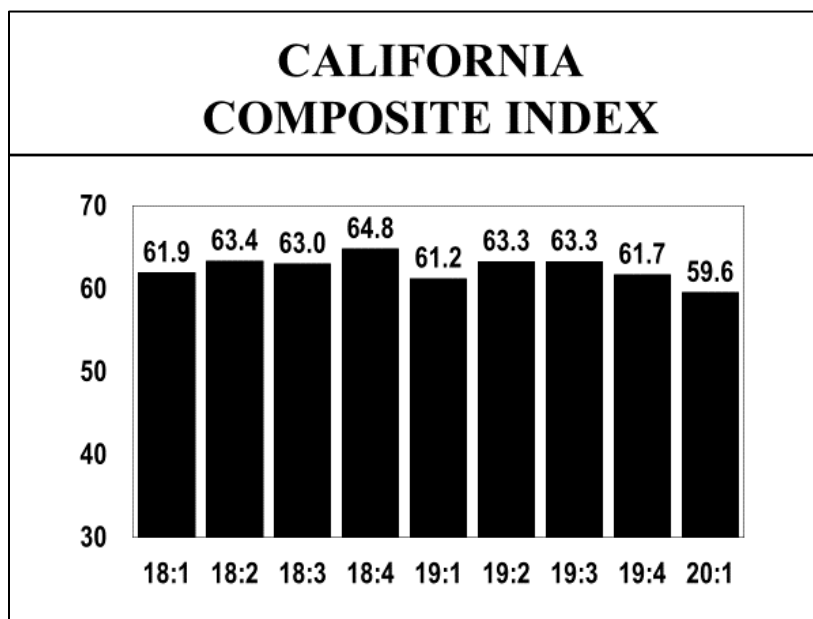


PRESS RELEASE

CALIFORNIA MANUFACTURING GROWTH SUBSIDES

ORANGE, CA — Based on a survey of purchasing managers, the California Composite Index, measuring overall manufacturing activity in the state, decreased from 61.7 in the fourth quarter of 2019 to 59.6 in the first quarter of 2020, indicating an expected lower growth rate in the first quarter. “The sustained growth in the California manufacturing economy since the recovery from the great recession continues, albeit at a lower growth rate in the first quarter of 2020” said Dr. Raymond Sfeir, director of the purchasing managers’ survey. Production, new orders, and employment are expected to grow at a lower growth rate. Commodity prices will rise at a slightly higher rate compared to the end of 2019.



California Manufacturing at a Glance

Composite Index	59.6	Growing at a lower rate
Production	64.1	Growing at a lower rate
Inventories of purchased materials	57.1	Growing at a higher rate
Commodity prices	69.0	Rising at a higher rate
Supplier deliveries	53.4	Slowing at the same rate
New orders	60.4	Growing at a lower rate
Employment	59.1	Growing at a lower rate

Performance by Industry Group

The index for the **non-durable goods industries** decreased from 61.4 in the fourth quarter of 2019 to 55.8 in the first quarter of 2020, indicating a lower rate of growth in the first quarter. Production, inventories of purchased materials, new orders and employment are expected to grow at a lower rate in the first quarter. Commodity prices are expected to rise at a higher rate.

The **high-tech industries** include the following: Computer & Electronic Products, and Aerospace Products & Parts. The high-tech industries currently employ about 375,000 employees, amounting to 28% of total manufacturing employment in the state. The index for the high-tech industries decreased from 66.7 in the fourth quarter of 2019 to 63.0 in the first quarter of 2020, indicating a lower rate of growth. Production, commodity prices, new orders and employment are expected to grow at a lower rate, while inventories of purchased materials is expected to grow at a higher rate in the first quarter.

The index for the **durable goods industries other than high-tech** increased from 58.0 in the fourth quarter of 2019 to 60.6 in the first quarter of 2020, indicating a higher rate of growth in the first quarter. Production, commodity prices, new orders, and employment are expected to increase at a higher rate in the first quarter.

