



# REPORT

## **Trend Lines in Manufacturing and Print 1992– 2016**

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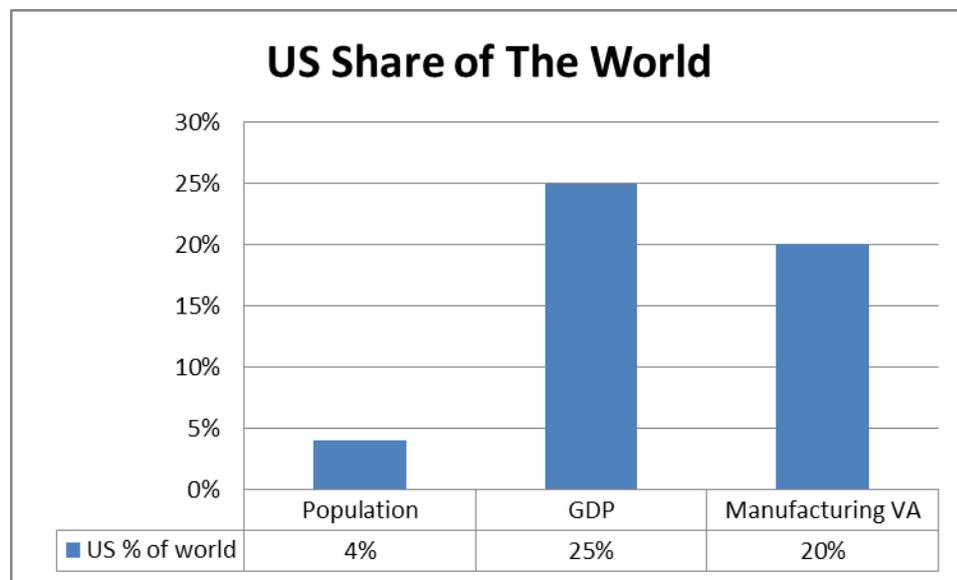
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## Trend Lines in Manufacturing and Print 1992–2016

In this *Flash* we take a *deep dive* into past and current trends in U.S. manufacturing since much of the current political discussion is focused on the manufacturing sector. Also, of course, print is one of the 21 subsectors of the U.S. manufacturing industry.

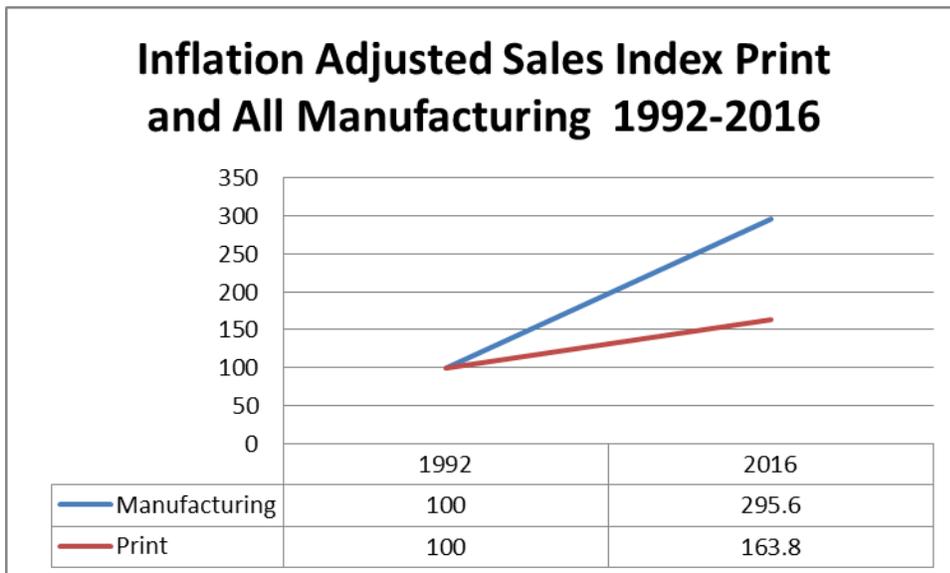
Our focus is inflation-adjusted shipments and employment for both total U.S. manufacturing and print over the last 24 years, 1992–2016.

