



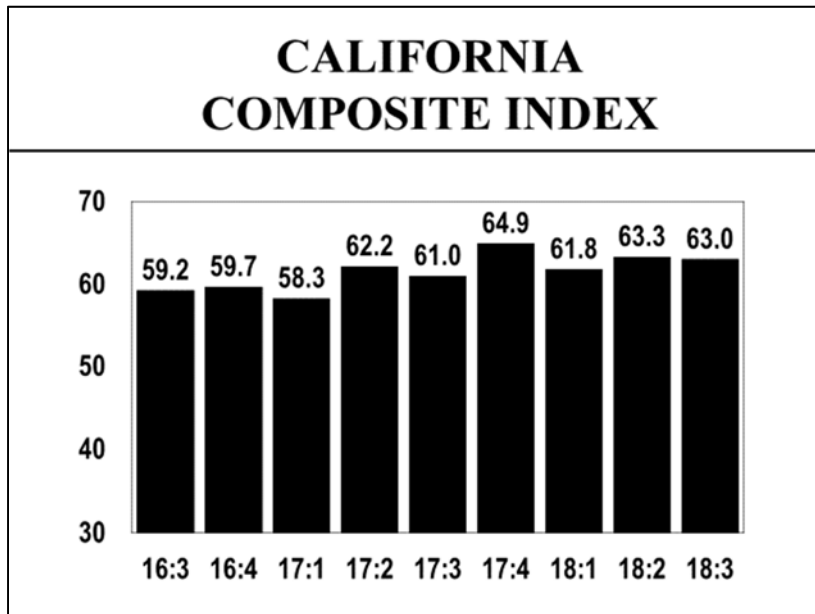
A. Gary Anderson Center for Economic Research

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MANUFACTURING SECTOR HOLDS STEADY

ORANGE, CA — According to a survey of purchasing managers, the California manufacturing economy is expected to expand at the same rate in the third quarter as it did in the second quarter. The California Composite Index, measuring overall manufacturing activity, decreased marginally from 63.3 in the second quarter to 63.0 in the third quarter, indicating similar growth. Production, inventories of purchased materials, commodity prices and employment are all expected to grow at approximately the same growth rate as the second quarter. Supplier deliveries will proceed at the slowest speed since the second quarter of 2003. A large number of respondents have commented on the tight labor market that is resulting in higher starting wages. Many others have also mentioned the sharp rise in aluminum and steel prices, at the same time that supplier deliveries are slowing further.



California Manufacturing at a Glance

Composite Index	63.0	Growing at the same rate
Production	67.0	Growing at the same rate
Inventories of purchased materials	58.0	Growing at the same rate
Commodity prices	76.2	Rising at a same rate
Supplier deliveries	55.6	Slowing at a higher rate
New orders	65.4	Growing at a lower rate
Employment	57.6	Growing at a higher rate

Performance by Industry Group

The index for the **non-durable goods industries** decreased from 64.5 in the second quarter to 62.0 in the third quarter, indicating a higher rate of growth in the third quarter. Production, commodity prices, new orders, and employment are expected to grow at a lower rate. Supplier deliveries are expected to become slower in the third quarter. And inventories of purchased materials are expected to increase at a higher rate.

The index for the **durable goods industries** increased from 62.6 in the second quarter to 63.6 in the third quarter, indicating a higher rate of growth in the third quarter. Production, commodity prices, and employment increased at a higher rate in the third quarter. And supplier deliveries are expected to be at their slowest rate since we started compiling the indices in the second quarter of 2014.

Comments by the Purchasing Managers

Seasonal ag business with peak in 4th quarter. Have noticed it's taking longer to receive packaging materials and lead times are longer. (Food)

I have to mention this each time. We have a seasonal outdoor pillow / cushion business. The above reflects the end of the 2018 season. Later this year we will "ramp up" once again. Raw material prices are rising in China. No secret there. (Textile Mill Products)

Lumber commodities are at an all-time high price level. Supply side and labor are inadequate for current needs. (Wood Products)

Prices for paper, our primary raw material, have increased significantly since Q4-17. Also lead times have extended as paper mills take down capacity and convert it to other paper based products. Finding qualified employees for factory work is a struggle, driving up starting wages. (Paper)

Higher transportation fees and raw material cost causing gross margin to fall. (Printing & Related Support Activities)

Overall 3rd qtr. should reflect same results as qtr. 2. Resin prices for plastics are mixed. Raw chemicals petro-related continue to increase. Tariffs affecting imported chemical and packaging supplies. (Chemicals)

Prices and lead time for all kinds of parts, and materials are becoming higher and longer than usual. (Plastics & Rubber Products)

