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MANUFACTURING MATTERS

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KEY TAKEAWAYS

U.S. manufacturing output broke above its pre-recession high in the first quarter.

The ISM PMI for manufacturing rose in June to its highest level since August 2014.

Despite a divergence with Markit's PMI, we believe the manufacturing rebound is intact.

U.S. manufacturing still matters when evaluating the U.S. and global economy. While manufacturing as a percent of the U.S. economy has declined steadily since the end of World War II, its impact is greater than its size. Manufacturing tends to be more cyclical than service activity, and it remains a bellwether for the overall economy. S&P 500 Index companies are heavily skewed toward manufacturing-related activity and changes in earnings growth rates tend to track manufacturing activity. U.S. manufacturing has also become increasingly focused on high-tech industries that invest heavily in research and development. Finally, manufacturing still matters for the global economy—manufacturing has shrunk as a percent of the U.S. economy for decades, but the U.S. economy has also been growing over that period, helping manufacturing expand over the last several decades [Figure 1]. To this day, the U.S. remains the second largest manufacturer in the world. In this week's commentary, we take a look at recent data on U.S. manufacturing.

1 U.S. MANUFACTURING HAS GROWN DESPITE A DECLINING ROLE IN THE U.S. ECONOMY

● U.S. Manufacturing Sector Real Output, Indexed to 2009=100



Source: LPL Research, Bureau of Economic Analysis 07/10/17

JUNE ISM PMI RISES

The Institute for Supply Management's (ISM) manufacturing Purchasing Managers' Index (PMI) remains the headline monthly data point for manufacturing. The ISM PMI accelerated to 57.8 in June, its highest level since August 2014, placing it in the top 10% of all values since the end of the recession. The ISM report gives a healthy overall picture of current U.S. manufacturing activity.

The ISM PMI is the average of five different components: new orders, production, employment, supplier delivery time, and inventories. Each of these areas provides a different view on current and anticipated manufacturing activity. The five components tend to move together, but new orders is viewed as the strongest leading component as rising orders will typically lead to increased production; this component was the strongest of the five in June to 63.5. Production, the most direct reflection of current activity, made the biggest move, rising from 57.1 to 62.4. Inventories, which accumulate when businesses try to get ahead of future expected demand, was the only component to move into contraction territory (below 50), falling from 51.5 to 49.0. Declining inventories can reflect falling expectations of future demand, but it can also reflect a rise in demand that outstrips current production.

A couple of things to keep in mind with a PMI: The numbers aren't direct reports of actual activity, current or future. Surveyed respondents are given just three possible answers to each question — "increased," "decreased," or "unchanged." The index value for each component is the percentage of respondents who said it increased plus half the percentage who said it was unchanged, essentially treating unchanged as a tie. A number above 50 simply means more participants responded with "increased." While you would expect activity to be stronger overall if you're getting more positive responses, the index really reflects breadth and changes in activity rather

than the level of activity. In order to get that data to match up with the overall economy better, surveys are weighted by broad industry classification. In addition, the questions are about this month compared to last, so a strong PMI indicates things are picking up, but if activity has been low, it can still reflect low (but now improving) activity levels.

THE ISM – MARKIT PMI DIVERGENCE

While ISM's PMI posted a strong number in June, the competing manufacturing PMI, by the information services firm Markit, has been declining slowly from a peak of 55.0 in January to 52.0 in June, still in expansion territory but a meaningful divergence from ISM's 57.8. In the available three-year history of the Markit survey, June 2017 is the largest divergence between the two surveys on record. Markit's survey has a slightly lower average over the entire period, and the last time there was large divergence, it worked in the other direction. In November and December of 2015, when the ISM PMI was signaling contraction as the collapse of oil prices, a strong dollar, and weak global growth weighed on U.S. manufacturing activity, Markit's PMI remained in expansion territory.

Since Markit's PMI has a short history, there is no way to determine whether one of the surveys tends to have the greater pull after the two have diverged. There is also not a lot of difference between how the two indexes are constructed. The five component questions that make up the final PMI for both are basically the same and both weight their indexes by industry classifications. But some small differences do exist. Markit doesn't weight the five components equally: weightings range from 30% for the new orders index component to 10% for inventories. Markit also tries to adjust for size, so large companies that represent a greater portion of manufacturing activity get greater weight. The two also have different methods for seasonality adjustments.

Which is better? Given that the two surveys are similarly constructed and that economic data tends to be noisy, any real preference for one or the other doesn't make sense and we would view the likely "true" value somewhere in the middle. Markit's method is a little more tailored to the economy in a way that may make it marginally more meaningful. ISM, on the other hand, has a long history that makes it more useful when looking at historical relationships. Our general view would be to look at them together, tilting toward Markit slightly when trying to evaluate the current situation, but research conclusions that draw on ISM's long history should continue to put more emphasis there.

