



## A. Gary Anderson Center for Economic Research

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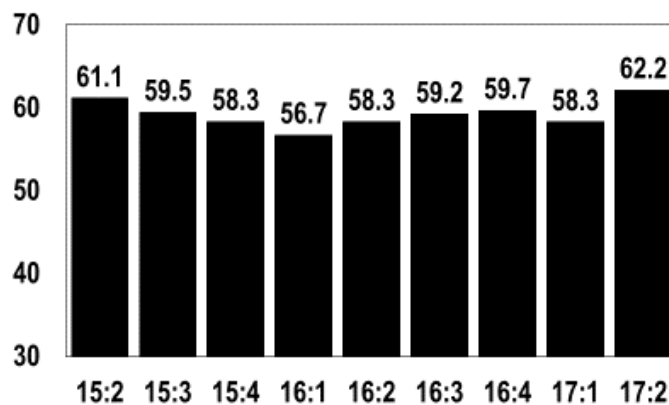
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## MANUFACTURING BOUNCES BACK UP

ORANGE, CA — According to a survey of purchasing managers, the California manufacturing economy is expected to grow at a higher pace in the second quarter of 2017 compared to the first quarter. The California Composite Index, measuring overall manufacturing activity, increased from 58.3 in the first quarter of 2017 to 62.2 in the second quarter, indicating faster expansion. Production, inventories of purchased materials, new orders and employment are expected to grow at a higher growth rate. Commodity prices are expected to rise at the fastest rate since the second quarter of 2012.

### CALIFORNIA COMPOSITE INDEX



### California Manufacturing at a Glance

Composite Index	62.2	Growing at a higher rate
Production	65.7	Growing at a higher rate
Inventories of purchased materials	61.9	Growing at a higher rate
Commodity prices	72.2	Rising at a higher rate
Supplier deliveries	53.0	Slower
New orders	63.5	Growing at a higher rate
Employment	61.2	Growing at a higher rate

### Performance by Industry Group

The index for the **non-durable goods industries** rose from 56.3 in the first quarter to 60.2 in the second quarter, indicating a higher rate of growth in the second quarter of this year. Production, inventories of purchased materials and new orders increased at a higher rate in the second quarter. The employment index increased sharply in the second quarter which is a good omen for those who are seeking employment.

The index for the **durable goods industries** rose from 59.5 in the first quarter to 63.3 in the second quarter, indicating a higher rate of growth in the second quarter. Production, inventories of purchased materials and new orders increased at a higher rate in the second quarter. The employment index increased by even more than that of the non-durable goods industries leading to higher expected employment.

### Comments by the Purchasing Managers

The first quarter was slower than anticipated, and will hopefully lead into a more robust 2Q for sales and production. (Food)

Packaged ice industry, highly seasonal. Heading into summer, everything ramps up. (Beverage & Tobacco)

We are seeing raw material price increases in China. Historically not unusual to have price increases following Lunar New Year. But it has been many months since we have dealt with any price increases. Worth noting. (Textile Mill products)

We are hoping for a solid 2017. (Apparel)

We are seeing a dramatic increase in architects and designers inquiring and requesting pricing on our products. This is the first time in many years! In our industry this is a big indicator of what to anticipate in the foreseeable future. They are the "canaries in the mine" that help me anticipate the upcoming 2-3 years. From what I am beginning to see, I am very optimistic about the next 3-5 years ahead! (Wood Product)

Low unemployment making it tougher to hire entry level manufacturing employees. Our company's demand is strong. However industry is flat. (Paper)

Demand has finally increased after a poor 3-month period. Seeing a slight increase in pricing for board and corrugated going forward, but other material costs seem to be holding steady. (Printing & Related Support Activities)

Problems controlling prices as corrugate has announced increases but have yet to implement. Solvent prices have increased the last 3 months. Surfactants should follow soon as it impacts us. Resin continues to be steady. Last month's increase hopefully will reverse. (Chemicals)

Economy seems to be more stable now. Customers and companies are initiating new bids and new orders. Expect to see continued growth throughout. Plastics are a great option in new areas. (Plastics & Rubber Products)

Commitment to infrastructure investment by the new administration coupled with the damage imposed by the severe winter weather bodes well for the construction materials supply industry. Housing (single and multi-family) starts continue to expand, along with ancillary structures for neighborhood support. Bay Area continues strong showing in non-residential/institutional projects. (Nonmetallic Mineral Products)

Domestic raw material prices have increased significantly over world market, and as such a surge of offshore competitors' material will now arrive and displace domestic production orders. (Primary Metals)