First, let’s examine the notion of how the United States is losing its manufacturing base. The U.S. remains the world’s largest manufacturing country in terms of the value of shipments. Recent data show that although the U.S. comprises only about 4 percent of the world’s population, it has a market share of around 25 percent of global economic output and around 20 percent of total manufacturing output.

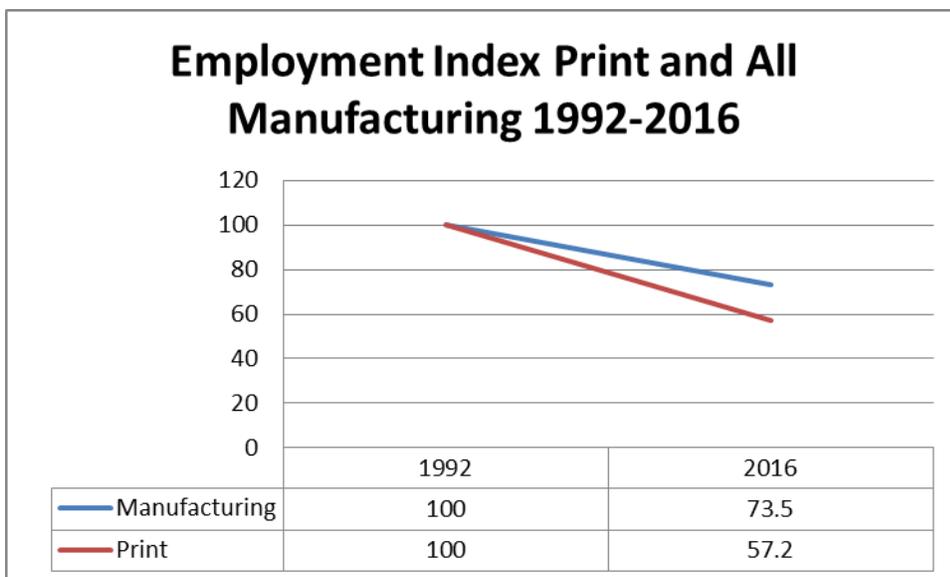


When adjusted for inflation, U.S. output in the manufacturing sector almost tripled from 1992 to 2016—a significant increase in real output.

**What about print?** The American printing industry also experienced significant growth in inflation-adjusted output (utilizing the Producer Price Index specific for print, not the overall Consumer Price Index). Although real printing shipments did not increase as spectacularly as the whole manufacturing sector, they still increased by nearly 70 percent over the study timeframe.

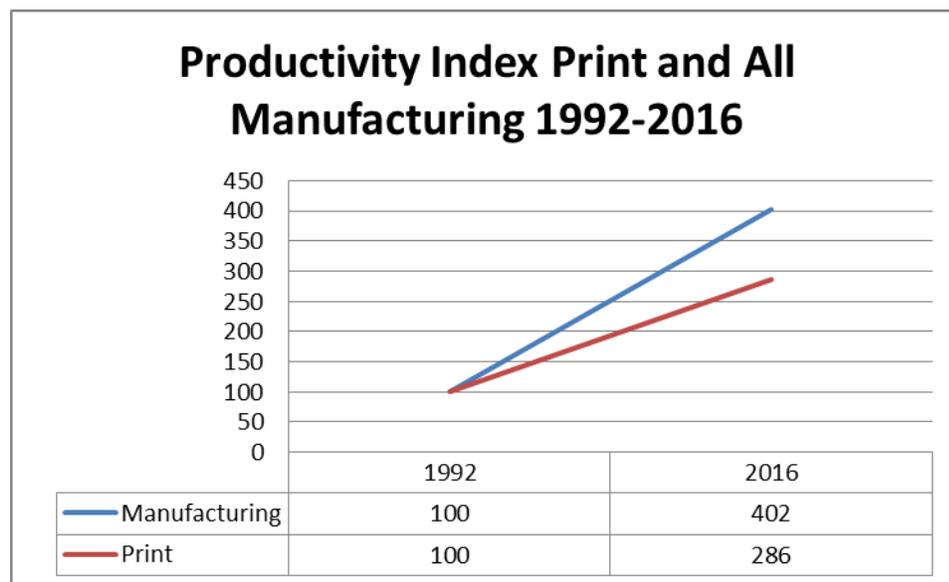


*What about manufacturing and print employment over the same timeframe?* Over the same time that sales were increasing significantly, the trend in employment for both sectors went in the opposite direction—down. By 2016, employment in the overall U.S. manufacturing sector stood at just 73.5 percent of the 1992 figure. Print’s downward trend was even more pronounced with 2016 employment declining to 57.2 percent of the 1992 metric.



