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### Manufacturing Growth Slowing Down Further

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**A. Gary Anderson Center for Economic Research**

**For Release:**

January 7, 2016

**Contact:**

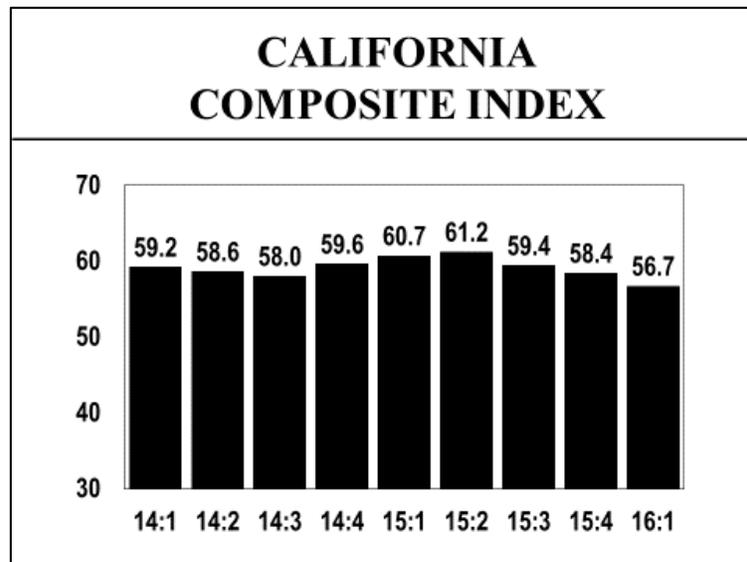
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**MANUFACTURING GROWTH SLOWING DOWN FURTHER**

ORANGE, CA — According to a survey of purchasing managers, the California manufacturing economy is expected to grow at a slower pace in the first quarter of 2016 compared to the fourth quarter of 2015. The California Composite Index, measuring overall manufacturing activity, decreased from 58.4 in the fourth quarter of 2015 to 56.7 in the first quarter of 2016, indicating expansion but at a slower pace. This marks the third consecutive quarterly slowdown in the growth rate of the manufacturing sector. Production, new orders and employment are all expected to grow at a lower growth rate compared to the fourth quarter of 2015, while commodity prices are expected to increase at a higher rate. Weaker growth in our major trading partners’ economies, along with continued high value of the dollar are dampening the exports of manufactured goods produced in California.



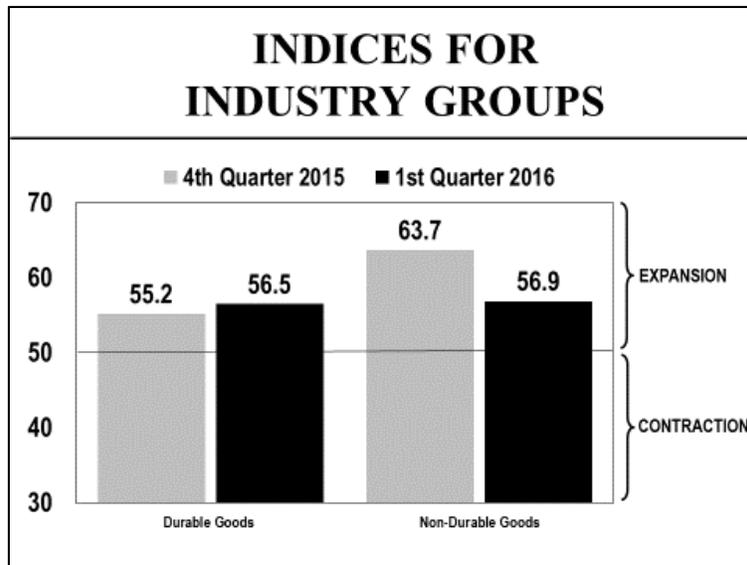
### California Manufacturing at a Glance