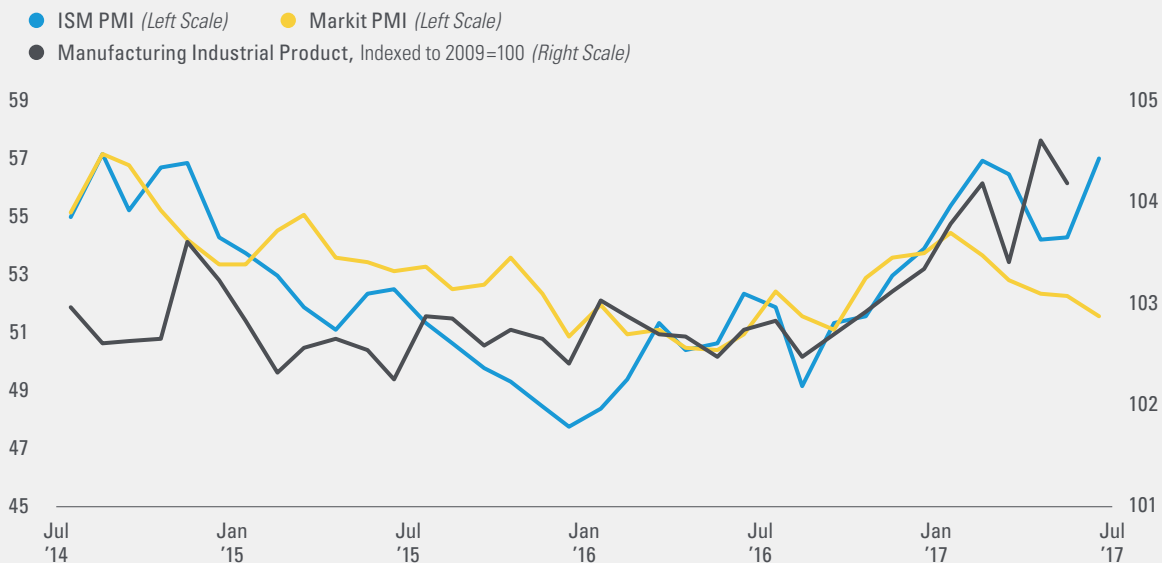
WHAT ABOUT OTHER MEASURES OF MANUFACTURING ACTIVITY?

One of the advantages of PMIs is that they are very timely. Data for June 2017 was released

on July 3. In addition, the responses come from purchasing managers who are well positioned to assess changes in activity at their own businesses. Nevertheless, PMIs are still surveys, not hard economic data. The timeliest hard data on manufacturing is the manufacturing component of industrial production, with the most recent current data available from May 2017.

The picture provided by the industrial production data tilts positive. Manufacturing production climbed steadily from September 2016 through February 2017, rising modestly each month. Then the data gets clear after that—two fairly large declines (March at -0.7% and May at -0.4%) sandwich a large uptick (April's mighty +1.2%, the best month in over five years). While noisy, the direction of the general trend over this short period looks more in line with ISM's index [Figure 2].

2 RECENT MANUFACTURING INDUSTRIAL PRODUCTION DATA HAS BEEN MORE IN LINE WITH ISM



Source: LPL Research, Bloomberg, Federal Reserve 07/10/17

ISM—Institute for Supply Management

PMI—Purchasing Managers Index

Past performance is no guarantee of future results.

CONCLUSION

While manufacturing has declined relative to the overall U.S. economy for decades, it continues to expand as the U.S. economy grows and has finally topped its pre-recession high in real output in the first quarter of 2017. Manufacturing continues to recover following weakness in 2016, and while Markit's PMI tempers some of our enthusiasm about the strong ISM PMI data, we do not consider the divergence a concern and continue to see strong potential for manufacturing to continue to grow. ■

IMPORTANT DISCLOSURES

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Because of its narrow focus, specialty sector investing, such as healthcare, financials, or energy, will be subject to greater volatility than investing more broadly across many sectors and companies.

DEFINITIONS

The Institute for Supply Management (ISM) Index is based on surveys of more than 300 manufacturing firms by the Institute of Supply Management. The ISM Manufacturing Index monitors employment, production inventories, new orders, and supplier deliveries. A composite diffusion index is created that monitors conditions in national manufacturing based on the data from these surveys.

Purchasing Managers Indexes are economic indicators derived from monthly surveys of private sector companies, and are intended to show the economic health of the manufacturing sector. A PMI of more than 50 indicates expansion in the manufacturing sector, a reading below 50 indicates contraction, and a reading of 50 indicates no change. The two principal producers of PMIs are Markit Group, which conducts PMIs for over 30 countries worldwide, and the Institute for Supply Management (ISM), which conducts PMIs for the US.

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