Recent Economic Trends in Manufacturing

By
Jessica R. Nicholson

ESA Issue Brief
#03-17

June 22, 2017

Executive Summary

The initial strength of the rebound in manufacturing after the Great Recession has cooled off in recent years.[1] Although limited, the available data so far for 2017 indicates that there may be some renewed momentum for growth. Additionally, a monthly survey of manufacturers indicates that the sector is growing.

However, the U.S. manufacturing sector is made up of many industries that produce goods as diverse as food products, automobiles, furniture, and refined petroleum products and the performance of these industries has varied considerably.

This report presents some of the latest data available and explores recent historical trends for the manufacturing sector as a whole and for its industries. Some findings from this report include:

- Shipments from four manufacturing industries: motor vehicles, bodies, trailers, and parts; food, beverages, and tobacco products; petroleum and coal products; and chemicals accounted for over half of all shipments from the manufacturing sector in 2016.

- Shipments, which are measured in nominal dollars, rather than quantities, can be greatly affected by changes in prices. The large decrease in oil prices over the past several years has driven down the value of shipments from the petroleum and coal products industry, which refines oil and other raw materials into usable goods.

- In 2016, U.S. auto manufacturers assembled 3.9 million autos and 7.9 light trucks for a total of 11.8 million, the most since 2003.

[1] See Nicholson, Jessica R. and Ryan Noonan. Manufacturing Since the Great Recession. Office of the Chief Economist, Economics and Statistics Administration. June 2014. Available at http://www.esa.doc.gov/reports/manufacturing-great-recession.

- Only three manufacturing industries registered international trade surpluses in 2016: other transportation equipment (excluding motor vehicles); petroleum and coal products; and paper.

- Manufacturers have added 945,000 jobs since March 2010. More than 200,000 jobs have been added to both the motor vehicles and parts and food, beverages, and tobacco products industries. However, six of the nineteen manufacturing industries have had net job losses since the end of the recession.

- The motor vehicles, bodies, trailers, and parts and chemicals industries have contributed the most to the growth of gross domestic product (GDP) since the end of the recession.

Introduction

The initial strength of the rebound in manufacturing after the Great Recession has cooled off in recent years.[2] Although limited, the available data so far for 2017 indicates that there may be some renewed momentum for growth. Additionally, the outlook from manufacturers, overall, is optimistic. The Institute for Supply Management's Purchasing Managers' Index, a survey that gauges manufacturers' sentiments on growth in orders, production, employment, and other dimensions, has reported expansion in the sector for nine straight months and for the first three months of 2017 reported levels last seen in 2014.[3]

However, the U.S. manufacturing sector is made up of many industries that produce goods as diverse as food products, automobiles, furniture, and refined petroleum products. Some of these industries are much larger than others, which in turn affects how they contribute to the U.S. economy. For example, four out of the nineteen manufacturing industries tracked by the U.S. Census Bureau accounted for over half of the shipments, or sales, for the entire sector in 2016. The performance of the manufacturing industries has varied considerably. That same year, only three industries registered international trade surpluses. And, there are six manufacturing industries that have net job losses since the end of the recession. This report presents some of the latest data available and explores recent historical trends for the manufacturing sector as a whole and for its industries.

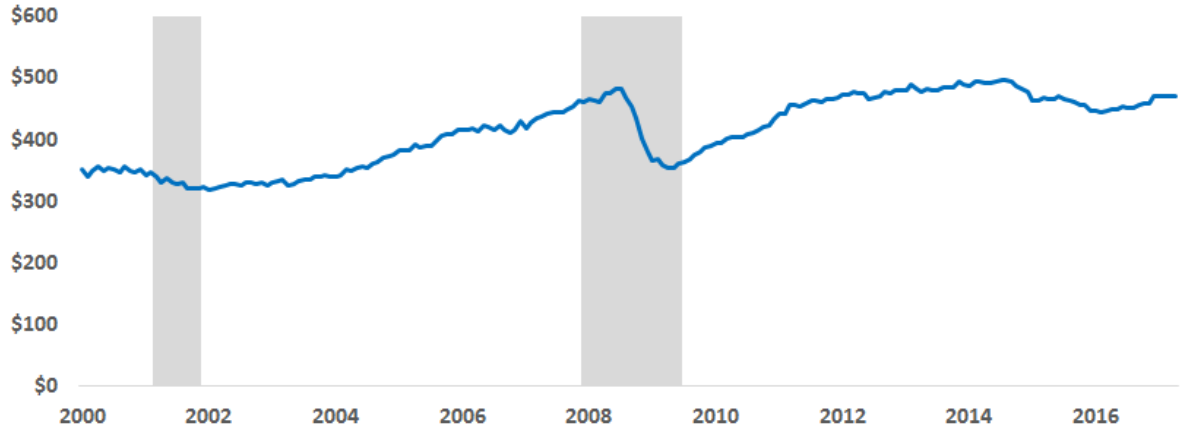
Shipments and Production

The post-recession rebound in shipments slowed in 2014 and manufacturers registered year-over-year losses in shipments in both 2015 and 2016, partly as a result of a drop in petroleum prices.

The recovery in manufacturing, as measured by shipments, or sales, started off strong. Shipments measured in nominal, or current dollars, surpassed their July 2008 pre-recession high in February 2013 and peaked at $496.9 billion in August 2014 (See Figure 1).[4] Since August 2014, shipments have fluctuated between monthly gains and losses with an overall decrease of $26.1 billion. As discussed below, large declines in petroleum prices contributed to this downturn. In the first four months of 2017, shipments are up only $1.5 billion, standing at $470.8 billion as of April.

[2] See Nicholson, Jessica R. and Ryan Noonan. Manufacturing Since the Great Recession. Office of the Chief Economist, Economics and Statistics Administration. June 2014. Available at http://www.esa.doc.gov/reports/manufacturing-great-recession.
[3] Data from the Institute for Supply Management's Manufacturing Purchasing Managers' Index is available at: https://www.instituteforsupplymanagement.org/news/content.cfm?ItemNumber=28859.
[4] Data are from the Census Bureau's Manufacturers' Shipments, Inventories, and Orders survey available at: https://www.census.gov/manufacturing/m3/index.html.