Expected growth is organic; gaining market share, not the result of overall market conditions. (Fabricated Metal Products)

We have been holding on, looking for a bigger turn around in the industry. Recent news of the reduction in federal workforce and at the same time the increased interest in infrastructure we are optimistic about the future. We have had to make some deep cuts in staff and inventory over the last two quarters and demand more out of current staff. If the recovery comes we might be a little understaffed and may need to add, but for now we don't see it coming in this quarter possibly the quarter or two quarters after? (Machinery)

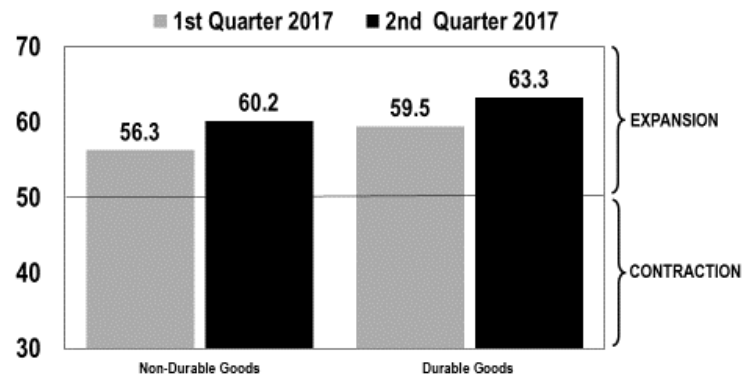
Expect business to pick up in the next three quarters due to increase in military spending. (Computers & Electronic Products)

High NPI procurement for future programs driving increased inventory. (Electronic Equipment, Appliance, & Components)

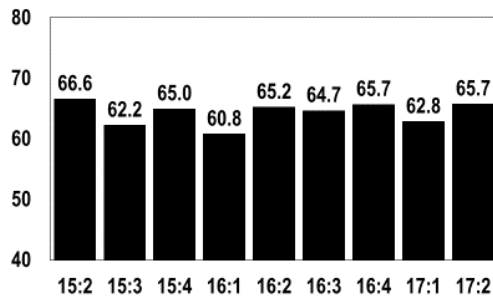
We are now entering the 2nd quarter which shows an increase due to spring sales with winter being close to an end. (Transportation Equipment)

Although we face uncertain times due to our current administration, the Aerospace Industry, currently, continues to do well. Industry predictions show surges in drone and space fields. We still face some of the challenges that come with a low unemployment rate which is finding human capital. (Aerospace Products and Parts)

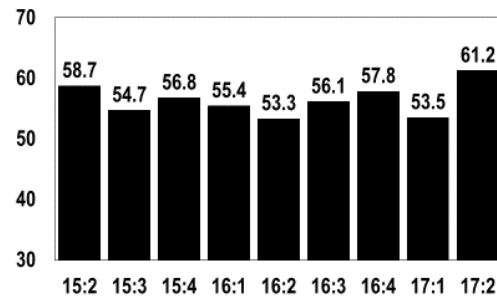
## INDICES FOR INDUSTRY GROUPS



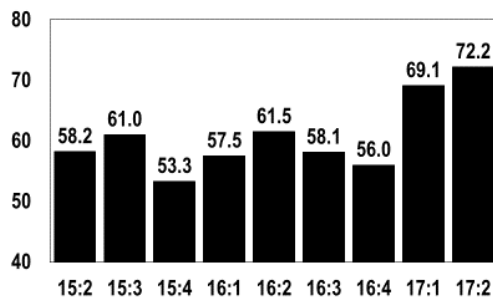
## PRODUCTION INDEX



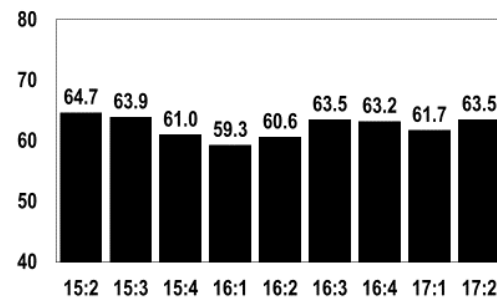
## EMPLOYMENT INDEX



## 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 Second 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 62.8 in the first quarter to 65.7 in the second quarter, indicating that production is expected to increase at a higher rate in the second quarter. This is the thirty second consecutive quarter that the production index has been above 50. Production is expected to increase most rapidly in the following industries: Apparel; Paper; Printing & Related Support Activities; Petroleum & Coal Products; 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 production.

