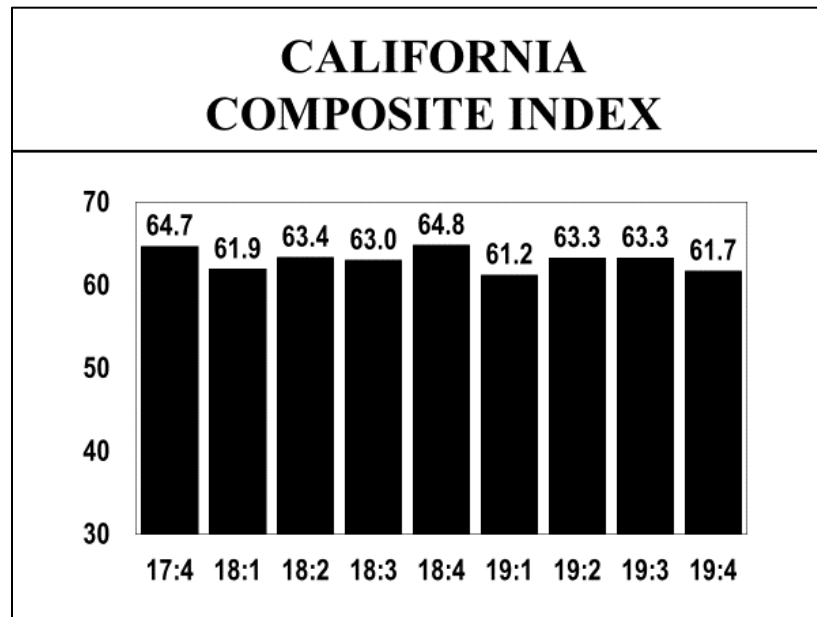


PRESS RELEASE

**CALIFORNIA MANUFACTURING SECTOR
BUCKS NATIONAL TREND**

ORANGE, CA — Based on a survey of purchasing managers, the California Composite Index, measuring overall manufacturing activity in the state, decreased from 63.3 in the third quarter to 61.7 in the fourth quarter, indicating an expected lower growth rate in the fourth quarter. “The sustained growth in the California manufacturing economy is bucking a contraction in the national manufacturing sector observed in the last two months” said Dr. Raymond Sfeir, director of the purchasing managers’ survey. Manufacturing employment in California increased by 0.7 percent compared to July, while at the national level, it increased by only 0.02 percent. Production is expected to grow at a lower rate compared to the third quarter, but new orders and employment are expected to grow at a slightly higher rate.



California Manufacturing at a Glance

Composite Index	61.7	Growing at a lower rate
Production	66.0	Growing at a lower rate
Inventories of purchased materials	56.9	Growing at a lower rate
Commodity prices	68.1	Rising at a lower rate
Supplier deliveries	53.5	Slowing at a higher rate
New orders	65.2	Growing at a higher rate
Employment	61.6	Growing at a higher rate

Performance by Industry Group

The index for the **non-durable goods industries** increased from 60.8 in the third quarter to 61.4 in the fourth quarter, indicating a slightly higher rate of growth in the fourth quarter. Production is expected to grow at a lower rate, while new orders and employment are expected to grow at a higher rate compared to the third quarter.

The **high-tech industries** include the following: Computer & Electronic Products, and Aerospace Products & Parts. The high-tech industries currently employ about 371,700 employees, amounting to 27.4% of total manufacturing employment in the state. The index for the high-tech industries decreased from 67.5 in the third quarter to 66.7 in the fourth quarter, indicating a lower rate of growth. Production and inventories of purchased materials are expected to grow at a lower rate, while new orders and employment are expected to grow at a higher rate compared to the third quarter.

The index for the **durable goods industries other than high-tech** decreased from 62.4 in the third quarter to 58.0 in the fourth quarter, indicating a lower rate of growth in the fourth quarter. Production, new orders, and employment are expected to increase at a lower rate in the fourth quarter.

Comments by the Purchasing Managers

Cyclical business with peak sales in the fourth quarter, but imported fruit a trending industry headwind. (Food)

There is a lot more competition in our industry which is reason why our orders are either at par or below the last quarter. (Beverage & Tobacco)

Things seem to be holding steady unless new tariff increases are imposed yet again. Everybody seems to be taking a hit on this, suppliers, manufacturers and customers. Not necessarily a bad thing if it becomes more cost effective for manufacturing to grow here in the US. (Textile Mill Products)

We are a safety and apparel supply company that relies heavily on Chinese factories to supply the products we sell. No, it's not China that is paying the tariffs! It's import companies just like ours that pay. Of course, the question is do we pass it on to our customers? (Apparel)

