

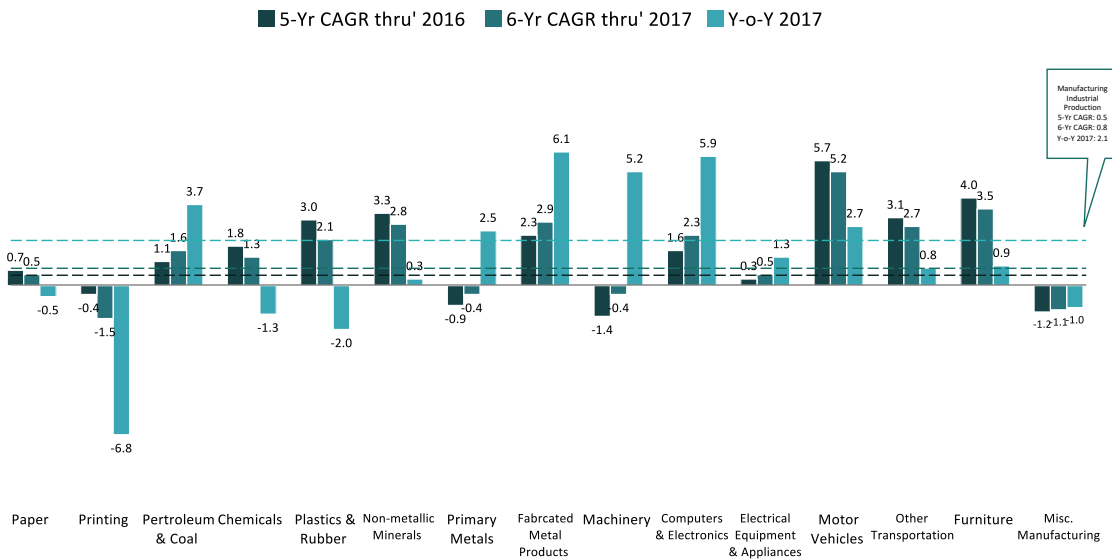
## Manufacturing: What the Numbers Tell Us

“Factory Activity Slowed Last Month” was the headline to an article in the *Wall Street Journal* on October 2, 2018. As the commentary in the financial media increasingly suggests that the US economy is at a peak and that a new, less favorable environment is imminent, we thought we would take a step back and look at the underlying numbers in the manufacturing sector to see what it tells us about the health of the sector.

Is a turn imminent, and if so how severe might a downturn be? Looking at the numbers and thinking broadly about the current environment, we have every reason to expect favorable business conditions for some time to come. The Federal Reserve’s current interest rate normalization effort is taking one support for equity values away, while fiscal and monetary policy compound high confidence levels that are supportive of consumption and business investment. Barring an external shock to the economy, a strong case can be made for a period of gain consolidation followed by another leg up in growth and stock market valuations. Although slightly lower month-over-month, the Institute for Supply Management’s manufacturing index that prompted *WSJ* the headline was nevertheless robust.<sup>1</sup>

That said, we think now is an important time for companies to closely analyze their customer, market segment, and product profitability data to identify shifts in the drivers of their strategic performance and profit optimization. We will return to this in a moment, but first, let’s look at output growth trends in 15 of 19 industries that make up the manufacturing sector.<sup>2</sup>

**Figure 1. Growth trends in selected manufacturing industries compared to Manufacturing Industrial Production**  
Quantity output, annual rates (%)



Sources: Bureau of Economic Analysis, St. Louis Federal Reserve

<sup>1</sup> The ISM manufacturing index was 59.8 in September 2018 versus 61.3 in August. Numbers above 50 suggest expansion across the manufacturing sector

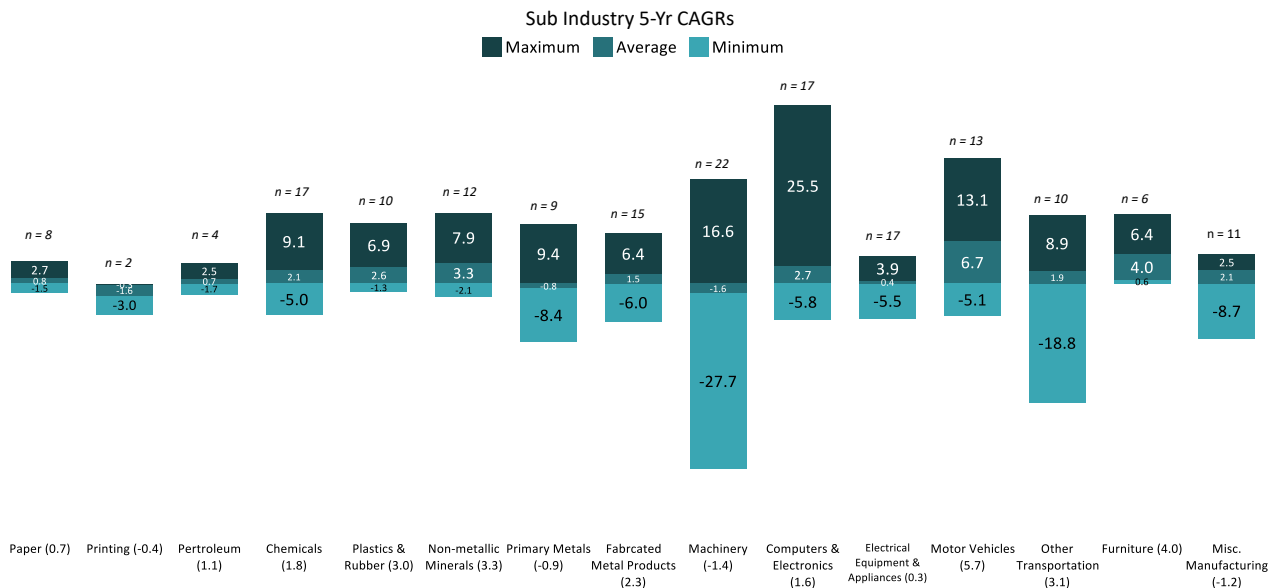
<sup>2</sup> The industries that are not discussed are: Wood Products; Food, Beverage, and Tobacco; Apparel; and Textiles