Figure 1. Value of manufacturer's shipments, January 2000-April 2017 (billions USD)

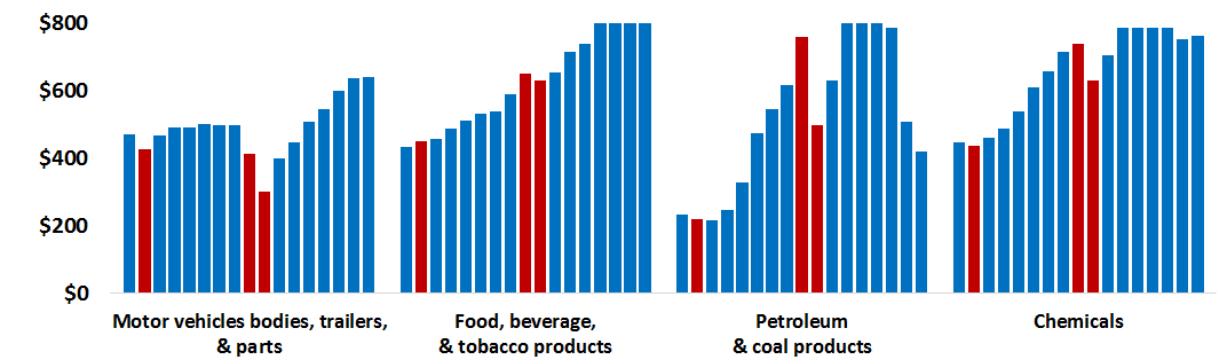


Note: Shaded areas denote recessions.
Source: Department of Commerce, Office of the Chief Economist using data from the Census Bureau

Motor vehicle manufacturers have increased shipments since the end of the recession while petroleum and coal products manufacturers have seen shipments fall back below recessionary levels.

In 2000, the four industries presented in Figure 2 accounted for 40 percent of all manufacturing shipments. By 2010, their share of total sales had risen to over 50 percent, where it remained in 2016, even with the large price-related losses in the petroleum and coal products industry. The food, beverages, and tobacco products industry and the chemicals industry, after bouncing back from the recession, have had relatively steady shipments for the past several years.

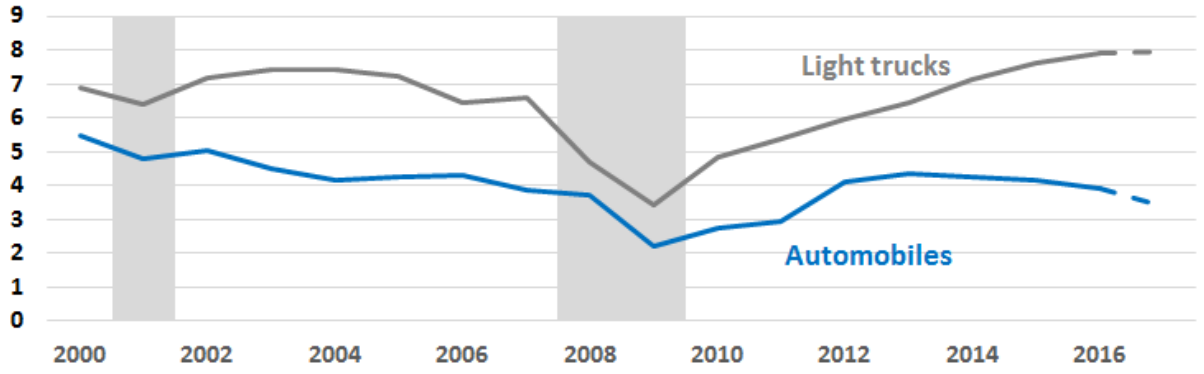
Figure 2. Shipments from U.S. manufacturers for selected industries, 2000-2016 (billions)



Note: Red bars denote years with recessions.
Source: Department of Commerce, Office of the Chief Economist using data from the Census Bureau

Some of the losses in petroleum and coal products manufacturing have been offset by the booming motor vehicles industry; auto manufacturers have increased shipments each year since the recession.[5] Figure 3 shows U.S. unit production of automobiles and light trucks since 2000. In 2016, U.S. auto manufacturers assembled 3.9 million autos and 7.9 light trucks for a total of 11.8 million, the most since 2003. The production of light trucks has been on the rise since the recession. Production of automobiles had its post-recession peak in 2013 at 4.4 million but since then has been trending downward. So far in 2017, these trends continue.

Figure 3. U.S. assemblies of automobiles and light trucks, 2000-2017* (millions)



Note: Shaded area denotes a recession. *Values for 2017 are estimated using data for January-May.
Source: Office of the Chief Economist, Department of Commerce using data from the Federal Reserve

Prices of inputs and final goods can significantly affect shipments.

The petroleum and coal products industry transforms raw materials, such as crude petroleum and coal, into usable products.[6] After the recession, shipments from the petroleum and coal products industry bounced back rather quickly, surpassing 2008 levels by 2011 and remaining high until large losses in 2015. However, much of the losses were due to price effects, as the price of crude oil, which is a primary input in the production of petroleum and had averaged over $90 a barrel from 2011 to 2014, fell to around $50 a barrel in 2015.[7] Because shipments data are reported in nominal, not real, dollars, rather than in units, or by quantity, large changes in the prices of inputs or in the prices of final goods significantly affect trends in shipments. Shipments from petroleum and coal products manufacturers fell $36.0 billion from August 2014 to February 2016, accounting for over 70 percent of the decline in overall manufacturing sector shipments during that period.

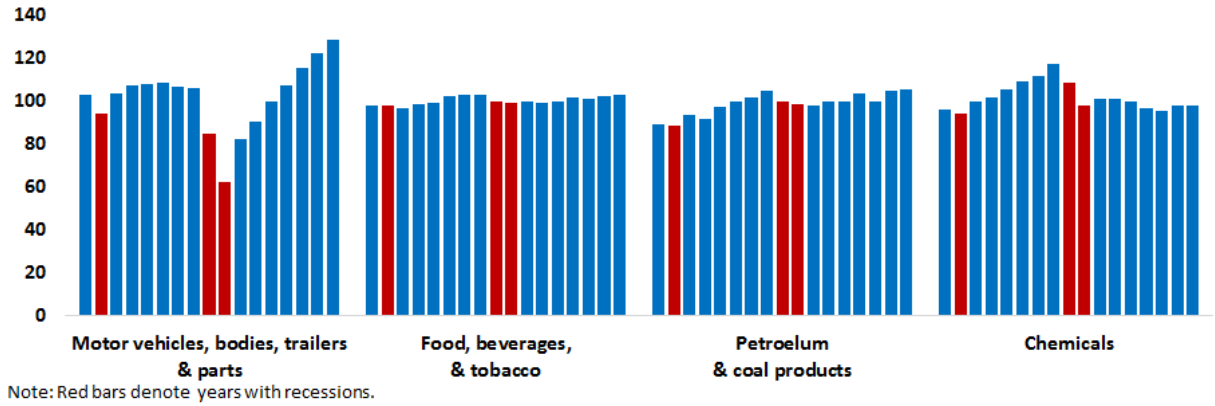
[5] Americans bought a record 17.5 million automobiles and light trucks in 2016. Data from the BEA, supplemental estimates, motor vehicles, available at: https://www.bea.gov/national/index.htm. U.S. motor vehicle sales include domestically-produced and imported retail motor vehicle sales.

[6] The dominant process is petroleum refining, which involves the separation of crude petroleum into component products through such techniques as cracking and distillation. Establishments in this industry also further process refined petroleum and coal output to produce products such as asphalt coatings and petroleum lubricating oils. See: http://www.bls.gov/iag/tgs/iag324.htm.