Comments by the Purchasing Managers

Labor availability has been the limiting factor several times over the past year and continues to be a real issue in our business. (Food)

For our business, carbonated water beverages, the industry has become very competitive. (Beverage & Tobacco Products)

Requesting 2020 forecasts from clients for material planning, most if not all customers are expecting increases. We will be raising our prices in January as wages and the costs of doing business in California continue to rise. (Textile Mill Products)

As it looks now we think lower business and lower productivity if we have the same as we had this last quarter. (Apparel)

Softness in incoming business is causing us to hit the pause button on hiring. Also concern about the increased minimum wage is causing us to reevaluate how to pay unskilled employees. Paper costs have also softened vs first half of 2019, increasing margin pressures. (Paper)

Multiple increases in product/supply costs for items both domestic and overseas directly related to trade uncertainty. Additionally, once trade matters are settled, we don't foresee costs decreasing as manufacturers have already set pricing and will not reduce them. (Printing & Related Support Activities)

Still very hard to hire qualified employees. And getting harder. Consolidation in our industry has resulted in stiffer competition for the same business. It is not getting easier! (Chemicals)

If the China trade deal happens or the trade dispute is resolved I would expect our business would go down. (Plastics & Rubber Products)

The past 2 years have been exceptional in way of growth in business and personnel. However, it looks like it might even out to be the same next quarter compared to current quarter due to decrease in quotes in system than we usually have in order to continue the growth. (Nonmetallic Mineral Products)

We produce aluminum shapes for forming into final parts with commercial aerospace being our major market. We ran at maximum capacity in 2019 and expect to do the same in 2020. We are expanding operations, but not in California. (Primary Metals)

Pricing on steel is trending up even though historically it tends to soften first quarter. This might just be an attempt to recoup the pricing that the mills lost in the last two quarters of the year. It will be interesting to see if trade deals change any of that. (Fabricated Metal Products)

We are already getting multiple price increase notifications, so prices are going up. What is interesting though is the stated reasons. It isn't material pricing, it is tariffs and cost of freight. Freight is become way more of a factor these days. (Machinery)

Expecting purchases of new equipment & machinery plus facilities improvement the next two quarters. Producing higher technology and faster quick turn capabilities for our customers is the goal. Fine tuning our inventories and best practices on our purchases. (Computer & Electronic Products)

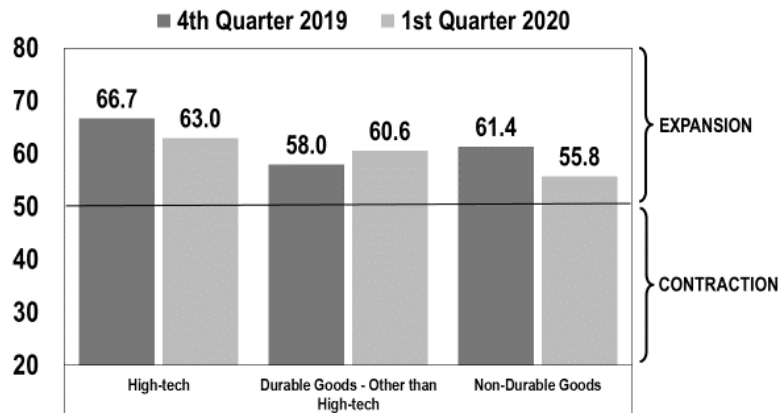
Strong sales quarter is consuming safety stocks. We anticipate sales to be flat next quarter but will purchase and produce more goods in the quarter so that we may return inventory to target safety-stock levels. (Electrical Equipment, Appliance & Components)

We are still struggling due to the trade war and tariffs for China origin products. We will start to see the benefits of our new factory in Turkey coming online, but it will not offset the struggle of the China tariffs. (Transportation Equipment)

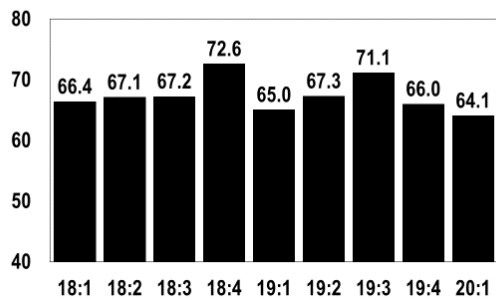
California has continued to lose furniture manufacturers (leaving the state or closing), leaving us with a larger pool of qualified workers than we have seen in recent times. We have a busy year and expect to see it carry over to the first quarter of 2020. (Furniture & Related Products)

737 Max slowdown has not had a direct effect yet. Our customers are heavy on inventory and may slow the pace of new shipments. New programs may accelerate to take their place. (Aerospace Products & Parts)

