PURCHASING MANAGERS PREDICT SLOWER GROWTH

ORANGE, CA — Based on a survey of purchasing managers, the California Composite Index, measuring overall manufacturing activity in the state, decreased from 64.6 in the second quarter to 58.9 in the third quarter, indicating that the manufacturing sector is expected to grow at a slower rate in the third quarter of this year. “The purchasing managers reported railroad delays, higher freight costs, higher raw materials prices, continued supply chain disruptions, and workforce shortages. Some firms are getting more cautious due to the possibility of a recession at the end of this year,” said Dr. Raymond Sfeir, director of the purchasing managers’ survey. Production, inventories of purchased materials, new orders and employment are all expected to grow at a lower rate. The index for commodity prices has come down from its record level, decreasing from 96.3 in the second quarter to 85.6 in the third quarter. Even supplier deliveries are expected to slow at a slower rate in the third quarter.
California Manufacturing at a Glance

<table>
<thead>
<tr>
<th>Category</th>
<th>Index</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite Index</td>
<td>58.9</td>
<td>Increasing at a lower rate</td>
</tr>
<tr>
<td>Production</td>
<td>60.0</td>
<td>Increasing at a lower rate</td>
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<tr>
<td>Inventories of purchased materials</td>
<td>53.4</td>
<td>Increasing at a lower rate</td>
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<tr>
<td>Commodity prices</td>
<td>85.6</td>
<td>Rising at a lower rate</td>
</tr>
<tr>
<td>Supplier deliveries</td>
<td>69.4</td>
<td>Slowing at a slower rate</td>
</tr>
<tr>
<td>New orders</td>
<td>56.5</td>
<td>Increasing at a lower rate</td>
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<td>Employment</td>
<td>54.9</td>
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</table>

Performance by Industry Group

The index for the **non-durable goods industries** decreased from 63.0 in the second quarter to 54.4 in the third quarter, indicating that these industries are expanding at a lower rate. Production, inventories of purchased materials, commodity prices and employment are expected to grow at a lower rate. New orders are expected to decline slightly for the first time since the second quarter of 2020.

The **high-tech industries** include the following: Computer & Electronic Products, and Aerospace Products & Parts. The high-tech industries currently employ about 362,900 employees, amounting to 27.8% of total manufacturing employment in the state. The index for the high-tech industries decreased from 64.9 in the second quarter to 64.0 in the third quarter, indicating a slightly lower growth rate in the third quarter. Production, inventories of purchased materials, commodity prices and new orders are expected to grow at a lower rate. Employment is expected to grow at a slightly higher rate. Supplier deliveries are expected to be slowing at a lower rate as the index decreases from its record level of 82.5 in the second quarter to 76.7 in the third quarter.

The index for the **durable goods industries other than high-tech** decreased from 66.4 in the second quarter to 58.9 in the third quarter, indicating a lower growth rate in these industries. Production, inventories of purchased materials, commodity prices, new orders and employment are expected to increase at a lower rate in the third quarter.

Comments by the Purchasing Managers

High prices gasoline along with inflation is cutting into consumers weekly expenditures/budgets. Our thoughts that this will unfortunately stretch into 2023 and we will need to adjust accordingly. We plan on producing more value items in our product mix. (Food)

All customers except Costco have asked us to cancel pending orders and STOP shipping. Target and At Home canceled DI orders that were ready to load into containers with confirmed bookings. We are told that customers have no space in their DC’s and have no choice but to delay / cancel pending shipments. As a result, we have been forced to lay off nearly 50% of our factory employees. There is no need to send any fresh orders to vendors... The hope is this will be a short-term problem. (Textile Mill Products)
Higher raw material prices are a concern as we plan and begin development for next season's deliveries. Retail partners are pushing back on increasing wholesale pricing. In addition, overseas production has lacked transparency, therefore securing capacity is a challenge plus transit cost remains at an all-time high. (Apparel)

We as manufacturers and distributors of packaging are continuing to see increased costs on raw materials and supply chain issues. We've received notices of increases for the next few months and some as high as 25%. (Paper)

We're experiencing a reduction in sales from markets affected by interest rates [mortgage and realty], but have made up for some of it with political work, which should continue through November. We've seen a little easing in supplier inventories, though paper is still difficult to purchase. We've resorted to buying what we can, when we can and holding it for down the road. Prices on everything continue to rise and we're finally starting to pass some of those costs on as it's no longer feasible to absorb them ourselves. All- in-all what should have been a pretty good year is turning into yet another struggle with no end in sight. (Printing & Related Support Activities)

Our business is primarily oil and gas extraction. The current un-spoken mandates from the Governor's Office and CALGEM will severely reduce work in the upcoming quarter. It remains to be seen what effect these policies will have beyond this period. There is a chance it could be calamitous. (Petroleum and Coal Products)

Prices are going off the charts. We get raw materials from China and France by vessel, not air, and the ports are still full. Containers are unloaded from ships, but then stuck on the ground at the ports. (Chemicals)

Looks like a slowdown due to inflation is beginning to show. (Plastics & Rubber Products)

We are encountering similar conditions to those we went through in the late 70's and early 80's. My hope is this will not be as severe, I remain optimistic however very cautious as well. (Wood Products)

Our bottlenecks are often in the area of approvals to get work done which is at least partly due to lack of qualified persons (engineers) to review and approve drawings and submittals. We joke that with Covid easing, all those office engineers went on vacation and paperwork approvals slowed to a crawl inhibiting our production. Qualified persons are hard to find these days. (Nonmetallic Mineral Products)

We are still struggling with labor issues, supply chains disruptions, and raw material availability. (Primary Metals)

Edison summer rates affects our production as we are open 24/7. Hence the slower delivery times. (Fabricated Metal Products)