[7] Data on crude oil prices is from the Energy Information Administration, available at www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm.

However, the Federal Reserve's Industrial Production (IP) Index measures production at constant prices.[8] According to the index for petroleum and coal products manufacturing, real production in that industry actually grew in both 2015 and 2016 and was 7 percent higher in 2016 than in 2009. (See Figure 4) Just as price effects exaggerated the growth and decline in petroleum shipments over the past seven years, as shown by the different trends in shipments data and the IP index, they have exaggerated growth in other manufacturing industries. The IP indices for food, beverage, and tobacco products and chemicals show much smaller changes in annual production than the shipments data, indicating that changing prices have influenced some of the recent trends in shipments for those industries.

Figure 4. Industrial production indexes for selected U.S. manufacturing industries 2000-2016, 2012=100



Note: Red bars denote years with recessions.
Source: Office of the Chief Economist, Department of Commerce using data from the Federal Reserve

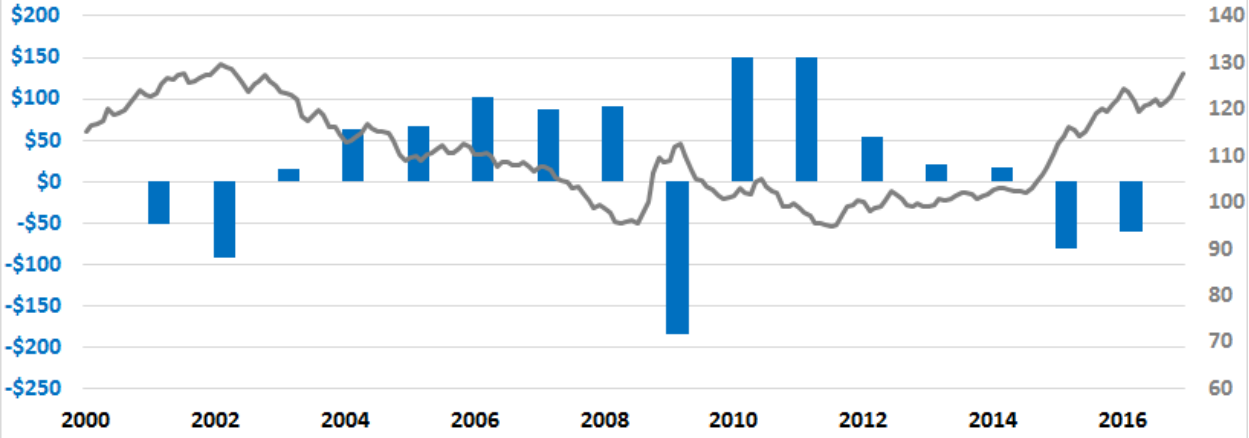
International trade

The strong dollar has hurt U.S. exports of manufactured goods and 2016 marked a record for the largest trade deficit for these goods.

The story of manufacturing exports is similar to the story on shipments. In the first two years after the recession, U.S. manufacturing exports rebounded strongly, increasing $150.2 billion in 2010 and $150.8 billion in 2011, as shown by the blue bars in Figure 5.[9] After 2011, the increases were more lackluster and were subsequently cancelled out after manufacturing exports declined in 2015 and 2016. The downturn was not due solely to petroleum and coal products. Exports of these goods decreased 33 percent in 2015 and another 12 percent in 2016. However, U.S. exporters of manufactured goods reported declines even after excluding these products. In fact, exports were down across most goods categories measured by the U.S. Census Bureau.

[8] Federal Reserve's Industrial Production index data available at: https://www.federalreserve.gov/releases/g17/download.htm.
[9] International trade data from the Census Bureau's USA Trade Online, available at: https://usatrade.census.gov/. This report uses domestic exports value data.

Figure 5. Year-over-year change in manfucturing exports, 2000-2016 (billions) and nominal broad trade-weighted exchange value of the U.S. dollar, January 2000-December 2016 (January 1997=100)



Source: Department of Commerce, Office of the Chief Economist using data from the Census Bureau and the Federal Reserve Board

The gray line in Figure 5 shows the nominal broad trade-weighted exchange value of the U.S. dollar.[10] At the end of 2014, the U.S. dollar quickly started gaining strength compared to other currencies, as is it did in the early 2000's. When the value of the U.S. dollar increases relative to other currencies, U.S.-made goods are more expensive for foreign consumers and exports tend to fall.

U.S. manufacturers exported $174.0 billion of chemicals in 2016, or 17 percent of all manufactured goods exports that year, the largest of the nineteen major product groups included in this analysis. [11] Transportation equipment excluding motor vehicles, but including aircraft and parts, ships, and railroad equipment was second at $133.8 billion or 13 percent of annual exports. Motor vehicles ($117.8 billion or 11 percent), computer and electronic products ($115.6 billion or 11 percent), and machinery ($108.5 billion or 10 percent) rounded out the top five.

Imports of manufactured goods generally have been on the rise, though with a few exceptions.[12] In 2001 and in 2009, imports fell as recession hit the United States. More recently, imports declined on a year-over-year basis in both 2015 and 2016. Even with the recent declines, the manufacturing trade balance (exports minus imports) hit a record deficit in 2016 at $868.5 billion. (See Figure 6) In the same year, the

[10] The broad index is a weighted average of the foreign exchange values of the U.S. dollar against the currencies of a large group of major U.S. trading partners. The index weights, which change over time, are derived from U.S. export shares and from U.S. and foreign import shares. More information and data available from the Federal Reserve Board's website at: https://www.federalreserve.gov/releases/h10/summary/. Additionally, world real GDP growth slowed in 2015 and 2016 (estimated), weakening global demand for goods. Data are from the International Monetary Fund World Economic Outlook Database, available at: http://www.imf.org/external/pubs/ft/weo/2017/01/weodata/index.aspx.

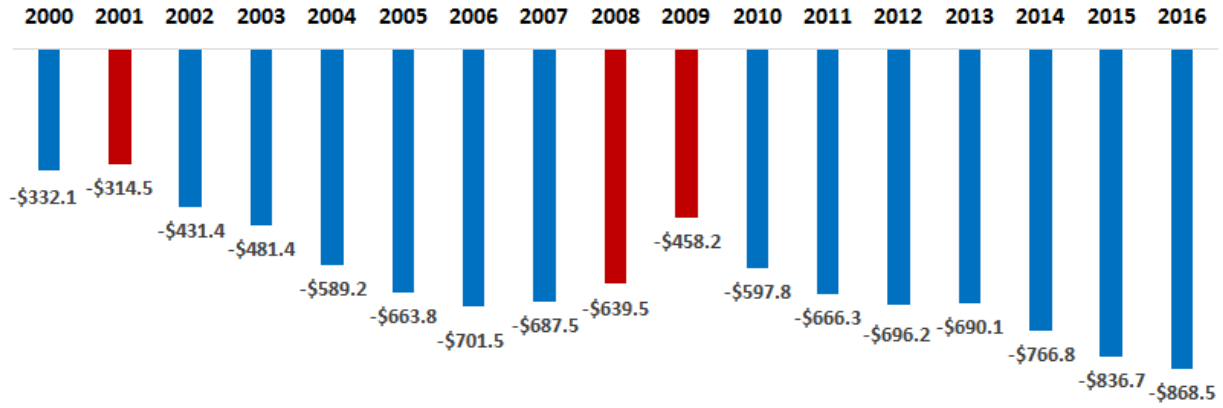
[11] The author included trade data on motor vehicles, bodies, trailers and parts as a separate category from the rest of transportation equipment to be consistent with other economic indicators analyzed in this report.