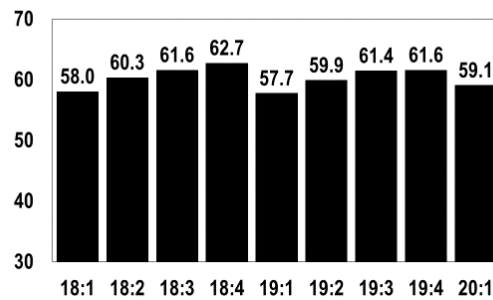
INDICES FOR INDUSTRY GROUPS



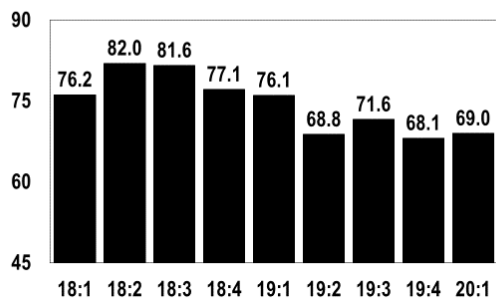
PRODUCTION INDEX



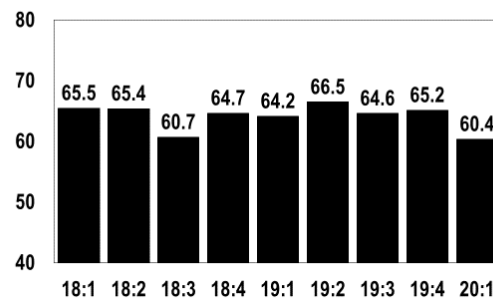
EMPLOYMENT INDEX



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 First Quarter of 2020

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 66.0 in the fourth quarter of 2019 to 64.1 in the first quarter of 2020, indicating that production is expected to increase at a lower rate in the first quarter. This is the forty third consecutive quarter that the production index has been above 50. Production 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; Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. No industry reported an expected decrease in production.

Production	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
1 st Quarter of 2020	43.1	40.0	16.9	26.2	64.1
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

Inventories of Purchased Materials: The seasonally adjusted index for inventories of purchased materials is expected to increase from 56.9 in the fourth quarter of 2019 to 57.1 in the first quarter of 2020, indicating that inventories are expected to increase at a marginally higher rate in the first quarter. Inventories of purchased materials are expected to increase most rapidly in the following industries: Chemicals; Plastics & Rubber Products; Primary Metals; Fabricated Metal Products; Computer & Electronic Products; Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. Inventories of purchased materials are expected to decrease most rapidly in the following industries: Food; Printing & Related Support Activities; Machinery; and Transportation Equipment (other than Aerospace Products & Parts).

Inventories of Purchased Materials	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
1 st Quarter of 2020	34.5	43.2	22.3	12.2	57.1
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

Commodity Prices: The seasonally unadjusted index for commodity prices is expected to increase from 68.1 in the fourth quarter of 2019 to 69.0 in the first quarter of 2020, indicating that commodity prices are expected to rise at a higher rate in the first quarter of this year. Commodity prices 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 (other than Aerospace Products & Parts); Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. No industry reported an expected decrease in commodity prices.

Commodity Prices	% Higher	% Same	% Lower	Net	Index
1 st Quarter of 2020	45.1	47.8	7.1	38.0	69.0
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

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 remain practically the same as in the fourth quarter of 2019, indicating that supplier deliveries are expected to be slower in the first quarter of 2020 at the same rate as in the fourth quarter of 2019. Supplier deliveries are expected to be slowest in the following industries: Printing & Related Support Activities; Machinery; Computer & Electronic Products; Aerospace Products & Parts; and Furniture & Related Products. Supplier deliveries are expected to be fastest in the following industries: Apparel; and Primary Metals.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Seasonally Adjusted Index
1 st Quarter of 2020	17.9	70.0	12.1	5.8	53.4
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

New Orders: The seasonally adjusted index for new orders is expected to decrease from 65.2 in the fourth quarter of 2019 to 60.4 in the first quarter of 2020, indicating that new orders are expected to increase at a lower rate in the first quarter. New orders are expected to increase most rapidly in the following industries: Food; Apparel; Paper; Chemicals; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. The Textile Mill Products industry reported an expected decrease in new orders.

