



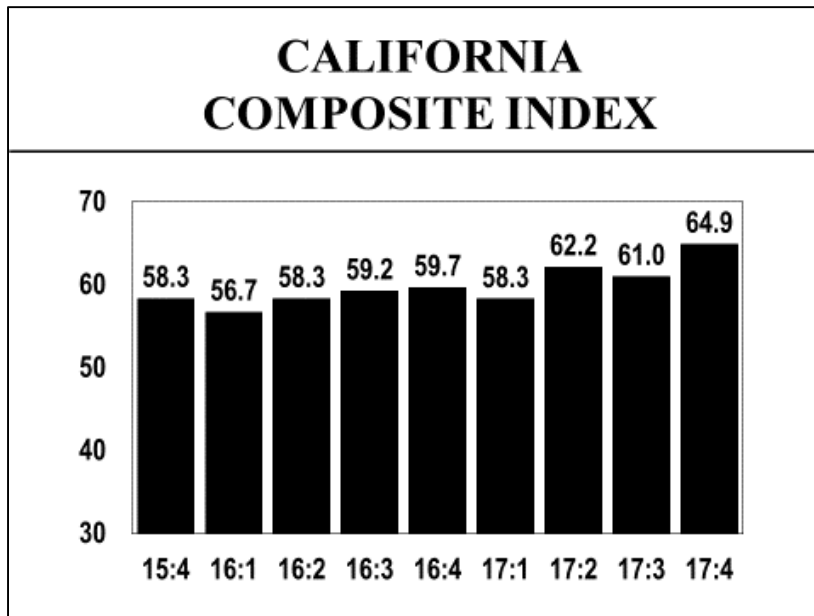
A. Gary Anderson Center for Economic Research

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FASTER GROWTH IN MANUFACTURING

ORANGE, CA — According to a survey of purchasing managers, the California manufacturing economy is expected to expand further in the fourth quarter of 2017. The California Composite Index, measuring overall manufacturing activity, increased from 61.0 in the third quarter to 64.9 in the fourth quarter, indicating faster expansion. Production, inventories of purchased materials, new orders and employment are expected to grow at a higher rate. Supplier deliveries are expected to be slower and commodity prices are expected to reach the highest level since the second quarter of 2012.



California Manufacturing at a Glance

Composite Index	64.9	Growing at a higher rate
Production	69.5	Growing at a higher rate
Inventories of purchased materials	62.4	Growing at a higher rate
Commodity prices	72.7	Rising at a higher rate
Supplier deliveries	56.7	Slowing at a higher rate
New orders	69.1	Growing at a higher rate
Employment	62.5	Growing at a higher rate

Performance by Industry Group

The index for the **non-durable goods industries** rose from 61.0 in the third quarter to 69.2 in the fourth quarter, indicating a higher rate of growth in the fourth quarter. Production, inventories of purchased materials, prices, new orders and employment are expected to increase at a higher rate in the fourth quarter. The production index has reached the highest level since 2002.

The index for the **durable goods industries** increased from 60.9 in the third quarter to 62.4 in the fourth quarter, indicating a higher rate of growth in the fourth quarter. Inventories of purchased materials, commodity prices, new orders and employment increased at a higher rate in the fourth quarter. The new orders index has reached the highest level since we started computing the index in the second quarter of 2014.

Comments by the Purchasing Managers

Fourth quarter is peak for us, so it will always trend the way I've indicated on the survey. (Food)

We are still understaffed, so we will be hiring. (Textile Mills)

We have a Seasonal Outdoor business. We supply outdoor cushions and pillows to major retailers. Raw material deliveries for the 2018 season are in full swing. Shipments from China start in earnest in October as we build our inventory levels peaking in January 2018. Overall business is good and purchasing reflects this trend. (Textile Mill Products)

Our sector of business is not as good as expected, it does not have momentum and orders are not there. (Apparel)

These answers are based on current conditions in regards to the weather. Even though we are on the west coast, we are expecting to feel the effects/demands by those impacted by the severe weather conditions. (Wood Products)

Seeing upward pressure on raw materials, especially paper. Not sure market will carry increase. Other materials being affected by storms in Texas. Demand a bit higher than expected. (Paper)

Mandatory wage increases by the state is a concern for future staffing. (Printing & Related Support Activities)

Due to hurricane Harvey solvent prices and lead-times increased significantly. We are seeing a shortage of truck drivers that is increasing lead-time for raw materials. (Chemicals)

Supply Chain disruptions due to Hurricane Harvey will have a lasting impact on fourth quarter sales. (Plastics & Rubber Products)