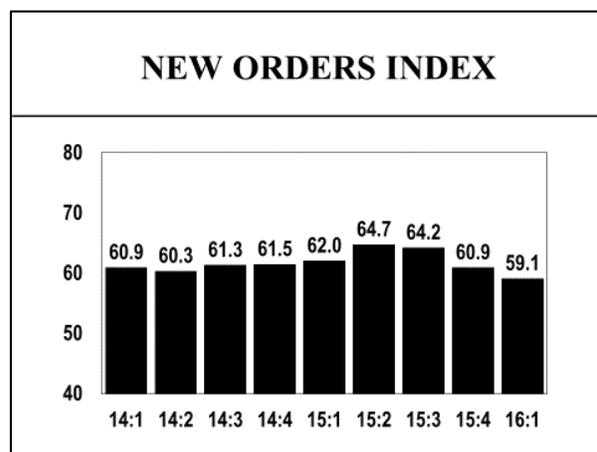
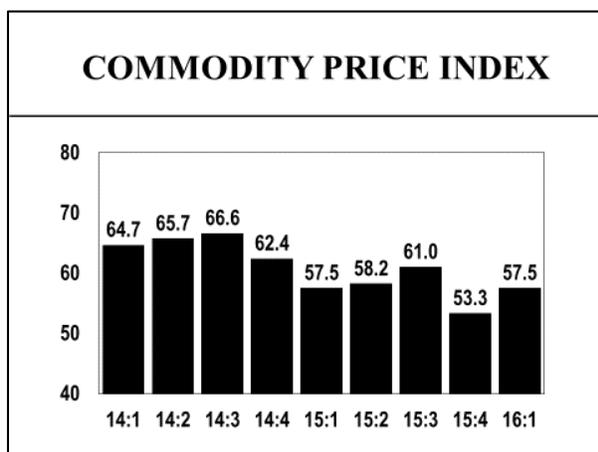
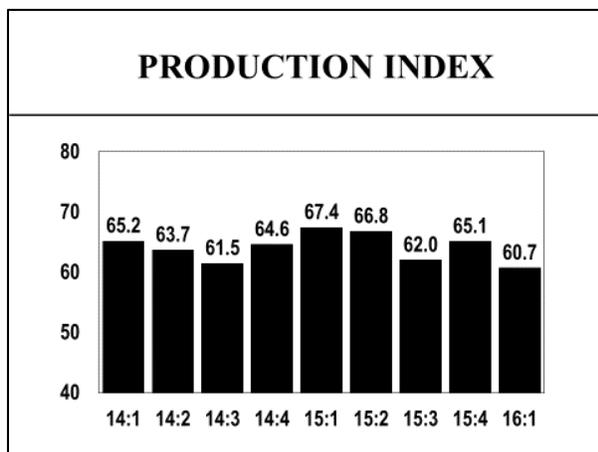
Composite Index	56.7	Growing at a lower rate
Production	60.7	Growing at a lower rate
Inventories of purchased materials	50.4	Growing at a lower rate
Commodity prices	57.5	Growing at a higher rate
Supplier deliveries	51.2	Slower
New orders	59.1	Growing at a lower rate
Employment	55.5	Growing at a lower rate

### Performance by Industry Group

The index for the **non-durable goods industries** registered 56.9 in the first quarter of 2016 compared to 63.7 in the fourth quarter of 2015, indicating a lower growth rate. Production, inventories of purchased materials, new orders and employment are expected to grow at a lower rate compared to the fourth quarter of 2015, while commodity prices are expected to be higher.

The index for the **durable goods industries** registered 56.5 in the first quarter of 2016 compared to 55.2 in the fourth quarter of 2015, indicating a higher growth rate. Production is expected to grow at a lower rate, but new orders and employment are expected to grow at a higher rate compared to the fourth quarter of 2015. Inventories of purchased materials are expected to shrink in the first quarter.





### 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 First Quarter of 2016

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 65.1 in the fourth quarter of 2015 to 60.7 in the first quarter of 2016, indicating that production is expected to increase but at a much lower rate in the first quarter of this year. This is the twenty seventh consecutive quarter that the production index has been above 50. Production is expected to increase most rapidly in the following industries: Textile Mill Products; Apparel; Printing & Related Support Activities; Chemicals; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Transportation Equipment; Furniture & Related Products; and Miscellaneous. The Paper industry reported an expected decrease in production.

Production	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
1 <sup>st</sup> Quarter of 2016	39.5	41.2	19.4	20.1	60.7
4 <sup>th</sup> Quarter of 2015	40.8	38.8	20.4	20.4	65.1
3 <sup>rd</sup> Quarter of 2015	43.2	40.7	16.2	27.0	62.0
2 <sup>nd</sup> Quarter of 2015	52.6	37.3	10.1	42.5	66.8

**Inventories of Purchased Materials:** The seasonally adjusted index for inventories of purchased materials is expected to decrease from 55.0 in the fourth quarter of 2015 to 50.4 in the first quarter of 2016, indicating that inventories are expected to barely increase in the first quarter of this year. Inventories of purchased materials are expected to increase most rapidly in the following industries: Textile Mill Products; Apparel; Printing & Related Support Activities; Chemicals; Primary Metals; and Fabricated Metal Products. Inventories of purchased materials are expected to decrease most rapidly in the following industries: Food; Paper; Wood Products; Transportation Equipment; Furniture & Related Products; and Miscellaneous.