American made product costs are increasing multiple times throughout the year - especially for paper & resin. These cost increases are hindering our clients from ordering product & implementing new programs which is slowing down everyone's business. (Printing & Related Support Activities)

The Oil and Gas Industry is experiencing a slowdown due to regulatory backlog and new restrictions in California and Colorado. These will be negative determinants for the next two quarters at least and will lead to layoffs in the future if not arrested or accommodated. (Chemicals)

The lack of qualified employees and the general uncertainty in the economy continue to weigh on our business' performance. (Plastics & Rubber Products)

The domestic steel market is adjusting down to realign with the world market, now that several trade actions are finalized. Domestic demand is now projected to trend down YOY through 2021. (Primary Metals)

I expect the price of steel and aluminum sheet to go up when they are being made in the USA. (Fabricated Metal Products)

Tariffs are causing some higher prices but overall, we are importing less product from China. The domestic products cost a little more but are available in less lead time. (Machinery)

Current tariff laws are really affecting pricing and lead times for materials as vendors try to move facilities to non-tariff countries. (Computer & Electronic Products)

Slowing production to reduce inventories, but slower customer sales/orders in China due to increased tariffs will negate any inventory savings. (Electrical Equipment, Appliance & Components)

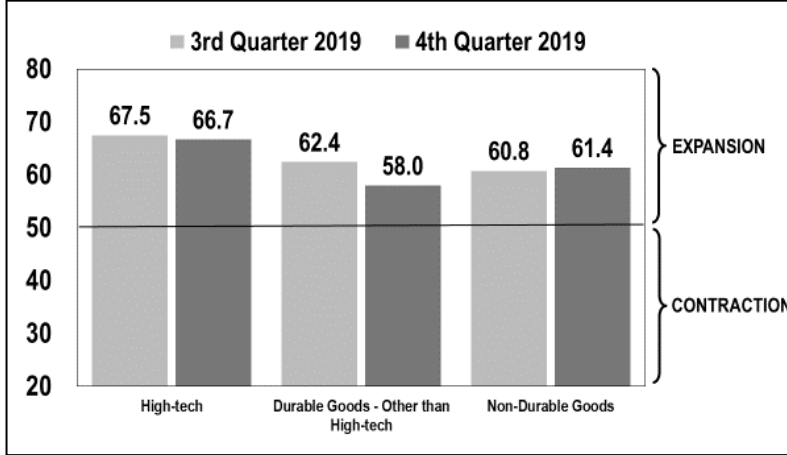
The trade war and imposed Tariffs are having a significant negative impact on our sales and have increased our costs. (Transportation Equipment)

Finding and keeping employees for general labor is increasingly difficult and makes it difficult to increase production or increase sales that require manual labor. (Furniture & Related Products)

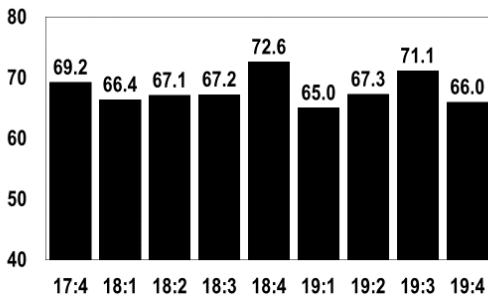
Custom Signage manufacturing is indeed fickle, and it seems seasonal as well. We are blessed to continue in the market place supplying signs and services for over 26 years. (Miscellaneous)

Increase in existing orders has leveled off. Raw material still seems to be an issue with lead times more than double from last year. (Aerospace Products & Parts)