Experiencing continued growth and production volumes that have not been seen since 2007. All time volume highs were set in two of the last four months. Budget shortfall that was a result of the wet winter has been erased. Prices are up, and the backlog of orders that is usually at best one week now stands at 3 weeks to one month. Seasonal decline expect as winter looms. (Nonmetallic Mineral Products)

3rd quarter production was affected by a difficulty in hiring and retaining employees. Things are improving in that area and should result in increased production in the 4th Qtr. (Primary Metals)

California minimum wage laws and regulations continue to stifle our ability to compete with out of state competitors. Our customers continue to leave the state for more business friendly states. (Fabricated Metal Products)

Once again, our optimism is peaking. We are hopeful for the better returns. We did have some employees move on. As a result rather than hiring we shifted responsibilities but we are seeing the uptick now that indicates we need to get staff levels back up. One troubling issue is randomly suppliers are having trouble keeping up with demand. Lead times for one supplier just went from 4 weeks to 16 weeks with no explanation. This makes it hard for us to absorb the difference. We have run the reports needed to order ahead of demand on the high volume items to hopefully retain business and keep customers from shifting away. We have 5 locations and are looking for staff in 3 of them. (Machinery)

Any changes in Defense spending would have minimal impact in the fourth quarter. (Computer & Electronic Products)

We see business increasing in power markets. Lead time for lithium batteries is getting longer. (Electrical Equipment, Appliance & Components)

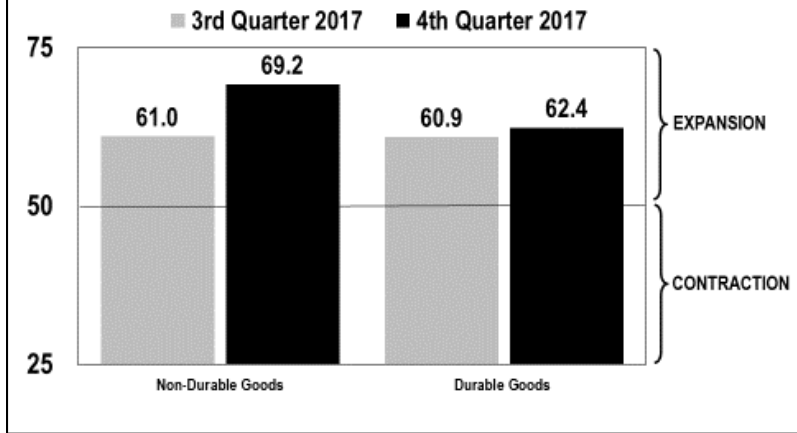
Overall, it should be a very normal fourth quarter. Holiday Season is upon us. Our production will remain consistent. The steel market is still volatile. This requires a "best timing" to put new contracts in place for the fourth quarter of 2017, as well as moving forward into 2018. Our new hires will continue to grow slowly into the first quarter of 2018. (Transportation Equipment)

Our industry has had a bit of a slow year... many of our retailers reporting slow sales. Our company however has focused on other buying groups and we have fortunately been very busy. (Furniture & Related Products)

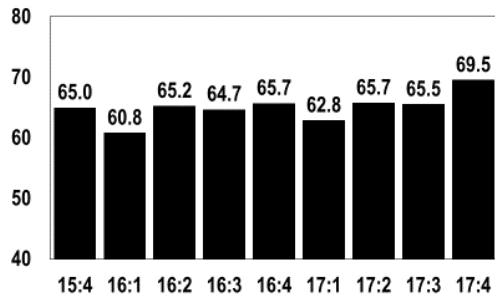
We provide products for the government, and as the old fiscal year ends and the new fiscal year begins, we expect contract negotiations to close, and the fiscal 2018 contracts to be awarded. Unfortunately this timing issue always seems to lead to a soft first quarter from a sales perspective, but an increase in overall purchasing and in-house engineering activities for the production to come. (Miscellaneous)

Business is steady. Just working to reduce inventory by burning it down. (Aerospace Products & Parts)

