In the first decade of the 21st century, U.S. manufacturing employment cratered by an astounding one-third. As experts poked through the wreckage, the received wisdom that emerged was straightforward. As Columbia University’s R. Glenn Hubbard commented in 2012: “The decline in U.S. manufacturing employment is explained by rapid growth in manufacturing productivity.” That is, thanks to new machinery and software, manufacturers no longer needed as many workers as they once did to produce a given amount of output. This was an oddly comforting analysis, because it let unfair foreign trade practices and declining U.S. competitiveness off the hook. But despite being regularly repeated and widely accepted, the received wisdom was wrong. And worse, it made it possible to ignore the systemic rise of foreign mercantilist trade practices in the years that followed.

Getting this analysis right is critical, because if the manufacturing job losses were due entirely to superior productivity then the only necessary policy response would be to provide more and better assistance for laid-off production workers. But if a major portion of the loss was due to trade, then the proper policy response would also include taking tougher action against unfair foreign trade practices and enacting a national manufacturing growth and competitiveness strategy.\(^1\)

ITIF has conducted in-depth analyses showing that while superior productivity growth did contribute to U.S. manufacturing job losses, the bigger factor was unfair foreign trade practices and the U.S. manufacturing sector’s lack of competitiveness. This primer provides an overview of 10 key questions and answers that the prevailing wisdom cannot explain.

### 1. Why Was Manufacturing Job Loss So Precipitous in the 2000s?
From 1965 to 2000, manufacturing employment was more or less stable, hovering between 19.5 and 16.5 million jobs.\(^2\) But the 2000s saw the number of manufacturing jobs plummet by more than 5 million—a rate faster than in the Great Depression.\(^3\) In fact, the rate of manufacturing jobs loss was 10 times greater in the 2000s than in 1990s (32 percent versus 3 percent). Yet, manufacturing productivity grew faster relative to the rest of the economy in the 1990s than it did from 2000 to 2012.

### 2. Why Did So Many Manufacturing Factories Shutter in the 2000s?
From 2000 to 2011, the number of manufacturing establishments dropped from 404,758 to 338,273, a net loss of 66,485.\(^4\) In no year since 2001 did more manufacturing establishments open than close. In contrast, most years in the 1990s saw net gains in manufacturing establishments. This pattern better fits the explanation of increased global competition and offshoring of factories than an increase in productivity.

### 3. Why Did Jobs Decline Faster in Industries Most Affected by Globalization?
Low value-added industries most affected by globalization saw the steepest job losses, with almost seven in 10 jobs disappearing in apparel, six in 10 in textiles, and almost five in 10 in furniture. Two industries least impacted by globalization—food products and petroleum refining—experienced the lowest job loss: less than 10 percent each. If productivity is the cause, then an industry like textiles would have had productivity growth rates six times higher than the food processing industry, instead of approximately three times higher, which was the actual record.\(^5\)

### 4. Why Did Output Decline in 13 of 19 Major Manufacturing Sectors?
If the productivity is the cause of employment loss, then output should be stable or grow in most industries, even as jobs disappear. In fact, inflation-adjusted gross output declined in 13 of 19 manufacturing industries in the 2000s.\(^6\) And output in three of the remaining six manufacturing industries grew slower than GDP.

### 5. Why Did Manufacturing Output Grow More Slowly in the 2000s Than in Any Decade Since the 1950s?
If the productivity was the cause of manufacturing employment loss in the 2000s, then output growth should have been robust. In fact, officially measured U.S. manufacturing output grew just 15 percent in the 2000s, compared to an average of around 40 percent in the prior five decades.\(^7\) Tough, often unfair, international competition meant slower growth in U.S. output as net imports grew.

### 6. Why Did Manufacturing Output Decline When Measured Properly?
Because the Bureau of Economic Analysis (BEA) vastly overstates output growth in the computer and electronics components industry (NAICS code 334), overall manufacturing growth is significantly overstated. According to the BEA output in this one industry, which accounted for fewer than 11 percent of manufacturing jobs in 2000, grew 417 percent in the 2000s. This amounted to more than 100 percent of U.S. manufacturing output in the 2000s, because the other 18 sectors saw collective declines.\(^8\) But this surge in computer and electronics output doesn’t reflect an actual increase in the number of computers the United States is producing. In fact, U.S. companies have been producing fewer computers as manufacturing has shifted offshore. Rather, this massive growth in output and productivity is simply a result of how BEA measures quality adjustments caused by computer speeds increasing according to “Moore’s law.”\(^9\)
7. Why Did Manufacturing Capital Investment Fall?
If manufacturing productivity was a driving factor behind job losses, then we should expect to see above-average rates of investment by manufacturers in machines and other fixed assets. In fact, while manufacturing fixed investment grew 5.3 percent per year from 1950 to 1999, it fell by 1.8 percent per year in the 2000s. This is why the United States ranked 25th of 29 OECD countries in the rate of manufacturing fixed investment in the 2000s.

8. Why Are Manufacturing Profits Falling as Share of Corporate Profits?
If productivity is robust, then profits should be robust. In fact, while manufacturing profits increased 52 percent between 2000 and 2010, overall corporate profits were up much more: 135 percent.

9. Why Did the U.S. Lose a Greater Share of Manufacturing Jobs Than Most of Its Competitors?
Of 10 nations examined by the Bureau of Labor Statistics, only the United Kingdom experienced manufacturing job losses comparable to those in the United States from 2000 to 2009 (when adjusted for growth in working-age population). Yet, of the eight nations with lower rates of job loss, two had higher rates of productivity growth and two had about the same rates, but they experienced considerably less job loss.

10. Why Did the U.S. Share of Global Manufacturing Output Fall Precipitously?
If manufacturing productivity was the cause of job loss, then the U.S. share of global manufacturing output should have grown, or at least remained stable. In fact, controlling for the value of the dollar, U.S. manufacturing output dropped from 25 percent of world share in the early 2000s to 18.4 percent in 2014.

References
11. Bureau of Economic Analysis, Fixed Assets Accounts (table 3.8ES, chain-type quantity indexes for investment in private fixed assets by industry; accessed January 23, 2012), http://www.bea.gov/iTable/index_FA.cfm. Author’s analysis. Manufacturing fixed asset investment quantity minus petroleum and coal products fixed asset investment quantity was re-aggregated using a Törnqvist index.