<b>Production</b>	<b>% Higher</b>	<b>% Same</b>	<b>% Lower</b>	<b>Net</b>	<b>Seasonally Adjusted Index</b>
2 <sup>nd</sup> Quarter of 2017	50.6	39.5	9.9	40.7	65.7
1 <sup>st</sup> Quarter of 2017	41.3	41.6	17.1	24.2	62.8
4 <sup>th</sup> Quarter of 2016	39.3	43.2	17.5	21.8	65.7
3 <sup>rd</sup> Quarter of 2016	47.2	37.5	15.3	32.0	64.7

**Inventories of Purchased Materials:** The seasonally adjusted index for inventories of purchased materials is expected to increase from 54.0 in the first quarter to 61.9 in the second quarter, indicating that inventories are expected to increase at a much higher rate in the second quarter. This is the highest level for the index since the fourth quarter of 2004. Inventories of purchased materials are 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; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Furniture & Related Products; and Miscellaneous. No industry reported an expected decrease in inventories of purchased materials.

<b>Inventories of Purchased Materials</b>	<b>% Higher</b>	<b>% Same</b>	<b>% Lower</b>	<b>Net</b>	<b>Seasonally Adjusted Index</b>
2 <sup>nd</sup> Quarter of 2017	41.2	46.9	11.9	29.3	61.9
1 <sup>st</sup> Quarter of 2017	29.9	46.7	23.4	6.5	54.0
4 <sup>th</sup> Quarter of 2016	27.4	51.7	20.9	6.4	57.1
3 <sup>rd</sup> Quarter of 2016	33.7	45.5	20.7	13.0	54.2

**Commodity Prices:** The seasonally unadjusted index for commodity prices is expected to increase from 69.1 in the first quarter to 72.2 in the second quarter, indicating that commodity prices are expected to rise at a higher rate in the second quarter. This is the highest level for the index since the second quarter of 2012. 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. The Apparel industry reported an expected drop in commodity prices.

Commodity Prices	% Higher	% Same	% Lower	Net	Index
2 <sup>nd</sup> Quarter of 2017	48.4	47.7	3.9	44.5	72.2
1 <sup>st</sup> Quarter of 2017	43.9	50.5	5.7	38.2	69.1
4 <sup>th</sup> Quarter of 2016	21.0	69.9	9.0	12.0	56.0
3 <sup>rd</sup> Quarter of 2016	24.8	66.4	8.7	16.1	58.1

**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 decrease from 53.5 in the first quarter to 53.0 in the second quarter, indicating that supplier deliveries are expected to be slower in the second quarter. Supplier deliveries are expected to be slowest in the following industries: Food; Apparel; Chemicals; Wood Products; Primary Metals; Fabricated Metal Products; and Computer & Electronic Products. Supplier deliveries are expected to be faster in the following industries: Nonmetallic Mineral Products; and Transportation Equipment.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Seasonally Adjusted Index
2 <sup>nd</sup> Quarter of 2017	15.3	75.4	9.3	5.9	53.0
1 <sup>st</sup> Quarter of 2017	16.6	73.0	10.4	6.2	53.5
4 <sup>th</sup> Quarter of 2016	15.2	69.6	15.1	0.1	49.3
3 <sup>rd</sup> Quarter of 2016	9.7	75.4	14.9	-5.2	47.7

**New Orders:** The seasonally adjusted index for new orders is expected to increase from 61.7 in the first quarter to 63.5 in the second quarter, indicating that new orders are expected to increase at a higher rate in the second quarter. New orders are expected to increase most rapidly in the following industries: Food; Apparel; Paper; Printing & Related Support Activities; Petroleum & Coal Products; 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 new orders.

New Orders	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
2 <sup>nd</sup> Quarter of 2017	49.4	37.0	13.6	35.8	63.5
1 <sup>st</sup> Quarter of 2017	43.7	34.9	21.5	22.2	61.7
4 <sup>th</sup> Quarter of 2016	40.9	35.7	23.3	17.6	63.2
3 <sup>rd</sup> Quarter of 2016	46.5	36.1	17.5	29.0	63.7

**Employment:** The seasonally adjusted index for employment is expected to increase from 53.5 in the first quarter to 61.2 in the second quarter, indicating that employment in manufacturing is expected to improve substantially in the second quarter. Employment is expected to increase most rapidly in the following industries: Food; Paper; Chemicals; Plastics & Rubber Products; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Transportation Equipment; and Miscellaneous. The Textile Mill Products industry reported an expected decrease in employment.