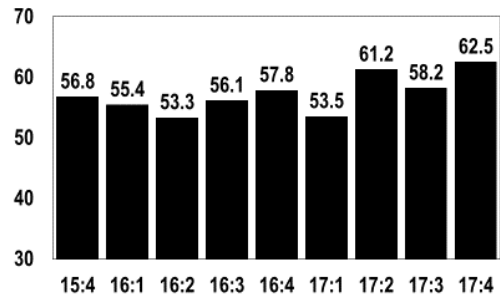
INDICES FOR INDUSTRY GROUPS

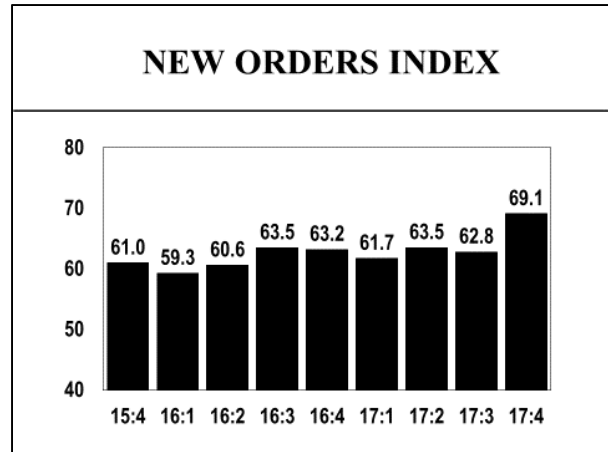
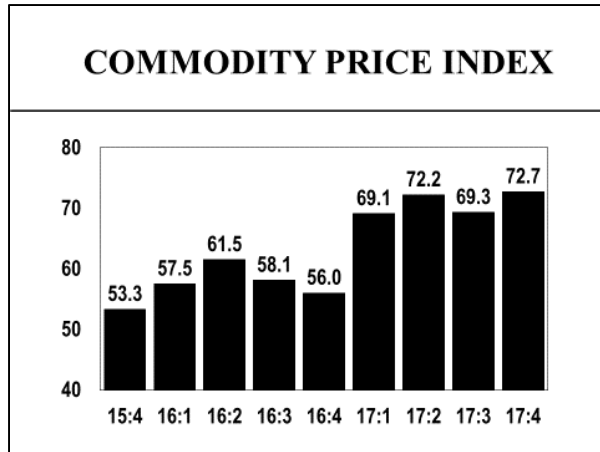


PRODUCTION INDEX



EMPLOYMENT INDEX





Background and methodology

The Institute for Supply Management (ISM) conducts a monthly national survey of purchasing managers and publishes the survey results in its *Report on Business*. Such a survey is not available for the state of California. Given the size of our state, and the major role its manufacturing sector plays in the national economy, the A. Gary Anderson Center for Economic Research at Chapman University launched a quarterly survey of California purchasing managers starting in the third quarter of 2002. Similar to the ISM survey, our survey tracks changes in production, employment, new orders, inventories of purchased materials, commodity prices and supplier deliveries. Except for commodity prices and inventories of purchased materials, a seasonally adjusted index is computed for each variable.

In order to have one single indicator for the performance of the state manufacturing sector, the Anderson Center has developed a Composite Index that is a weighted average of the underlying indices. A value of 50 for the Composite Index shows a general expansion of the manufacturing economy of the state and a value below 50 shows a decline. The industries are classified according to the North American Industry Classification System (NAICS).

Detailed Results of the Survey of California Purchasing Managers' Expectations for the Fourth Quarter of 2017

In its attempt to present you with a better delivery of the survey results, the A. Gary Anderson Center for Economic Research has calculated an index for every variable in the survey. The "% Better," is added to half of the "% Same," after which a seasonal factor is used to get a seasonally adjusted index for each variable (except commodity prices). A value over 50 for an index indicates growth and a value below 50 indicates a decline. If for example the index increases from 55 to 59, we say that the growth rate is higher than the previous quarter because 59 is bigger than 55. If the index remains at 55, we say that the growth rate remains the same as the previous quarter. If the index decreases from 55 to 52, we say that we still have growth but that the growth rate is lower than the previous quarter because 52 is smaller than 55. Each industry in the manufacturing sector is represented in the survey based on its employment share of total manufacturing employment in the state.

Production: The seasonally adjusted index for production is expected to increase from 65.5 in the third quarter to 69.5 in the fourth quarter, indicating that production is expected to increase at a higher rate in the fourth quarter. This is the thirty fourth consecutive quarter that the production index has been above 50. Production is expected to increase most rapidly in the following industries: Food; Textile Mill Products; Apparel; Paper; Printing & Related Support Activities; Petroleum & Coal Products; Chemicals; Plastics & Rubber Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; and Miscellaneous. The Wood Products industry reported an expected decrease in production.