The major reason that employment declined at the same time shipments increased for both all manufacturing and print is, of course, productivity or output per employee. Inflation-adjusted

shipments per employee for all U.S. manufacturing increased by a multiple of four over the time period examined in our study period. Productivity also swelled in print, although not by as much as all manufacturing—growing by a multiple of almost three.



The numbers show that for both all manufacturing and print, inflation-adjusted sales have increased at the same time employment has decreased. They also demonstrate that U.S. manufacturing has continued to hold onto most of its global market share. What underlying economic fundamentals are driving these trends? I believe these are the key drivers:

- First, the U.S. economy has transitioned from product driven demand to more services driven demand, reducing the manufacturing sector’s share of the overall economy. However, as discussed above, manufacturing shipments adjusted for inflation continue to grow.
- Second, manufacturing itself has been transformed by outsourcing of adjacent services as manufacturers have become less vertically integrated. Companies are outsourcing (mostly domestic) services they used to do in-house.
- Third, many sectors formerly regarded as manufacturing are now classified by the Census as services. For example, the motion picture industry used to be classified as a manufacturing sector because their “product” was film. Now it is classified as an entertainment service, resulting in a “loss” of billions of dollars in annual manufacturing sales.
- Fourth, there has been, as publically perceived, an increase in offshore outsourcing, driven primarily by lower foreign wages but also by fewer regulations and lower corporate taxes compared to the U.S. Generally, the rule of thumb is that offshore

outsourcing typically requires more than 15 percent of the sales dollar for a manufactured product to be composed of direct compensation costs.

- Interestingly, print is right at the margin with around 16 percent of the typical printed product devoted to direct compensation costs. This fact, combined with print's high weight to value ratio, the need for fast turnaround, and print's integration with domestic mailing and delivery services has generally kept most print sectors domestic.
- Finally, and most importantly regarding the decline in manufacturing and print employment, are productivity gains. The fact is, as noted above, it requires fewer workers to produce a dollar's worth of manufactured product these days. By most estimates, this alone accounts for around 85 percent of the reduction in U.S. manufacturing employment over the last few decades. The other factors (factors one through four in our list) account for the remainder.

### **Summing Up and What to Do?**

The bottom-line conclusion from this examination is that while the economic nature and character of U.S. manufacturing is changing significantly, the news is not all bad. In fact, shipments and productivity are healthy and growing. At the same time, if the manufacturing sector is being "hollowed out," it is more because of the changing nature of the economy and the manufacturing process rather than offshore outsourcing. At the same time, there has been some significant outsourcing as a result of lower compensation, lower regulation, and lower corporate taxes in other countries.

Yet, it is certainly true that, in general, manufacturing jobs are still attractive because with productivity increases they offer high value added and high compensation even if they are not as numerous as before. So, what policy prescriptions can help keep or increase U.S. manufacturing output and jobs?

- First and most importantly, corporate tax reform is needed to make U.S. manufacturing competitive with other countries. Typically, U.S. manufacturers are at a double-digit disadvantage in corporate tax rates compared with many other countries.
- Lower the regulatory burden for U.S. manufacturers compared with foreign manufacturers.
- Better trade deals could also help, but this does not mean no trade deals since the U.S. can and should compete in international markets for goods as well as services.
- Finally, develop policies to encourage repatriation of the more than \$2 trillion in foreign-held retained earnings of U.S. corporations, allowing this to be brought back to the U.S. for investment or consumption.

As for printing, any improvement in the United States economy, either in the manufacturing or other sectors, will ultimately generate growth in print.