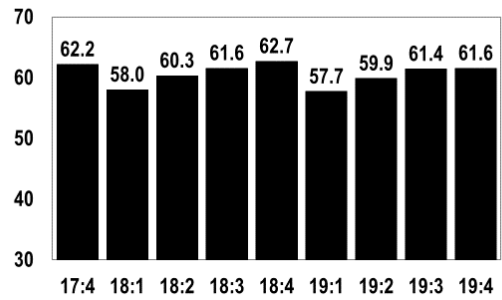
INDICES FOR INDUSTRY GROUPS



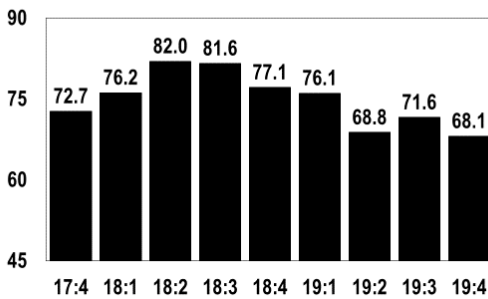
PRODUCTION INDEX



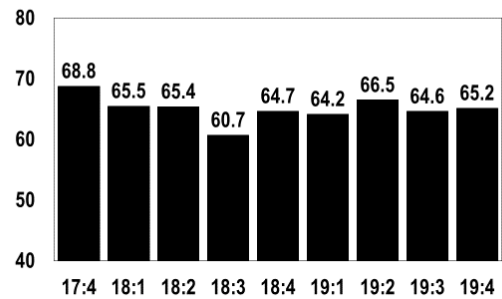
EMPLOYMENT INDEX



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. A seasonally adjusted index is computed for each variable except for commodity prices for which no seasonal adjustment is made. Unlike the national survey that tracks the performance of the manufacturing sector in the previous month, the Anderson Center's survey asks the participants to evaluate the expected performance in the coming quarter.

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 2019**

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 decrease from 71.1 in the third quarter to 66.0 in the fourth quarter, indicating that production is expected to increase at a lower rate in the fourth quarter. This is the forty second consecutive quarter that the production index has been above 50. Production is expected to increase most rapidly in the following industries: Food; Paper; Printing & Related Support Activities; Petroleum & Coal Products; Chemicals; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Aerospace Products & Parts; and Miscellaneous. The Plastics & Rubber Products and the Nonmetallic Metal Products industries reported an expected decrease in production.

Production	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
4 th Quarter of 2019	41.2	40.4	18.4	22.8	66.0
3 rd Quarter of 2019	54.7	35.7	9.7	45.0	71.1
2 nd Quarter of 2019	55.3	33.5	11.3	44.0	67.3
1 st Quarter of 2019	42.5	43.0	14.4	28.1	65.0

Inventories of Purchased Materials: The seasonally adjusted index for inventories of purchased materials is expected to decrease from 58.9 in the third quarter to 56.9 in the fourth quarter, indicating that inventories are expected to increase at a lower rate in the fourth quarter. Inventories of purchased materials are expected to increase most rapidly in the following industries: Food; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; and Miscellaneous. The Plastics & Rubber Products industry has reported an expected decrease in inventories of purchased materials.

Inventories of Purchased Materials	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
4 th Quarter of 2019	29.9	46.9	23.2	6.7	56.9
3 rd Quarter of 2019	38.7	44.7	16.7	22.0	58.9
2 nd Quarter of 2019	41.2	42.7	16.1	25.1	59.7
1 st Quarter of 2019	28.1	55.1	16.8	11.2	56.6

Commodity Prices: The seasonally unadjusted index for commodity prices is expected to decrease from 71.6 in the third quarter to 68.1 in the fourth quarter, indicating that commodity prices are expected to rise at a lower rate in the fourth quarter of this year. Commodity prices are expected to increase most rapidly in the following industries: Food; Printing & Related Support Activities; Chemicals; Plastics & Rubber Products; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. The Apparel industry reported an expected decrease in commodity prices.

Commodity Prices	% Higher	% Same	% Lower	Net	Index
4 th Quarter of 2019	44.3	47.7	8.0	36.2	68.1
3 rd Quarter of 2019	50.1	43.0	6.9	43.2	71.6
2 nd Quarter of 2019	44.9	47.8	7.3	37.6	68.8
1 st Quarter of 2019	57.9	36.4	5.7	52.2	76.1

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 51.7 in the third quarter to 53.5 in the fourth quarter, indicating that supplier deliveries are expected to be slower in the first quarter. Supplier deliveries are expected to be slowest in the following industries: Paper; Chemicals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Furniture & Related Products; and Miscellaneous. The Paper industry reported an expectation of faster supplier deliveries.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Seasonally Adjusted Index
4 th Quarter of 2019	19.8	68.7	11.5	8.3	53.5
3 rd Quarter of 2019	16.0	71.3	12.7	3.2	51.7
2 nd Quarter of 2019	20.8	68.8	10.5	10.3	55.3
1 st Quarter of 2019	21.8	70.5	7.7	14.1	57.6

New Orders: The seasonally adjusted index for new orders is expected to increase from 64.6 in the third quarter to 65.2 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; Apparel; Leather & Allied Products; Paper; Printing & Related Support Activities; Petroleum & Coal Products; Chemicals; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Furniture & Related Products; and Miscellaneous. The Plastics & Rubber Products and the Transportation Equipment (other than Aerospace Products & Parts) industries reported an expected decrease in new orders.