[12] Data on imports are from the Census Bureau's USA Trade Online. This report uses the customs import value data.

United States ran a trade surplus in only three of the nineteen product groups. (See Figure 7) The largest surplus was in transportation equipment excluding motor vehicles ($74.5 billion), which was more than accounted for by the surplus in aerospace products and parts. Smaller surpluses were recorded in petroleum and coal products ($12.7 billion) and paper products ($2.9 billion).

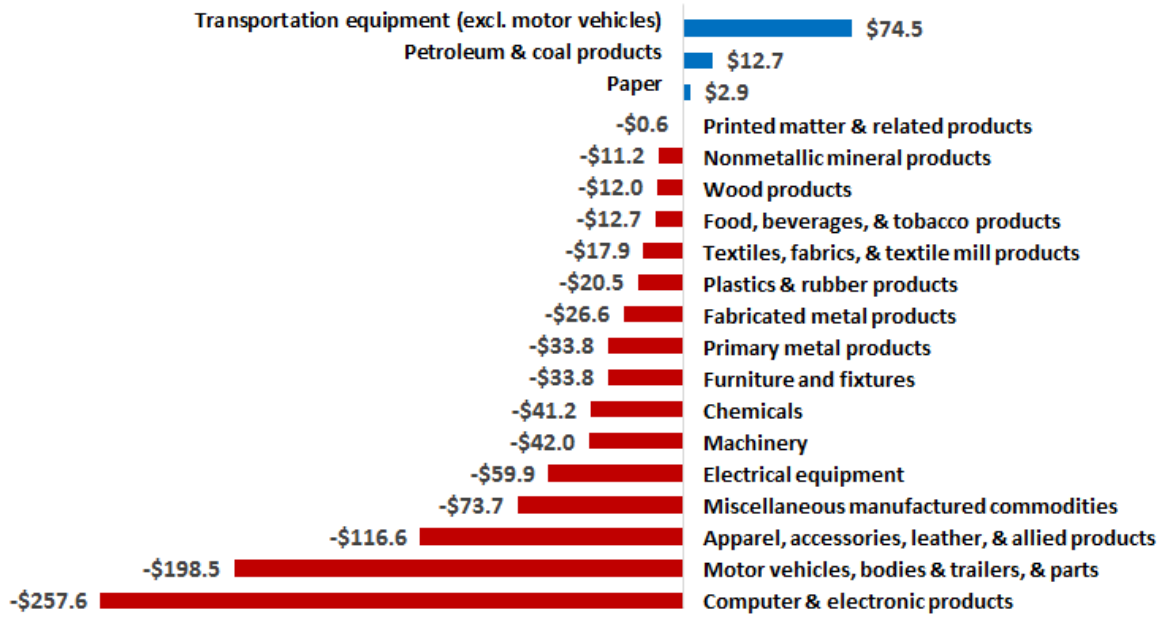
The largest trade deficit for the U.S. in 2016, at $257.6 billion, was in computer and electronic products The U.S. imported $373.2 billion of these goods of which $116.7 billion, or 31 percent, was

Figure 6. U.S. trade deficit for manfuactured goods, 2000-2016 (billions)



Note: Red bars denote years with recessions.
Source: Department of Commerce, Office of the Chief Economist using data from the Census Bureau

Figure 7. U.S. international trade balance by commodity group, 2016 (billions)



Source: Department of Commerce, Office of the Chief Economist using data from the Census Bureau

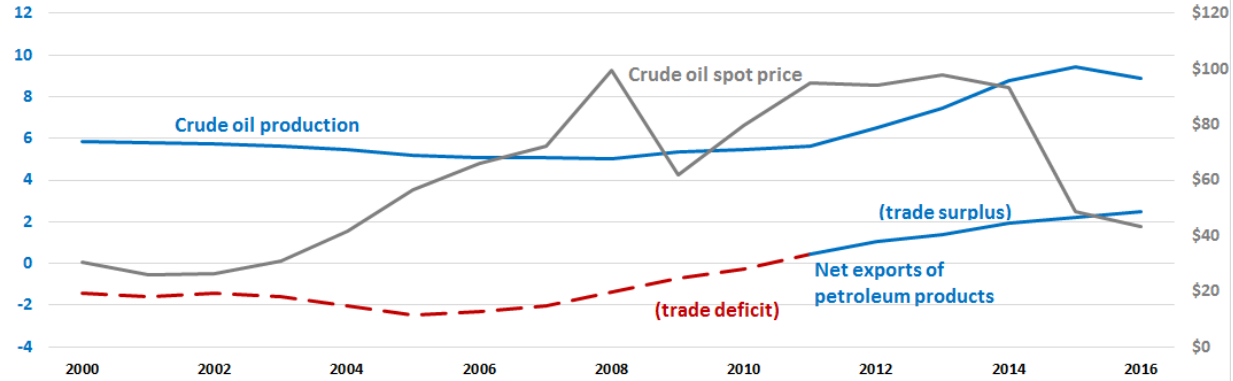
communications equipment. Computer equipment ($87.3 billion) and semiconductors ($74.3 billion) together accounted for another 43 percent. Computer and electronic products have experienced a notable decline in export value and share. U.S. exports of these commodities accounted for only for 11 percent of the total value of manufacturing exports in 2016, compared to more than a quarter, or almost $200 billion, in 2000. This is largely due to the fact that prices of computer and electronic products have experienced sharp declines over the past few decades. [13]

While motor vehicle production and sales have been booming, the U.S. trade balance in motor vehicles, bodies and trailers, and parts was deeply in the red in 2016 with a deficit of $198.5 billion. Over the period from 2000 to 2011, the U.S. trade deficit for this group of products averaged $117.3 billion per year. In recent years, the deficit has been higher, averaging $173.9 billion per year from 2012 to 2016. In 2016, the U.S. imported $316.4 billion of motor vehicles and related goods. This was equal to 16 percent of the value of all imported manufactured goods that year. Since 2000, this commodity group has consistently ranked second in terms of value of imports, behind only computers and electronic products.