The uncertainty of the tariff effect on structural steel will continue to create accurate pricing problems on projects that will start late '18 and into '19. Escalation factors will vary from company to company which in turn could result in wide variances in bid prices and may, in some cases, create more caution on the part of developers. Purpose build projects will be affected but probably not as much as speculation projects. Low unemployment is resulting in the need for wage and fringe benefits to be raised not only for new hires but also to keep current employees. In addition, with the lack of seasoned factory workers, more extensive training has become a necessity. This, too, is resulting in escalation of overall project costs as these increase the overhead percentage of a bid. (Primary Metals)

Commodity prices are going up very fast - Aluminum and Steel are among the largest increases. Insurance is our biggest problem with Medical costs going up 19%. We're losing money each month due to costs we have no control of. (Fabricated Metal Products)

We have seen a surge of business which is a welcomed change. After many months of slow or no growth this quarter has turned around nicely. Many suppliers are issuing mid-year price adjustments as this appears to be widespread, I don't think it will have much negative impact. Tariffs are causing uncertainty though. We are a more than ever a worldwide economy, many of our suppliers cannot remain competitive with domestic metals so they source outside. Some are incorporating it in their new pricing and some are opting for surcharges due to confusion over what the next tariff will look like and to what country or region. Again, because that as well impacts everyone, it may negatively impact politically, its impact on general business will likely be minimal. It will in fact drive some companies to look for domestic sources of steel and aluminum which are available just at premiums and in limited supply. (Machinery)

I am seeing more attitude of "take it or leave it" from MFG as lead times go out and products go EoL without a replacement. (Computer & Electronic Products)

Finding lower cost assembly workers is getting much harder to do. With high cost of living in Orange County and many companies competing for the same people is driving up costs which makes it difficult to compete against off shore manufacturing. (Electrical Equipment, Appliance & Components)

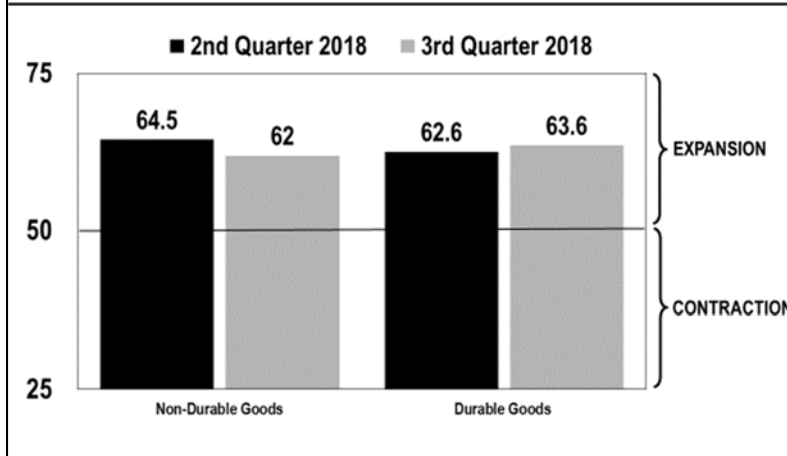
Aluminum & stainless steel prices have jump higher than anticipated over the tariffs. The 80% to 100% is just price gouging us buyers hopefully the prices will readjust down ward buy the 4th quarter. (Transportation Equipment)

We had a spurt of business for a few months, then it dropped off. We are continuing to see price increases from suppliers while seeing price pressure in our market because of added capacity from better, faster equipment being put online across the industry. (Furniture & Related Products)

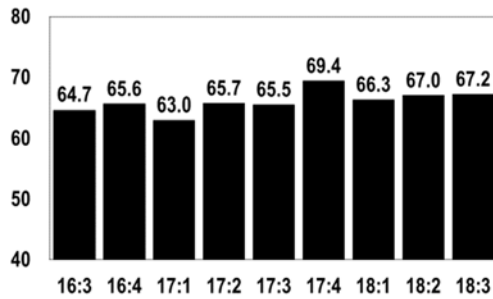
We always see a slight slowdown in the summer time so we aren't expecting any big increase in business until the 4th quarter. (Miscellaneous)

Finding the right candidates to fill jobs is getting more difficult. (Aerospace Products & Parts)