Inventories of Purchased Materials	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
1 <sup>st</sup> Quarter of 2016	28.5	42.8	28.8	-0.3	50.4
4 <sup>th</sup> Quarter of 2015	30.4	41.7	27.8	2.6	55.0
3 <sup>rd</sup> Quarter of 2015	34.7	49.3	16.0	18.7	57.1
2 <sup>nd</sup> Quarter of 2015	36.9	45.1	18.0	18.9	57.0

**Commodity Prices:** The seasonally unadjusted index for commodity prices is expected to increase from 53.3 in the fourth quarter of 2015 to 57.5 in the first quarter of 2016, 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: Apparel; Printing & Related Support Activities; Wood Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Computer & Electronic Products; Transportation Equipment; and Miscellaneous. Commodity prices are expected to decrease most rapidly in the following industries: Food; and Plastics & Rubber Products.

Commodity Prices	% Higher	% Same	% Lower	Net	Index
1 <sup>st</sup> Quarter of 2016	27.2	60.6	12.2	15.0	57.5
4 <sup>th</sup> Quarter of 2015	20.8	65.1	14.1	6.6	53.3
3 <sup>rd</sup> Quarter of 2015	29.6	62.8	7.6	22.0	61.0
2 <sup>nd</sup> Quarter of 2015	27.8	60.7	11.5	16.4	58.2

**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 48.9 in the fourth quarter of 2015 to 51.2 in the first quarter of 2016, indicating that supplier deliveries are expected to be slower in the first quarter of this year. Supplier deliveries are expected to be slowest in the following industries: Food; Wood Products; and Transportation Equipment. The Computer & Electronic Products industry reported an expectation of faster supplier deliveries.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Seasonally Adjusted Index
1 <sup>st</sup> Quarter of 2016	14.5	72.4	13.0	1.5	51.2
4 <sup>th</sup> Quarter of 2015	10.5	78.1	11.4	-0.9	48.9
3 <sup>rd</sup> Quarter of 2015	15.8	72.3	11.9	4.0	52.3
2 <sup>nd</sup> Quarter of 2015	14.8	69.1	16.1	-1.3	49.3

**New Orders:** The seasonally adjusted index for new orders is expected to decrease from 60.9 in the fourth quarter of 2015 to 59.1 in the first quarter of 2016, indicating that new orders are expected to increase at a lower rate in the first quarter of this year. New orders are expected to increase most rapidly in the following industries: Textile Mill Products; Apparel; Leather & Allied Products; 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. New orders are expected to decrease most rapidly in the following industries: Food; Paper; and Electrical Equipment, Appliance & Components.

<b>New Orders</b>	<b>% Higher</b>	<b>% Same</b>	<b>% Lower</b>	<b>Net</b>	<b>Seasonally Adjusted Index</b>
1 <sup>st</sup> Quarter of 2016	37.6	42.1	20.3	17.4	59.1
4 <sup>th</sup> Quarter of 2015	39.1	35.3	25.6	13.4	60.9
3 <sup>rd</sup> Quarter of 2015	47.2	35.4	17.4	29.9	64.2
2 <sup>nd</sup> Quarter of 2015	49.3	39.7	11.0	38.3	64.7