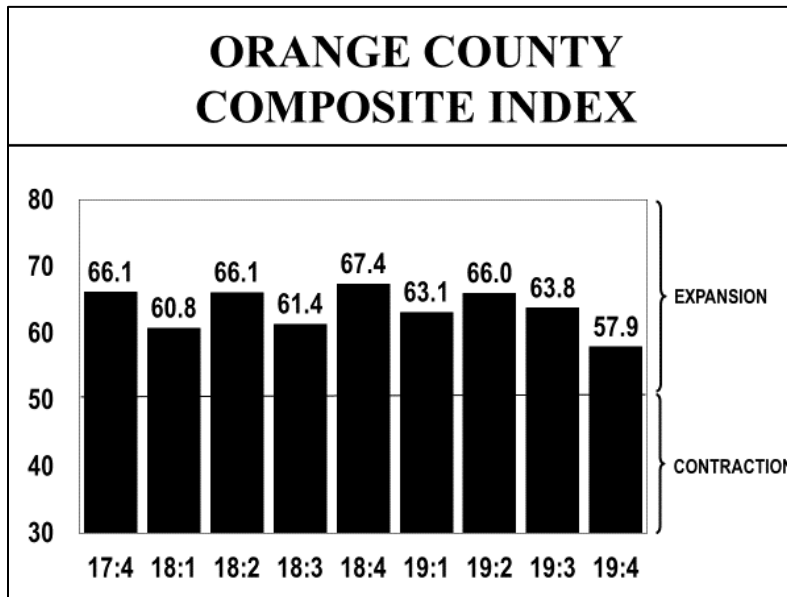
New Orders	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
4 th Quarter of 2019	40.7	40.3	18.9	21.8	65.2
3 rd Quarter of 2019	46.5	37.7	15.8	30.6	64.6
2 nd Quarter of 2019	53.2	36.1	10.8	42.4	66.5
1 st Quarter of 2019	44.0	39.0	17.1	26.9	64.2

Employment: The seasonally adjusted index for employment is expected to increase from 61.4 in the third quarter to 61.6 in the fourth quarter, indicating that employment in manufacturing is expected to increase at practically the same rate as in the third quarter. Employment is expected to increase most rapidly in the following industries: Food; Apparel; Paper; Chemicals; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; and Miscellaneous. Employment is expected to decrease most rapidly in the following industries: Plastics & Rubber Products; Transportation Equipment (other than Aerospace Products & Parts); and Furniture & Related Products.

Employment	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
4 th Quarter of 2019	32.3	53.3	14.3	18.8	61.6
3 rd Quarter of 2019	33.9	58.1	8.1	25.8	61.4
2 nd Quarter of 2019	33.7	55.8	10.4	23.3	59.9
1 st Quarter of 2019	27.0	60.4	12.6	14.4	57.7

Orange County's Manufacturing Survey

The Orange County manufacturing sector's Composite Index decreased from 63.8 in the third quarter to 57.9 in the fourth quarter, indicating that the county's manufacturing economy is expected to grow at a lower rate in the fourth quarter. The Orange County index is now below California's index.



The seasonally adjusted index for production decreased from 67.6 in the third quarter to 60.8 in the fourth quarter, indicating that production is expected to grow at a lower rate in the fourth quarter. This is the forty second consecutive quarter that the production index has been above 50. The seasonally adjusted index for new orders decreased from 65.3 in the third quarter to 59.8 in the fourth quarter, indicating that new orders are expected to grow at a lower rate in the fourth quarter. Unlike the California case, employment is expected to barely increase in the fourth quarter.

The index for the **non-durable goods industries** decreased from 63.7 in the third quarter to 57.8 in the fourth quarter, indicating that the fourth quarter growth rate will be lower. The index for production decreased from 67.6 in the third quarter to 63.6 in the fourth quarter indicating a lower growth rate in the fourth quarter. The index for the **high-tech industries** decreased from 60.2 in the third quarter to 57.4 in the fourth quarter, indicating that the fourth quarter growth rate will be lower. Production, and employment are expected to grow at a lower rate. The index for the **durable goods industries other than high-tech** decreased from 66.9 in the third quarter to 58.3 in the fourth quarter, indicating that the durable goods industries other than high-tech are expected to grow at a lower rate in the fourth quarter. Production, inventories of purchased materials, new orders, and employment are expected to grow at a lower 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
- › Orange County Consumer Sentiment Survey
- › California Consumer Sentiment Survey

APRIL

- › California Purchasing Managers Survey
- › Orange County Consumer Sentiment Survey
- › California Consumer Sentiment Survey

JUNE

- › Economic Forecast Update Conference for the U.S, California and Orange County

JULY

- › California Purchasing Managers Survey
- › Orange County Consumer Sentiment Survey
- › California Consumer Sentiment Survey

OCTOBER

- › California Purchasing Managers Survey
- › Orange County Consumer Sentiment Survey
- › California Consumer Sentiment Survey

DECEMBER

- › Economic Forecast Conference for the U.S., California and Orange County