Production	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
4 th Quarter of 2017	45.1	38.6	16.3	28.8	69.5
3 rd Quarter of 2017	47.3	39.0	13.7	33.7	65.5
2 nd Quarter of 2017	50.6	39.5	9.9	40.7	65.7
1 st Quarter of 2017	41.3	41.6	17.1	24.2	62.8

Inventories of Purchased Materials: The seasonally adjusted index for inventories of purchased materials is expected to increase from 55.8 in the third quarter to 62.4 in the fourth quarter, indicating that inventories are expected to increase at a higher rate in the fourth quarter. Inventories of purchased materials are expected to increase most rapidly in the following industries: Food; Textile Mill Products; Apparel; Paper; Printing & Related Support Activities; Nonmetallic Mineral Products; Fabricated Metal Products; Machinery; Electrical Equipment, Appliance & Components. Inventories of purchased materials are expected to decrease most rapidly in the following industries: Wood Products; Primary Metals; and Computer & Electronic Products.

Inventories of Purchased Materials	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
4 th Quarter of 2017	37.2	41.7	21.0	16.2	62.4
3 rd Quarter of 2017	36.2	43.7	20.1	16.2	55.8
2 nd Quarter of 2017	41.2	46.9	11.9	29.3	61.9
1 st Quarter of 2017	29.9	46.7	23.4	6.5	54.0

Commodity Prices: The seasonally unadjusted index for commodity prices is expected to increase from 69.3 in the third quarter to 72.7 in the fourth quarter, indicating that commodity prices are expected to rise at a higher rate in the fourth quarter. Commodity prices are expected to increase most rapidly in the following industries: Food; Textile Mill Products; Apparel; Paper; Printing & Related Support Activities; Chemicals; Plastics & Rubber Products; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Transportation Equipment; Furniture & Related Products; and Miscellaneous. No industry reported an expected decrease in commodity prices.

Commodity Prices	% Higher	% Same	% Lower	Net	Index
4 th Quarter of 2017	51.1	43.2	5.7	45.5	72.7
3 rd Quarter of 2017	42.9	52.9	4.2	38.6	69.3
2 nd Quarter of 2017	48.4	47.7	3.9	44.5	72.2
1 st Quarter of 2017	43.9	50.5	5.7	38.2	69.1

Supplier Deliveries: For this variable, an index value over 50 indicates slower deliveries, and an index value under 50 indicates faster deliveries. The seasonally adjusted index for supplier deliveries is expected to increase from 55.3 in the third quarter to 56.7 in the fourth quarter, indicating that supplier deliveries are expected to be slower in the fourth quarter. Supplier deliveries are expected to be slowest in the following industries: Beverage & Tobacco; Chemicals; Plastics & Rubber Products; Wood Products; Fabricated Metal Products; Machinery; Computer & Electronic Products; Transportation Equipment; Furniture & Related Products; and Miscellaneous. Supplier deliveries are expected to be fastest in the following industries: Apparel; and Printing & Related Support Activities.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Seasonally Adjusted Index
4 th Quarter of 2017	25.5	64.0	10.5	14.9	56.7
3 rd Quarter of 2017	19.6	70.8	9.6	9.9	55.3
2 nd Quarter of 2017	15.3	75.4	9.3	5.9	53.0
1 st Quarter of 2017	16.6	73.0	10.4	6.2	53.5

New Orders: The seasonally adjusted index for new orders is expected to increase from 62.8 in the third quarter to 69.1 in the fourth quarter, indicating that new orders are expected to increase at a higher rate in the fourth quarter. New orders are expected to increase most rapidly in the following industries: Food; Textile Mill Products; Paper; Printing & Related Support Activities; Chemicals; Plastics & Rubber Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Transportation Equipment; and Miscellaneous. The Beverage & Tobacco industry reported an expected decrease in new orders.

New Orders	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
4 th Quarter of 2017	46.3	35.9	17.8	28.6	69.1
3 rd Quarter of 2017	45.2	37.1	17.6	27.6	62.8
2 nd Quarter of 2017	49.4	37.0	13.6	35.8	63.5
1 st Quarter of 2017	43.7	34.9	21.5	22.2	61.7