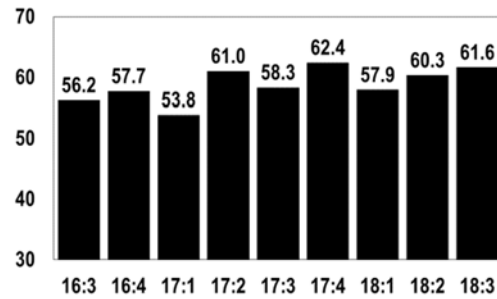
INDICES FOR INDUSTRY GROUPS



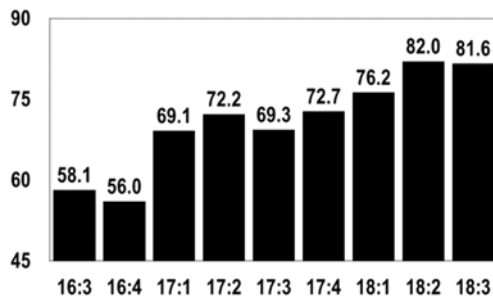
PRODUCTION INDEX



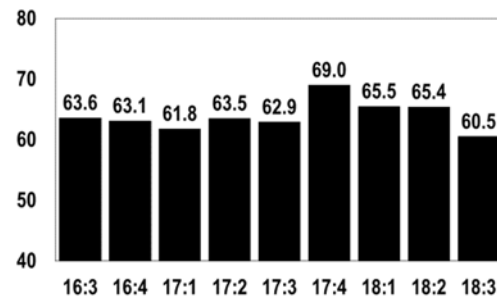
EMPLOYMENT INDEX



COMMODITY PRICE INDEX



NEW ORDERS 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 Third Quarter of 2018

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 67.0 in the second quarter to 67.2 in the third quarter, indicating that production is expected to increase at the same rate in the third quarter as in the second quarter. This is the thirty seventh consecutive quarter that the production index has been above 50. Production is expected to increase most rapidly in the following industries: Food; Beverage & Tobacco; Apparel; Paper; Printing & Related Support Activities; Chemicals; Plastics & Rubber Products; Wood Products; Nonmetallic Mineral Products; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Transportation Equipment; Furniture & Related Products; and Miscellaneous. The Textile Mill Products industry reported an expected decrease in production.

Production	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
3 rd Quarter of 2018	51.2	34.7	14.1	37.1	67.2
2 nd Quarter of 2018	56.3	30.9	12.8	43.6	67.0
1 st Quarter of 2018	46.7	37.4	15.9	30.8	66.3
4 th Quarter of 2017	45.1	38.6	16.3	28.8	69.4

Inventories of Purchased Materials: The seasonally adjusted index for inventories of purchased materials is expected to increase from 57.4 in the second quarter to 57.9 in the third quarter, indicating that inventories are expected to increase at a slightly higher rate in the third quarter. Inventories of purchased materials are expected to increase most rapidly in the following industries: Food; 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 has reported an expected decrease in inventories of purchased materials.

Inventories of Purchased Materials	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
3 rd Quarter of 2018	39.2	41.7	19.0	20.2	57.9
2 nd Quarter of 2018	38.6	43.3	18.1	20.4	57.4
1 st Quarter of 2018	34.4	45.6	19.9	14.5	58.2
4 th Quarter of 2017	37.2	41.7	21.0	16.2	62.2

Commodity Prices: The seasonally unadjusted index for commodity prices is expected to decrease from 82.0 in the second quarter to 81.6 in the third quarter, indicating that commodity prices are expected to rise at a slightly lower rate in the third quarter of this year. Commodity prices are expected to increase most rapidly in the following industries: Food; Textile Mill Products; 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
3 rd Quarter of 2018	67.2	28.8	4.0	63.2	81.6
2 nd Quarter of 2018	66.1	31.8	2.1	64.0	82.0
1 st Quarter of 2018	55.5	41.3	3.2	52.3	76.2
4 th Quarter of 2017	51.1	43.2	5.7	45.5	72.7

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 59.1 in the second quarter to 64.7 in the third quarter, indicating that supplier deliveries are expected to be slower in the third quarter. This is the slowest deliveries since the second quarter of 2003. Supplier deliveries are expected to be slowest in the following industries: Food; Paper; Chemicals; Plastics & Rubber Products; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Computer & Electronic Products; Transportation Equipment; Furniture & Related Products; and Miscellaneous. The Machinery industry reported an expectation of faster supplier deliveries.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Seasonally Adjusted Index
3 rd Quarter of 2018	34.7	59.3	6.0	28.7	64.7
2 nd Quarter of 2018	27.0	64.0	9.0	18.0	59.1
1 st Quarter of 2018	22.1	66.2	11.7	10.4	55.5
4 th Quarter of 2017	25.5	64.0	10.5	14.9	56.8

New Orders: The seasonally adjusted index for new orders is expected to decrease from 65.4 in the second quarter to 60.5 in the third quarter, indicating that new orders are expected to increase at a slower rate in the third quarter. New orders are expected to increase most rapidly in the following industries: Food; Paper; Printing & Related Support Activities; Chemicals; Plastics & Rubber Products; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Transportation Equipment; Furniture & Related Products; and Miscellaneous. The Machinery and the Furniture & Related Products industries reported an expected decrease in new orders.