From a trade balance perspective, petroleum and coal products have been a recent bright spot. U.S. exports of these refined goods have increased considerably since 2000 helping to change the longstanding trade deficit for these goods to a surplus in 2014 through 2016. In the early part of this period, annual exports didn't reach $10 billion. In 2011 exports soared past $100 billion. Petroleum and coal products accounted for 10 percent of the value of U.S. manufactured goods exports each year from 2012 from 2014 after accounting for just 1 percent in the early 2000's. On the import side, the value of U.S. petroleum and coal product imports in 2016 was $55.1 billion, the lowest level since 2004.

Recent declines in petroleum prices reduced the value of petroleum products exports to $67.9 billion in 2016, but not the quantity. Unit exports of petroleum products actually have exceeded unit imports since 2011, the time when U.S. production of crude oil increased dramatically.[14] (See Figure 8) U.S. crude

Figure 8. U.S. net exports of petroleum products (millions of barrels per day), crude oil production (millions of barrels per day), and crude oil spot price (dollars per barrel), 2000-2016



Note: WTI-Cushing, Oklahoma crude oil spot price
Source: Department of Commerce, Office of the Chief Economist using data from the Energy Information Administration

[13] For more information, see Adji Fatou Diagne, "Made in America, Computer and Electronic Products," U.S. Department of Commerce, Economics and Statistics Administration, Box 1, available at: http://esa.doc.gov/sites/default/files/made-in-america-computer-and-electronic-products.pdf.
[14] Data from the Energy Information Administration. Data on petroleum trade and prices available at: https://www.eia.gov/petroleum/data.php.

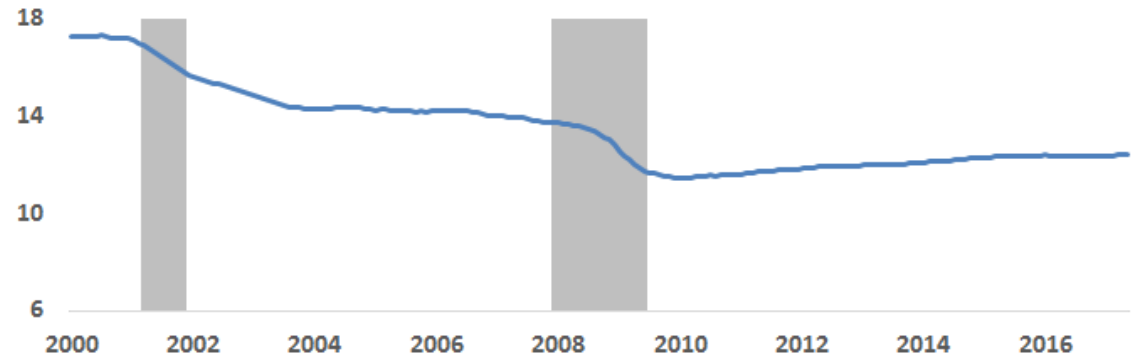
oil production increased from nearly 5.2 million barrels per day 2008 to 9.4 million per day in 2015, falling slightly to 8.9 million barrels per day in 2016. Increased crude oil production led to increased exports of refined products. On an annual basis, the average daily exports of petroleum products grew each year between 2001 and 2016, from around 1.0 million barrels per day from 2000 to 2005 to just over 5.0 million barrels per day in 2016. Unit imports of petroleum products peaked in the mid-2000's at 3.6 million barrels per day. From 2013 through 2016, unit imports were back to around 2.0 million barrels per day—levels last seen in the late 1990's.

Employment

Manufacturers have been hiring new workers over the past six years. Although employment in the sector fell by 16,000 during 2016, manufacturers have added 55,000 new jobs so far in 2017.

Unlike shipments or exports that have risen and fallen depending on economic conditions, employment in the manufacturing sector began a steady long-term decline in the late 1990's. In mid-1998, there were 17.6 million workers in the manufacturing sector.[15] By March 2010, when the job losses associated with the last recession ended, employment in manufacturing bottomed out at 11.5 million jobs. (See Figure 9).

Figure 9. Employment in manufacturing, January 2000-May 2017 (millions)



Note: Shaded area denotes a recession.
Source: Department of Commerce, Office of the Chief Economist using data from the Bureau of Labor Statistics

In April 2010, employers in the manufacturing sector began doing something they hadn't done in 15 years—they began adding jobs consistently. From April 2010 to January 2016, a 70-month period, manufacturing employers added jobs to their payrolls in all but 12 months. From 2011 to 2015, annual job gains averaged over 150,000. In 2016, manufacturers stopped hiring and actually shed 16,000 over the course of the year. However, the most recent jobs data shows that manufacturers are adding to their payrolls once again. Manufacturers hired for five straight months from December 2016 to April of

[15] Data on payroll employment are from the Bureau of Labor Statistics, Current Employment Statistics program available at: https://www.bls.gov/ces/.

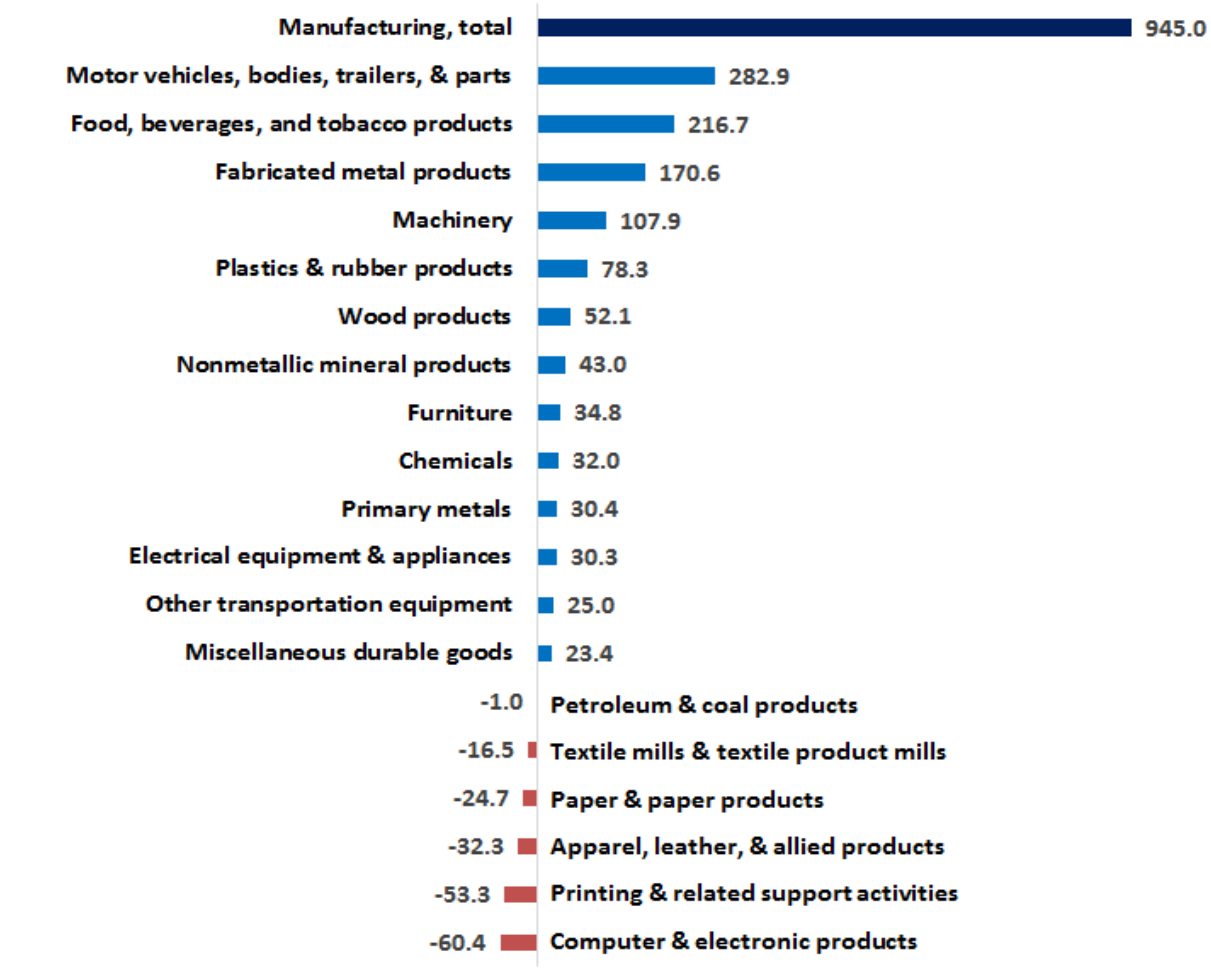
2017, adding a total of 74,000 jobs over that period. In May 2017, hiring in the sector was essentially flat.

