

February 13, 2017

Arithmetic and the ITIF Manufacturing Study

Michael J. Hicks, Ph.D. George & Frances Ball Distinguished Professor
Srikant Devaraj, Ph.D. Research Assistant Professor

A recent study by the Information Technology & Innovation Foundation offered that closing the manufacturing trade gap would create roughly 1.3 million new manufacturing jobs in the United States.ⁱ This study is the latest element in a marketing campaign to convince the Trump Administration to engage in a more activist approach to technology policy and import restrictions. In that respect, the study should be examined with the critical eye of any sweeping policy recommendations involving several trillion dollars of public and private investment. Fortunately, a significant criticism of these plans is available.ⁱⁱ We will not comment on its appropriateness here.

The most recent ITIF study offered criticism of our research, and that of Harvard's Robert Lawrence and MIT's David Autor (with David Dorn and Gordon Hanson).ⁱⁱⁱ These studies report that manufacturing productivity has played a significant role in manufacturing job losses in both recent and long-term declines. These studies estimate between 750,000 and 1.4 million direct manufacturing jobs were lost to trade, a result that is almost wholly dependent upon the year selected for the study. Manufacturing job losses are variously interpreted to run between 80 and 90 percent of the total. Lawrence explains that the decline in manufacturing employment share is a nearly perfect linear decline since 1960, and is largely due to productivity induced job losses.

The gist of the ITIF criticism is that the US trade imbalance accounts for the majority of manufacturing job losses, while these studies all argue that productivity related job losses have played a large or dominant role.

This research question is important for a variety of reasons, not least of which is the appropriateness of policy intervention. The study author, Mr. Adams Nager argues that these studies suffer serious methodological or conceptual flaws. These flaws include failure to understand national income accounts, or capacity to decompose manufacturing versus general labor productivity. Finally, Mr. Nager concludes that it is trade, not productivity (or automation) that accounts for the bulk of job losses. Herein lies the real problem with Mr. Nager's analysis.

Mr. Nager concludes by estimating that closing the trade gap would cause an increase in roughly 1.3 million new manufacturing jobs in the United States. However, since its

February 13, 2017

Page 2

peak, the US manufacturing sector has lost some 7.2 million jobs. After a fairly specific and detailed criticism of our methods and our understanding of the issue, he concludes by reporting a number that is nearly identical to the other studies offered on the matter. That is odd because his work estimated 1.3 million jobs, which when divided by 7.2 million happens to be about 18 percent, or well within the range of studies estimated above.

Interpreting the policy relevance of the ITIF study is difficult, and we shall defer to others on this matter. In terms of its criticism of our research, and that of Lawrence, and Autor, *et. al.* we will simply say that he is mistaken. These studies offer a solid explanation both for the complexity of the issue and the policy concerns that are raised by international trade, its disparate impact and the role of automation and productivity related job losses.

As to Mr. Nager's argument regarding the outsized role of trade versus automation, we will simply refer to his own analysis. As he argues that trade-related job losses are roughly 1.3 million, we simply inquire in what way does he account for the remaining 7.2 million or 82 percent of manufacturing jobs that have been lost since the 1970s?

The answer is automation and greater efficiency in production, as explained by the professional economists cited above.

ⁱ Nager, Adams "Trade vs. Productivity: What Caused U.S. Manufacturing's Decline and How to Revive IT? Information Technology & Innovation Foundation, February 2017.

ⁱⁱ See plan <https://www.nationalreview.com/magazine/2016-12-31-0000/donald-trump-job-conservatives> and response here: <http://www.nationalreview.com/article/443697/national-review-symposium>.

ⁱⁱⁱ Hicks, Michal and Srikant Devaraj (2015) The Myth and Reality of Manufacturing in the United States, Center for Business and Economic Research, Ball State University, Matthews, Dylan interview with Robert Lawrence, Wonkblog, Washington Post, March 25, 201; and Autor, David H., David Dorn, and Gordon H. Hanson. "The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade." Annual Review of Economics 8 (2016): 205-240.