New Orders	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
3 rd Quarter of 2018	41.7	39.3	19.0	22.7	60.5
2 nd Quarter of 2018	51.8	36.4	11.8	29.5	65.4
1 st Quarter of 2018	47.0	35.6	17.4	29.5	65.5
4 th Quarter of 2017	46.3	35.9	17.8	28.6	69.0

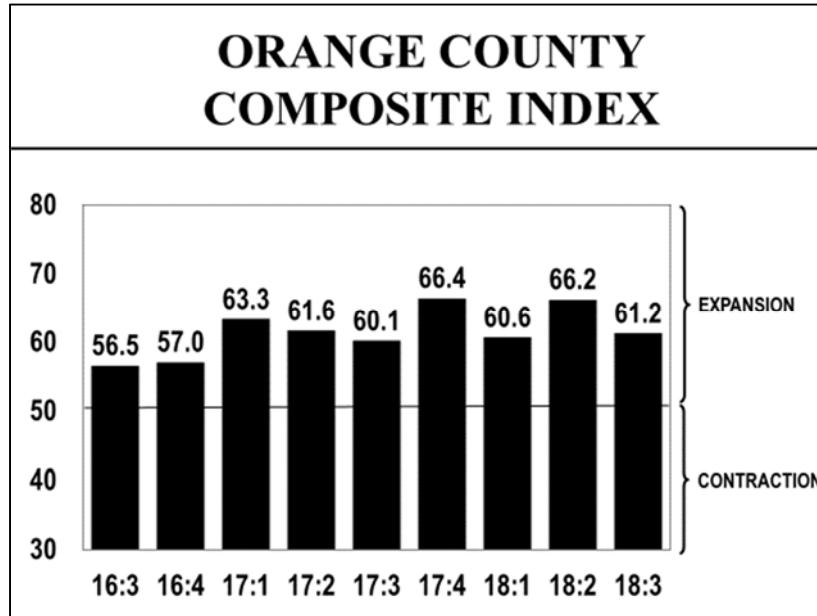
Employment: The seasonally adjusted index for employment is expected to increase from 60.3 in the second quarter to 61.6 in the third quarter, indicating that employment in manufacturing is expected to increase at a higher rate in the third quarter. Employment is expected to increase most rapidly in the following industries: Paper; Chemicals; Plastics & Rubber Products; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; and Transportation Equipment. The Apparel industry reported an expected decrease in employment.

Employment	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
3 rd Quarter of 2018	38.3	49.4	12.3	26.0	61.6
2 nd Quarter of 2018	35.2	53.7	11.0	24.2	60.3
1 st Quarter of 2018	26.9	61.2	11.9	15.0	57.9
4 th Quarter of 2017	28.5	62.2	9.3	19.2	62.4

High-Tech Industries: The high-tech industries include the following: Computer & Electronic Products, and Aerospace Products & Parts. The high-tech industries currently employ about 357,700 employees, amounting to 27.1% of total manufacturing employment in the state. The percent of purchasing managers in the Computer & Electronic Products industry reporting higher expected production increased from 43.9% in the second quarter to 59.9% in the third quarter. Additionally, the percent of purchasing managers reporting higher expected employment in these industries also increased from 26.6% in the second quarter to 50% in the third quarter.

Orange County's Manufacturing Survey

The Orange County manufacturing sector's Composite Index decreased from 66.2 in the second quarter to 61.2 in the third quarter, indicating that the county's manufacturing economy is expected to grow at a slower rate in the third quarter. The Orange County index is now below California's index.



The seasonally adjusted index for production decreased from 70.1 in the second quarter to 66.5 in the third quarter, indicating that production is expected to grow at a slower rate in the third quarter. This is the thirty seventh consecutive quarter that the production index has been above 50. The seasonally adjusted index for new orders also decreased from 69.2 in the second quarter to 62.1 in the third quarter, indicating that new orders are expected to grow at a slower rate in the third quarter.

The index for the **non-durable goods industries** decreased substantially from 73.4 in the second quarter to 60.5 in the third quarter, indicating that the growth rate in these industries is expected to be substantially slower in the third quarter. The index for production decreased from 76.7 in the second quarter to 63.5 in the third quarter indicating a substantially slower rate of growth. The index for the **durable goods industries** decreased more modestly from 63.7 in the second quarter to 61.4 in the third quarter, indicating that the durable goods industries are expected to grow at a slower rate in the third quarter. New orders are expected to grow at a slower 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