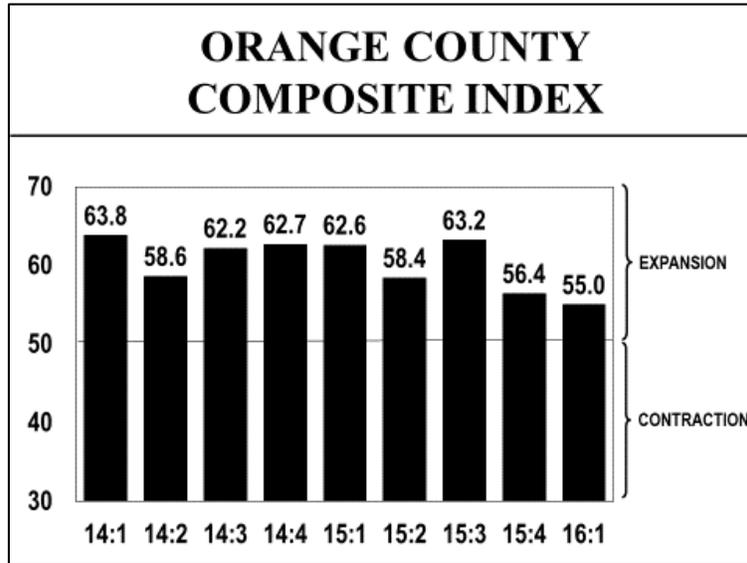
**Employment:** The seasonally adjusted index for employment is expected to decrease from 57.0 in the fourth quarter of 2015 to 55.5 in the first quarter of 2016, indicating that employment in manufacturing is expected to increase at a lower rate in the first quarter of this year. Employment is expected to increase most rapidly in the following industries: Textile Mill Products; Chemicals; Plastics & Rubber Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Computer & Electronic Products; Transportation Equipment; Furniture & Related Products; and Miscellaneous. The Food 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>
1 <sup>st</sup> Quarter of 2016	25.0	60.6	14.4	10.6	55.5
4 <sup>th</sup> Quarter of 2015	23.8	60.7	15.5	8.2	57.0
3 <sup>rd</sup> Quarter of 2015	26.8	58.4	14.8	12.0	54.5
2 <sup>nd</sup> Quarter of 2015	30.2	60.2	9.6	20.6	58.6

**High-Tech Industries:** The high-tech industries include the following: Computer & Electronic Products, and Aerospace Products & Parts. The high-tech industries currently employ about 332,900 employees, amounting to 26.3% of total manufacturing employment in the state. The percent of purchasing managers in the Computer & Electronic Products industry reporting higher expected production decreased from 43.9% in the fourth quarter of 2015 to 31.1% in the first quarter of 2016. Additionally the percent of purchasing managers reporting higher expected employment in these industries increased from 15.6% in the fourth quarter of 2015 to 26.0% in the first quarter of 2016. The employment data are a good omen for the industry.

## Orange County's Manufacturing Survey

The Orange County manufacturing sector's Composite Index decreased from 56.4 in the fourth quarter of 2015 to 55.0 in the first quarter of 2016, indicating that the county's manufacturing economy is expected to grow at a lower rate in the first quarter of this year. The Orange County's index is now below California's index for the second consecutive quarter.



The seasonally adjusted index for production decreased from 61.4 in the fourth quarter of 2015 to 59.5 in the first quarter of 2016, indicating that production is expected to grow at a lower rate in the first quarter of this year. This is the twenty seventh consecutive quarter that the production index has been above 50. The seasonally adjusted index for new orders decreased from 59.5 in the fourth quarter of 2015 to 56.9 in the first quarter of 2016, indicating that new orders are expected to grow at a lower rate in the first quarter of this year. The employment index also decreased from 54.0 in the fourth quarter of 2015 to 52.6 in the first quarter of 2016, indicating lower employment growth in the first quarter of this year. The index for inventories of purchased materials also decreased in the first quarter of 2016 to a level that indicates a decrease in the level of inventories held by firms.

The index for the **non-durable goods industries** decreased from 64.0 in the fourth quarter of 2015 to 54.6 in the first quarter of 2016, indicating that the growth rate in these industries is expected to be lower in the first quarter of this year. The index for the **durable goods industries** increased from 53.6 in the fourth quarter of 2015 to 55.2 in the first quarter of 2016, indicating that the durable goods industries are expected to grow at a higher rate in the first quarter of this year. Growth in new orders in the non-durable goods industries is expected to plunge deeply in the first quarter, while that in the durable goods industries is expected to be higher.

## 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
- FEBRUARY**    † California Leading Employment Indicator
- MARCH**       † California Consumer Sentiment Survey
- APRIL**       † California Purchasing Managers Survey
- MAY**       † California Leading Employment Indicator
- JUNE**       † California Consumer Sentiment Survey  
                 † Economic Forecast Update Conference for the U.S., California and  
                 Orange County
- JULY**       † California Purchasing Managers Survey
- AUGUST**      † California Leading Employment Indicator
- SEPTEMBER**   † California Consumer Sentiment Survey
- OCTOBER**    † California Purchasing Managers Survey
- NOVEMBER**   † California Leading Employment Indicator
- DECEMBER**   † Economic Forecast Conference for the U.S., California and  
                 Orange County  
                 † California Consumer Sentiment Survey