Auto manufacturers account for almost a third of manufacturing job gains since the end of the recession. Many industries have experienced relatively small job gains or losses, keeping employment levels relatively flat over the past six and a half years.

The manufacturing sector accounts for just 6 percent of all the job growth since March 2010, or 0.9 million of 16.2 million net new jobs. While 6 percent is a relatively small portion of job growth, it is remarkable considering the job losses in sector prior to the recession.

From around 2000 through the recession, job losses were widespread across all manufacturing industries. However, since the recession, hiring across the manufacturing industries has varied. (See Figure 10) One consistent story is the strength of the motor vehicles industry. Once again, the motor

Figure 10. Industry contribution to overall manufacturing job growth
April 2010-May 2017, thousands



Source: Department of Commerce, Office of the Chief Economist using data from the Bureau of Labor Statistics

vehicles industry is at the top of the list and has contributed 282,900 new jobs to the economy through May 2017, or 30 percent of the new manufacturing jobs created since the recession. Remarkably, many other manufacturing industries have net job gains over this period, after a decade or more of declining employment. Food, beverages, and tobacco products manufacturers added 216,700 jobs to their payrolls over this period, with 140,000 of these jobs added since the beginning of 2015. The fabricated metal products and machinery products industries have also experienced relatively high post-recession net job growth with over 100,000 net new jobs in each industry. However, unlike the food, beverages, and tobacco products story, manufacturers producing fabricated metal products and machinery have been shedding jobs since the end of 2014; since then, the fabricated metal products industry has lost 40,800 jobs while the machinery industry is down 50,600 jobs.

Most of the industries that have lost jobs over the past several years are not surprising. Employment in the textiles, textile products, and apparel industries has been on the decline for several decades as imports of goods produced by these industries have grown substantially. The printing industry, competing with online and digital media, began shedding jobs at the end of the 1990's. In May, employment in the industry was 436,100 compared to over 800,000 in 1998. The paper industry has also been losing jobs for decades and paper manufacturers did not bring back jobs after accelerated job losses during the recession. Employment in the petroleum and coal products industry has been essentially flat after experiencing periods of growth and periods of decline associated with the recent expansion of U.S. oil production and decline in oil prices worldwide.

Contribution to economic growth

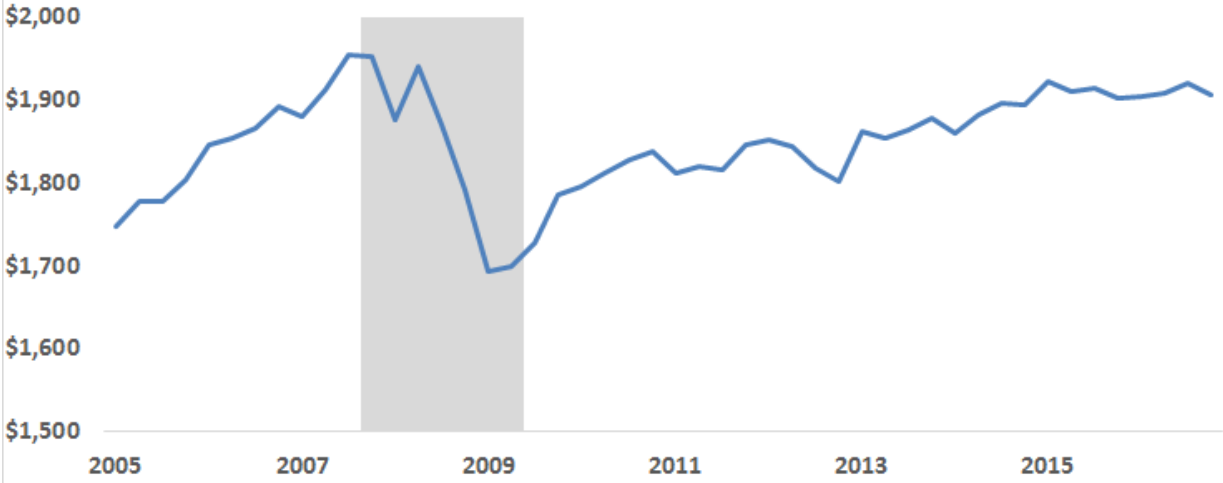
The manufacturing sector has contributed over 8 percent to real gross domestic product (GDP) growth since the recession, but manufacturing real value added has yet to return to its pre-recession high.

Economic growth is measured by change in real GDP, or value added. The manufacturing sector contributes to overall economic growth, or GDP, when manufacturers increase their value added, or the total value of what manufacturers produce less any intermediate inputs they used to create their products.[16] The Bureau of Economic Analysis (BEA) defines intermediate inputs as "the goods and services (including energy, raw materials, semi-finished goods, and services that are purchased from all sources) that are used in the production process to produce other goods or services rather than for final consumption."[17] Approximately one third of every dollar of the manufacturing sector's final output is value added and is directly added to GDP.[18]

[16] For more on how gross domestic product and value added are defined and estimated, see BEA's "Measuring the Economy. A Primer on GDP and the National Income and Product Accounts," available at: https://www.bea.gov/national/pdf/nipa_primer.pdf.
[17] See BEA's website, frequently asked questions available at: https://www.bea.gov/faq/index.cfm?faq_id=185.
[18] Author's calculation using data from BEA. In 2016, 33 percent the manufacturing sector's output was value added. This share varied by industry—71 percent of output from the computer and electronic products industry was value added while value added accounted for only 25 percent of output from motor vehicles and related goods industry.