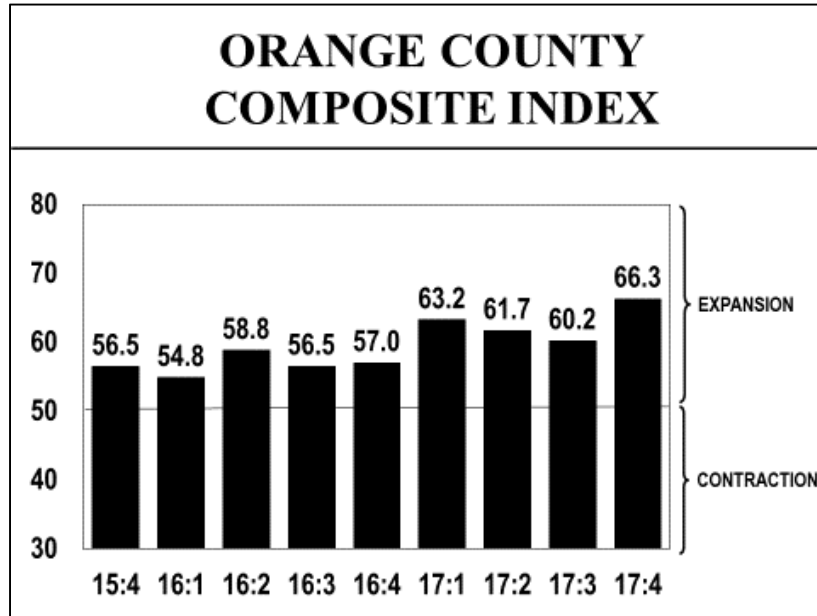
Employment: The seasonally adjusted index for employment is expected to increase from 58.2 in the third quarter to 62.5 in the fourth quarter, indicating that employment in manufacturing is expected to improve in the fourth quarter. Employment is expected to increase most rapidly in the following industries: Food; Paper; Chemicals; Plastics & Rubber Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Transportation Equipment; and Miscellaneous. The Apparel industry reported an expected decrease in employment.

Employment	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
4 th Quarter of 2017	28.5	62.2	9.3	19.2	62.5
3 rd Quarter of 2017	30.3	58.6	11.1	19.2	58.2
2 nd Quarter of 2017	33.3	59.2	7.5	25.7	61.2
1 st Quarter of 2017	22.0	62.8	15.2	6.8	53.5

High-Tech Industries: The high-tech industries include the following: Computer & Electronic Products, and Aerospace Products & Parts. The high-tech industries currently employ about 350,700 employees, amounting to 26.6% of total manufacturing employment in the state. The percent of purchasing managers in the Computer & Electronic Products industry reporting higher expected production increased from 32.8% in the third quarter to 34% in the fourth quarter. Additionally, the percent of purchasing managers reporting higher expected employment in these industries also increased from 24.3% in the third quarter to 25.3% in the fourth quarter.

Orange County's Manufacturing Survey

The Orange County manufacturing sector's Composite Index increased from 60.2 in the third quarter to 66.3 in the fourth quarter, indicating that the county's manufacturing economy is expected to grow at a faster rate in the fourth quarter. The Orange County index is now above California's index.



The seasonally adjusted index for production increased from 65.8 in the third quarter to 71.1 in the fourth quarter, indicating that production is expected to grow at a faster rate in the fourth quarter. This is the thirty fourth consecutive quarter that the production index has been above 50. The seasonally adjusted index for new orders increased substantially from 61.1 in the third quarter to 70.9 in the fourth quarter, indicating that new orders are expected to grow at a much faster rate in the fourth quarter.

The index for the **non-durable goods industries** leaped from 57.7 in the third quarter to 74.1 in the fourth quarter, indicating that the growth rate in these industries is expected to be much faster in the fourth quarter. The index for new orders also leaped from 60.5 in the third quarter to 86.3 in the fourth quarter indicating a markedly higher rate of growth. The index for the **durable goods industries** increased from 61.1 in the third quarter to 63.5 in the fourth quarter, indicating that the durable goods industries are expected to grow at a faster rate in the fourth quarter. New orders are expected to grow at a faster rate.

ABOUT THE ANDERSON CENTER FOR ECONOMIC RESEARCH

The A. Gary Anderson Center for Economic Research (ACER) was established in 1979 to provide data, facilities and support in order to encourage the faculty and students at Chapman University to engage in economic and business research of high quality, and to disseminate the results of this research to the community.

ANNUAL SCHEDULE OF CONFERENCES AND PRESS RELEASES

- JANUARY** † Economic Forecast Conferences for the Inland Empire
 † California Purchasing Managers Survey

- MARCH** † California Consumer Sentiment Survey

- APRIL** † California Purchasing Managers Survey

- JUNE** † California Consumer Sentiment Survey
 † Economic Forecast Update Conference for the U.S., California and
 Orange County

- JULY** † California Purchasing Managers Survey

- SEPTEMBER** † California Consumer Sentiment Survey

- OCTOBER** † California Purchasing Managers Survey

- DECEMBER** † Economic Forecast Conference for the U.S., California and
 Orange County
 † California Consumer Sentiment Survey