Figure 1 displays output growth across three time periods: five years ending in 2016 for which we have data into the performance of underlying sub-industries, six years ending in 2017 for which we have preliminary information without detail into the subindustries, and finally a measure of year-over-year (Y-o-Y) growth from 2016 to 2017.<sup>3</sup> Looking at information this way allows us to compare growth before and after the 2016 presidential election from a common baseline year of 2011. Figure 1 also provides insight into how these industries performed relative to the *Manufacturing Industrial Production Index*.<sup>4</sup>

Our conclusion when looking at Figure 1 is that manufacturing sector expansion made an important shift starting in 2017. The compound annualized growth rate (CAGR) for this panel of industries accelerated from 0.5% to 0.8% (see dotted horizontal lines). At the same time, the *Manufacturing Industrial Production Index* showed growth of 2.1% Y-o-Y. Of note, 2/3rds of the industry sectors actually slowed between 2016 in 2017; however, we attribute this deceleration to a secular change in a Paper and Printing industries due to increased digitization of the economy and relative maturity of the recoveries in sectors related to transportation. However, these declines are outweighed by the Petroleum sector’s recovery after the 2015 price collapse and, more importantly, the pronounced rise in output is indicative of increased business investment in industries such as Primary Metals; Fabricated Metal Products; Machinery, Computers & Electronics; and Electrical Equipment & Appliances. Taking in the context of low capital investment and high levels of cash on corporate balance sheets for much of a recovery period after the Great Recession, this is a positive signal about economic confidence, future productivity gains, and industrial expansion for the foreseeable future.

Figure 2 is a reminder that even in the best of times industries and companies within them can struggle. This chart shows the dispersion of performance in underlying subindustries.

**Figure 2. Growth trends in selected manufacturing industries and sub-industries 2011 - 2016**  
Quantity output, annual rates (%)



Notes:  
Overall industry growth rate shown in parenthesis next to the industry name; n = indicates the number of sub-industries; 2016 is latest data for sub-industries published in 2018  
Source: Bureau of Economic Analysis

<sup>3</sup> Source: Bureau of Economic Analysis  
<sup>4</sup> Source: St. Louis Federal Reserve

While the variance between the highest performers and lowest performers looks to have narrowed since our last paper on this topic,<sup>5</sup> every industry has its share of lagging sub-industries. In the example of the Paper and Printing industries, businesses associated with printing and writing papers are faltering due to digitization while packaging papers are thriving. In chemicals, petrochemicals and products related to agriculture are showing good growth while soaps and cleaning compounds have demand weakness. In Fabricated Metal Products, 11 of 15 sub-industries are higher, led by storage tanks and other structural components, while ball bearings are lagging. This could reflect developments in the automobile, heavy duty truck and military equipment industries.

We know that faltering sub-industries can be home to outstanding enterprises and that seldom are all companies in expanding sectors truly healthy. All businesses need to pay attention to their customers and what it takes to increase stickiness with their best customers, attack adjacent market spaces, and innovate to increase value and firm prosperity.

It is when times are flush that business leaders need to appraise strategic performance, fine-tune plans, and conduct the necessary experiments to ensure adequate innovation and adaptation to emerging competitive pressures. Our discussions with the executives highlight two key issues. The first relates to challenges associated with hiring and retaining workers to harvest growth. The second centers on the difficulty of transforming their organizations towards a more digitized footprint. From our standpoint, the two issues are related and jointly solvable through business systems that leverage robotics and strategic investments in the *Internet of Things (IoT)*.

If you are questioning how to proceed or increase momentum against issues like these, we welcome the chance to discuss your needs for assistance.

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<sup>5</sup> See: Denton-Neely.Com/Insights/*The Top-Line Growth Imperative, March 1, 2016*