17.3 million to 12.3 million. In the past few years, many politicians and pundits have blamed this decline on trade liberalization and new free trade agreements, particularly with China.

While economists express virtually unanimous agreement that the aggregate benefits of freer trade outweigh the aggregate costs, trade can still adversely affect certain groups. Indeed, numerous studies have found that manufacturing workers are hurt by increased import competition resulting from free trade agreements. In a July 2016 *American Economic Review* article, Justin Pierce of the Federal Reserve Board of Governors and Peter Schott of Yale University build upon this literature by examining whether one specific policy promoting freer trade with China has indeed hurt American manufacturing employment.

The authors focus on the establishment of Permanent Normal Trade Relations (PNTR) between the United States and China, passed in 2000 and effective in 2001. The

1930 Smoot-Hawley Tariff Act had set high “non-NTR” tariff rates for nonmarket economies such as China, but in 1980, China began receiving annual waivers allowing it the normal NTR rates. Such waivers were not considered inevitable but rather subject to frequent congressional votes and threats to end China’s NTR status. By permanently setting tariffs at relatively low NTR levels, the establishment of PNTR in 2000 thus eliminated a major source of uncertainty for firms seeking trade with and investment in China. Since PNTR’s implementation coincided with the decline in manufacturing employment, the authors investigate the causal effect of this specific policy on employment from 2001 to 2007.

Pierce and Schott define an industry’s “NTR gap” as the difference between its non-NTR tariff rate and its NTR rate for Chinese imports — that is, the difference between the industry’s rates before and after 1980. Industries with larger NTR gaps are more affected by this policy change and thus might be expected to have a larger response to it. The authors use data from the Bureau of Economic Analysis to calculate industry-level NTR gaps and from the Census Bureau’s Longitudinal Business Database to gather employment and industry data from individual firms.

Using this annual data from 1990 to 2007, the authors estimate an equation examining whether higher NTR gaps lead to larger employment losses following PNTR’s implementation. They find a negative and statistically significant

relationship between the imposition of PNTR and manufacturing employment. Although their identification strategy does not allow for an exact estimate of the share of the manufacturing employment decline accounted for by PNTR, Pierce and Schott conclude that “moving an industry from an NTR gap at the 25th percentile (0.23) to the 75th (0.40) of the observed distribution” produces an economically significant employment loss.

To strengthen these findings, the article examines other trends contemporary with the PNTR implementation that have been proposed as sources of this employment loss, such as policy changes in China, declines in unionization, and the bursting of the tech bubble. In response, the authors implement several control variables and still find a statistically and economically significant negative impact of PNTR

on manufacturing employment. Additionally, they examine manufacturing employment during this period in the European Union, which had granted the equivalent of PNTR to China back in 1980, two decades earlier than the United States. They find comparatively little man-

ufacturing employment loss in the EU, providing further evidence against alternative explanations to PNTR.

What explains the contribution of PNTR to this employment decline? The paper proposes four possible mechanisms. First, the reduced uncertainty created by PNTR may have encouraged firms to buy goods from Chinese rather than American manufacturers. Second, PNTR may have led to production offshoring. Third, lower expected future tariffs may have led to the substitution of capital for labor among domestic firms and a shifting away from labor-intensive product lines, since the United States has a comparative advantage in capital whereas China has one in labor. Finally, offshoring by one portion of a supply chain due to PNTR may lead to offshoring of other portions of the same chain.

Evidence indicates that all four of these mechanisms can partly account for the effect of PNTR on manufacturing employment. Thus, industries with larger NTR gaps experienced not only lower employment levels but also “increased imports from China, and higher entry by U.S. importers and foreign-owned Chinese exporters” as well as “shifts toward less labor-intensive production.” Overall, these effects point to the strong role played by trade policy uncertainty in firm behavior; with the previously high uncertainty over future tariff rates nearly eliminated by PNTR, firms have stronger incentive to establish trade relationships with China. **EF**

“The Surprisingly Swift Decline of U.S. Manufacturing Employment.”
By Justin R. Pierce and Peter K. Schott.
American Economic Review, July 2016,
vol. 106, no. 7, pp. 1632-1662.