Figure 11 shows real value added, in the manufacturing sector since 2005. Despite growing by $212.0 billion (2009 U.S. dollars) since bottoming out at $1,693.5 billion in the first quarter of 2009, manufacturing real value added has not yet reached its pre-recession high of $1,954.8 billion from the third quarter of 2007.[19] Since 2011, the initially strong recovery became less consistent, alternating between periods of moderate growth and decline.

Figure 11. Real value added in manufacturing, Q1 2005-Q4 2016 (billions of 2009 USD)



Note: Shaded area denotes a recession.
Source: Department of Commerce, Office of the Chief Economist using data from the Bureau of Economic Analysis

From 2010 through 2016, the manufacturing sector contributed 1.27 percentage points to overall GDP growth of 15.6 percent. Accounting for only 8.1 percent of total GDP growth, manufacturing is contributing less than its overall share of the economy, which as of the fourth quarter of 2016 stands at 11.3 percent, its lowest share historically.[20]

The diverse set of industries that make up the manufacturing sector vary in not only what they produce, but also in how they have contributed to economic growth (See Figure 12).[21] Recall that in 2016, just

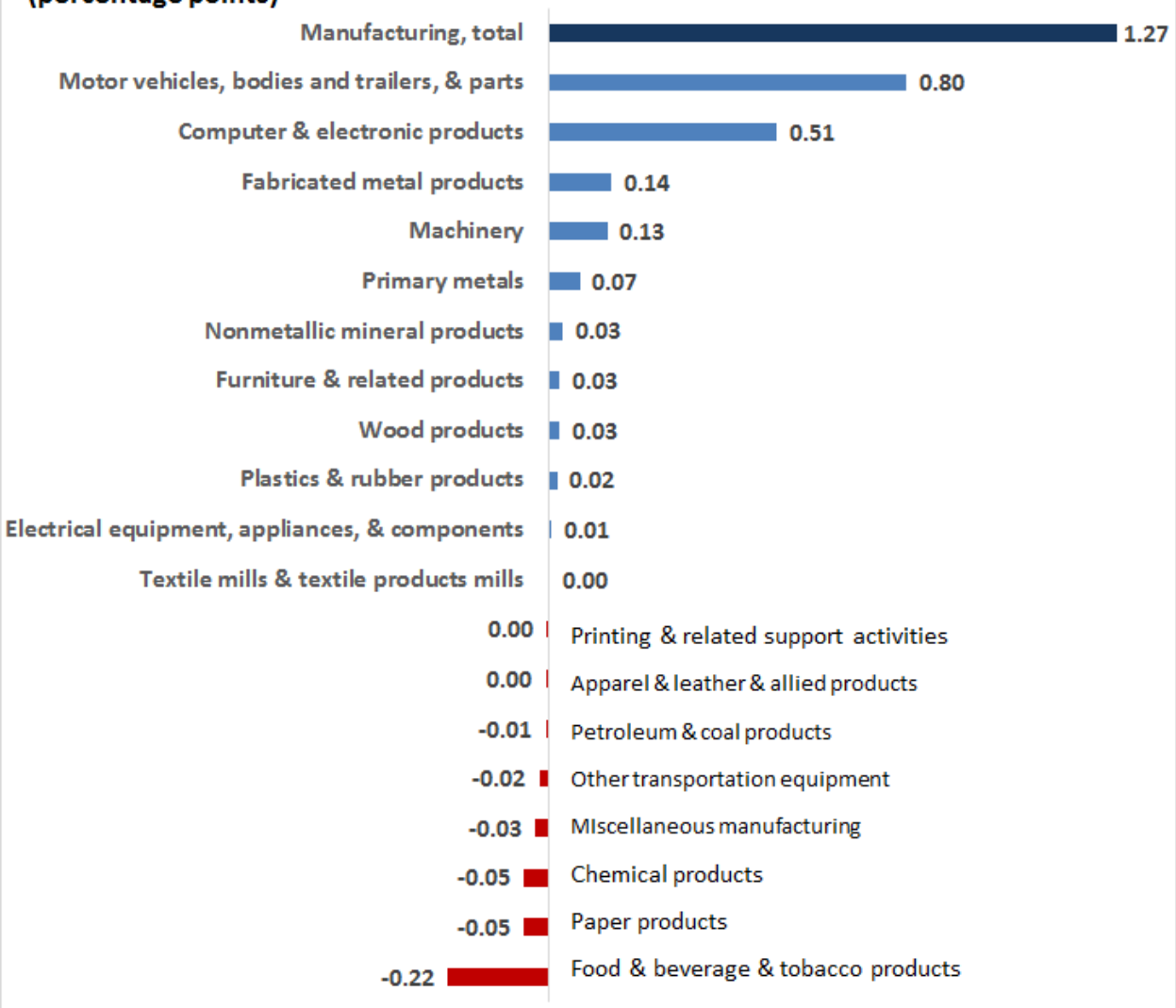
[19] Data is from the BEA available at: https://www.bea.gov/industry/index.htm. Quarterly data on real value added in the manufacturing sector is only available since Q1 2005. Annual data is available since 1997. On an annual basis, 2007 marked the pre-recession high at $1924.8 billion (2009 USD). BEA defines value added as a measure of output after removing the value of the intermediate inputs used in production. The main components of value added include the returns to labor (compensation of employees), returns to capital (as measured by gross operating surplus), and returns to government (as measured by taxes on production and imports less subsidies).

[20] As measured in nominal dollars. In recent years, the manufacturing sector has been growing considerably slower than the rest of the economy. Manufacturing as a share of nominal GDP hit the lowest level on record in the fourth quarter of 2016 at 11.6 percent. This share fell to 11.9 percent during the 2008-09 recession, but had risen back up to 12.4 percent in 2012. These recent values are well below the share from the late 1940's when manufacturing accounted for around a quarter of nominal GDP.

[21] Chained (2009) dollar series are calculated as the product of the chain-type quantity index and the 2009 current-dollar value of the corresponding series, divided by 100. Because the formula for the chain-type quantity indexes uses weights of more than one period, the corresponding chained-dollar estimates are usually not additive.

four industries - food, beverage, and tobacco products; motor vehicles, bodies, trailers, and parts; chemicals; and petroleum and coal products accounted for more than half of all shipments from U.S. manufacturers. However, only one of these industries, motor vehicle-related manufacturing, had a positive contribution to overall real GDP growth over the past seven years. This industry contributed 0.80 percentage points to real GDP growth over this period. Also noteworthy is the computer and electronic products industry; although this industry only contributed about 5 to 6 percent of manufacturing shipments, it contributed over half a percentage point to real GDP growth. Together, the eight industries with declining real GDP subtracted 0.39 percentage points from real GDP growth, with the food, beverages, and tobacco products industry accounting for more than half of the negative contribution.