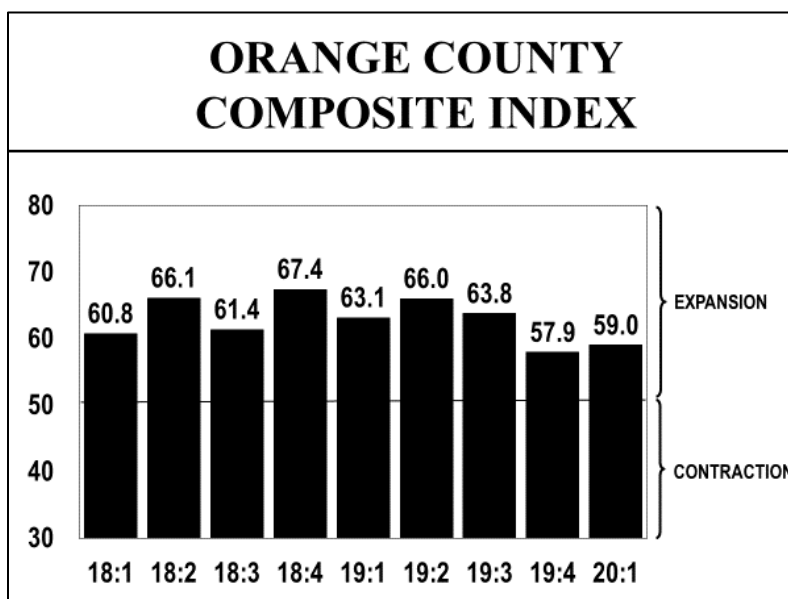
New Orders	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
1 st Quarter of 2020	42.1	35.2	22.7	19.4	60.4
4 th Quarter of 2019	40.7	40.3	18.9	21.8	65.2
3 rd Quarter of 2019	46.5	37.7	15.8	30.6	64.6
2 nd Quarter of 2019	53.2	36.1	10.8	42.4	66.5

Employment: The seasonally adjusted index for employment is expected to decrease from 61.6 in the fourth quarter of 2019 to 59.1 in the first quarter of 2020, indicating that employment in manufacturing is expected to improve in the first quarter. Employment is expected to increase most rapidly in the following industries: Food; Chemicals; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Computer & Electronic Products; and Miscellaneous. Employment is expected to decrease most rapidly in the following industries: Beverage & Tobacco; and Printing & Related Support Activities.

Employment	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
1 st Quarter of 2020	30.4	56.2	13.4	17.0	59.1
4 th Quarter of 2019	32.3	53.3	14.3	18.0	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

Orange County's Manufacturing Survey

The Orange County manufacturing sector's Composite Index increased from 57.9 in the fourth quarter of 2019 to 59.0 in the first quarter of 2020, indicating that the county's manufacturing economy is expected to grow at a higher rate in the first quarter. The Orange County index is below California's index for the second consecutive quarter.



The seasonally adjusted index for production increased from 60.8 in the fourth quarter of 2019 to 65.7 in the first quarter of 2020, indicating that production is expected to grow at a higher rate in the first quarter. This is the forty third consecutive quarter that the production index has been above 50. The seasonally adjusted index for new orders increased from 59.8 in the fourth quarter of 2019 to 60.4 in the first quarter of 2020, indicating that new orders are expected to grow at a higher rate in the first quarter. Likewise, employment is expected to increase in the first quarter of this year.

The index for the **non-durable goods industries** decreased from 57.8 in the fourth quarter of 2019 to 57.4 in the first quarter of 2020, indicating that the first quarter's growth rate will be lower. The index for production increased marginally from 63.6 to 63.8 indicating that production will increase at practically the same rate in the first quarter of 2020 as it did in the fourth quarter of 2019. The index for the **high-tech industries** increased from 57.4 in the fourth quarter of 2019 to 64.8 in the first quarter of 2020, indicating that the first quarter's growth rate will be higher. Production, inventories of purchased materials, commodity prices, new orders and employment are expected to grow at a higher rate. The index for the **durable goods industries other than high-tech** decreased from 58.3 in the fourth quarter of 2019 to 57.2 in the first quarter of 2020, indicating that the durable goods industries other than high-tech are expected to grow at a lower rate in the first quarter. Production, inventories of purchased materials, and commodity prices are expected to grow at a lower rate. New orders, and employment are expected to grow at a higher 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