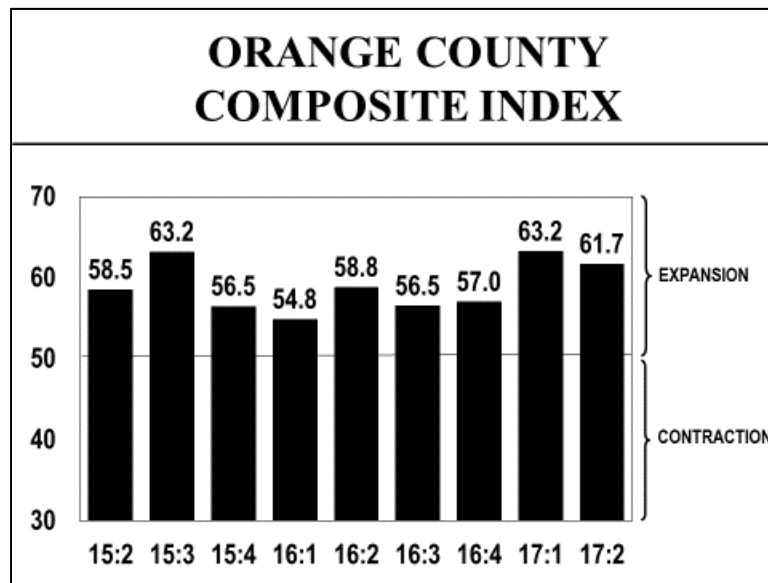
<b>Employment</b>	<b>% Higher</b>	<b>% Same</b>	<b>% Lower</b>	<b>Net</b>	<b>Seasonally Adjusted Index</b>
2 <sup>nd</sup> Quarter of 2017	33.3	59.2	7.5	25.7	61.2
1 <sup>st</sup> Quarter of 2017	22.0	62.8	15.2	6.8	53.5
4 <sup>th</sup> Quarter of 2016	23.8	62.7	13.5	10.3	57.8
3 <sup>rd</sup> Quarter of 2016	28.1	58.6	13.2	14.9	56.1

**High-Tech Industries:** The high-tech industries include the following: Computer & Electronic Products, and Aerospace Products & Parts. The high-tech industries currently employ about 345,800 employees, amounting to 26.8% of total manufacturing employment in the state. The percent of purchasing managers in the Computer & Electronic Products industry reporting higher expected production increased from 41.6% in the first quarter to 42.3% in the second quarter. Additionally the percent of purchasing managers reporting higher expected employment in these industries leaped from 16.2% in the first quarter to 52.2% in the second quarter.



## Orange County's Manufacturing Survey

The Orange County manufacturing sector's Composite Index decreased from 63.2 in the first quarter to 61.7 in the second quarter, indicating that the county's manufacturing economy is expected to grow at a lower rate in the second quarter of this year. The Orange County index is now slightly below California's index.



The seasonally adjusted index for production decreased from 68.4 in the first quarter to 66.2 in the second quarter, indicating that production is expected to grow at a lower rate in the second quarter of this year. This is the thirty second consecutive quarter that the production index has been above 50. The seasonally adjusted index for new orders decreased markedly from 67.6 in the first quarter to 61.8 in the second quarter, indicating that new orders are expected to grow at a much lower rate in the second quarter.

The index for the **non-durable goods industries** increased from 52.1 in the first quarter to 61.5 in the second quarter, indicating that the growth rate in these industries is expected to be markedly higher in the second quarter. Production, inventories of purchased materials, new orders, commodity prices, and employment are all expected to increase in the second quarter. The index for the **durable goods industries** on the other hand decreased from 63.2 in the first quarter to 61.7 in the second quarter, indicating that the durable goods industries are expected to grow at a lower rate in the second quarter.

## **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**

<b>JANUARY</b>	▸ Economic Forecast Conferences for the Inland Empire ▸ California Purchasing Managers Survey
<b>FEBRUARY</b>	▸ California Leading Employment Indicator
<b>MARCH</b>	▸ California Consumer Sentiment Survey
<b>APRIL</b>	▸ California Purchasing Managers Survey
<b>MAY</b>	▸ California Leading Employment Indicator
<b>JUNE</b>	▸ California Consumer Sentiment Survey ▸ Economic Forecast Update Conference for the U.S., California and Orange County
<b>JULY</b>	▸ California Purchasing Managers Survey
<b>AUGUST</b>	▸ California Leading Employment Indicator
<b>SEPTEMBER</b>	▸ California Consumer Sentiment Survey
<b>OCTOBER</b>	▸ California Purchasing Managers Survey
<b>NOVEMBER</b>	▸ California Leading Employment Indicator
<b>DECEMBER</b>	▸ Economic Forecast Conference for the U.S., California and Orange County ▸ California Consumer Sentiment Survey