Figure 12. Industry contribution to overall real GDP growth, 2010-2016 (percentage points)

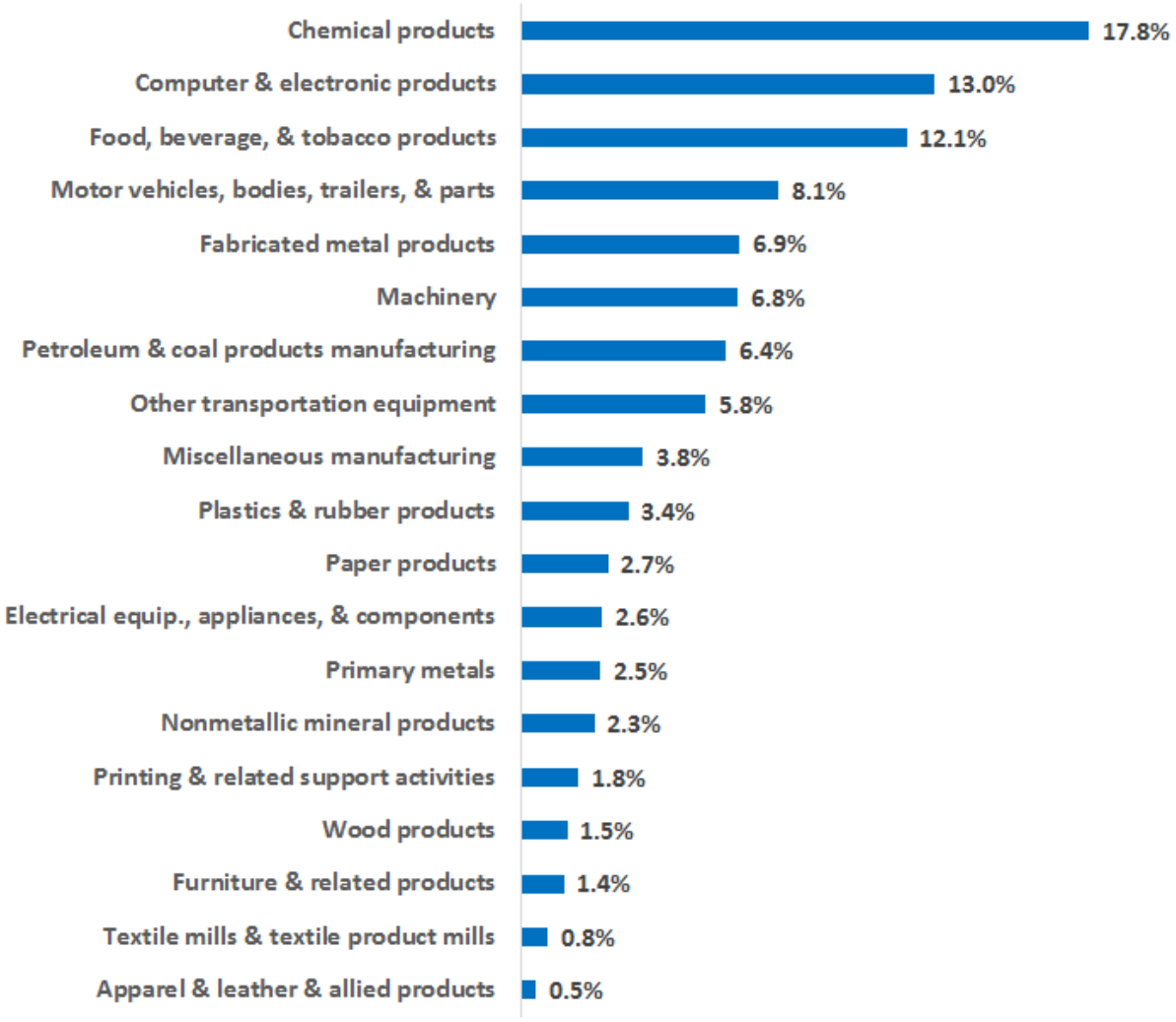


Note: Adding industry contributions will not equal total sector percentage point change because of how BEA calculates real GDP series.
Source: Department of Commerce, Office of the Chief Economist using data from the Bureau of Economic Analysis

For most of the manufacturing industries, growth over the past seven years has been unremarkable. Thirteen of the nineteen industries shown in Figure 12 have contributed (or subtracted) 0.05 percentage points or less to overall manufacturing GDP growth during that period.

Figure 13 shows industry shares of GDP for the manufacturing sector. The most notable difference between the shares of GDP presented here compared to the share of GDP *growth* shown in Figure 12 is the food, beverages, & tobacco products industry. While this industry accounted for over 12 percent of overall manufacturing GDP in 2016, the industry subtracted 0.22 percentage points from post-recession annual GDP growth.

Figure 13. Industry share of overall manufacturing GDP, 2016



Source: Department of Commerce, Office of the Chief Economist using data from the Bureau of Economic Analysis

Conclusion

The economic health of a sector or an industry can be measured in many different ways and what is happening in the sector overall is not always indicative of the trends in the industries that comprise that sector. Looking at a variety of indicators helps to provide a fuller picture of the economic health of an industry. As shown in this report, an industry that is contributing to the growth of GDP is not necessarily contributing job growth, such as is the case with the computer and electronics industry. Likewise, an industry that is booming with respect to sales and job growth, such as the motor vehicle industry, can still be a large contributor to the international trade deficit.

Although, according to many economic indicators, the importance of manufacturing to the U.S. economy has decreased in recent decades it is still the case that ten percent of all private sector workers in the United States work in manufacturing and the sector accounts for more than a tenth of U.S. GDP. Using available policy tools, there is opportunity to build on the recent improvement in the sector and the recent increased optimism of U.S. manufacturers which, in turn, will help lead to improved overall growth in the U.S. economy.

Acknowledgments

The author would like to thank the following persons who provided comments, suggestions, and other contributions to this report. Any errors in the report are solely the author's responsibility.

Rob Rubinovitz, Deputy Chief Economist, Department of Commerce
Dave Langdon, Economist and Senior Policy Advisor
Ryan Noonan, Economist

Suggested citation:
Nicholson, J. Office of the Chief Economist, Economics and Statistics Administration, U.S. Department of Commerce. (2017). Recent Economic Trends in Manufacturing (ESA Issue Brief # 03-17). Retrieved from https://www.esa.gov/reports/recent-economic-trends-manufacturing. .

U.S. Department of Commerce
Economics and Statistics Administration
Office of the Chief Economist
Room 4848
1401 Constitution Ave., NW
Washington, DC 20230
www.esa.gov

Technical inquiries:
Office of the Chief Economist
(202) 482-3523

Media inquiries:
Office of Communications
(202) 482-3331