Very hard to get electronics in right now from Germany and USA doesn't have enough suppliers. (Machinery)
Supply chain issues persist and the upward trend in materials costs are no longer transitory but baked into the system. 25% increase in raw materials pricing across the board. (Computer & Electronic Products)

Deliveries are at the same speed, but that speed is slow. It is really hard to find people to fill openings in employment. (Electrical Equipment, Appliance & Components)

Our inventory is not being relieved due to long lead times from factories. Our customers want complete orders not partials. We have a lot of orders sitting at the 70-95% range and that is not good when we are unable to ship. (Transportation Equipment)

Business has been strong the past few quarters and we are hoping it continues. Supply chain issues (paper & plastics) have been continuing problems, and there seems to be no end in sight to price increases. (Furniture & Related Products)

We are all dealing with huge issues this year... Hyperinflation, skyrocketing gas prices, limited to no labor workforce and no new applicants, back ordered parts for our business and service trucks, high taxes, high regulations and I could go on and on. California is in huge trouble, but we don't see it improving until voters wake up.... (Miscellaneous)

Supply chain issues are still impacting our business. Lead times for raw materials and constant price increases are killing us. (Aerospace Products & Parts)
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 Third Quarter of 2022

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 65.8 in the second quarter to 60.0 in the third quarter, indicating that production is expected to increase at a lower rate in the third quarter. This is the ninth 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; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Aerospace Products & Parts; and Miscellaneous. No industry reported an expected decrease in production.

<table>
<thead>
<tr>
<th>Production</th>
<th>% Higher</th>
<th>% Same</th>
<th>% Lower</th>
<th>Net</th>
<th>Seasonally Adjusted Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd Quarter of 2022</td>
<td>40.3</td>
<td>42.7</td>
<td>17.1</td>
<td>23.2</td>
<td>60.0</td>
</tr>
<tr>
<td>2nd Quarter of 2022</td>
<td>52.6</td>
<td>33.6</td>
<td>13.8</td>
<td>38.8</td>
<td>65.8</td>
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<tr>
<td>1st Quarter of 2022</td>
<td>41.1</td>
<td>40.6</td>
<td>18.3</td>
<td>22.8</td>
<td>62.4</td>
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<tr>
<td>4th Quarter of 2021</td>
<td>46.4</td>
<td>36.2</td>
<td>17.4</td>
<td>29.1</td>
<td>68.7</td>
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**Inventories of Purchased Materials:** The seasonally adjusted index for inventories of purchased materials is expected to decrease from 61.3 in the second quarter to 53.4 in the third quarter, indicating that inventories of purchased materials are expected to increase at a lower rate in the third quarter. Inventories of purchased materials are expected to increase most rapidly in the following industries: Food; Printing & Related Support Activities; Plastics & Rubber Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Transportation Equipment (other than Aerospace Products & Parts); Aerospace Products & Parts; and Miscellaneous. Inventories of purchased materials are expected to decrease most rapidly in the following industries: Chemicals; Wood Products; and Furniture & Related Products.
**Commodity Prices:** The seasonally unadjusted index for commodity prices is expected to decrease from a record 96.3 in the second quarter to 85.6 in the third quarter, indicating that commodity prices are expected to rise at a 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; 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 (other than Aerospace Products & Parts); Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. No industry reported an expected decrease in commodity prices.

**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 76.0 in the second quarter to 69.4 in the third quarter, indicating that supplier deliveries are expected to be slowing at a slower rate in the third quarter. Supplier deliveries are expected to be slowest 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; Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. No industry reported an expectation of faster supplier deliveries.
New Orders: The seasonally adjusted index for new orders is expected to increase from 60.7 in the second quarter to 56.5 in the third quarter, indicating that new orders are expected to increase at a lower rate in the third quarter. New orders are expected to increase most rapidly in the following industries: Food; Printing & Related Support Activities; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Aerospace Products & Parts; and Miscellaneous. New orders are expected to decrease most rapidly in the following industries: Textile Mill Products; Chemicals; and Furniture & Related Products.

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<thead>
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<th>New Orders</th>
<th>% Higher</th>
<th>% Same</th>
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<tr>
<td>3rd Quarter of 2022</td>
<td>34.6</td>
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<td>2nd Quarter of 2022</td>
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<td>1st Quarter of 2022</td>
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Employment: The seasonally adjusted index for employment is expected to decrease from 61.0 in the second quarter to 54.9 in the third quarter, indicating that employment in manufacturing is expected to grow at a slower rate in the third quarter. Employment is expected to increase most rapidly in the following industries: Food; Paper; Printing & Related Support Activities; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Transportation Equipment (other than Aerospace Products & Parts); Aerospace Products & Parts; and Miscellaneous. Employment is expected to decrease most rapidly in the following industries: Textile Mill Products; and Chemicals.

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<td>64.4</td>
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**Orange County’s Manufacturing Survey**

The Orange County manufacturing sector’s Composite Index decreased from 64.5 in the second quarter to 58.8 in the third quarter, indicating that the county’s manufacturing economy is expected to expand at a lower rate in the third quarter of this year.

<table>
<thead>
<tr>
<th>ORANGE COUNTY COMPOSITE INDEX</th>
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<tbody>
<tr>
<td>80</td>
</tr>
<tr>
<td>57.6</td>
</tr>
<tr>
<td>63.9</td>
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The seasonally adjusted index for production decreased from 63.9 in the second quarter to 60.9 in the third quarter, indicating that production is expected to increase at a lower rate in the third quarter. The seasonally adjusted index for employment decreased from 63.4 to 53.6 indicating that employment is expected to increase at a substantially lower rate. Inventories of purchased materials and new orders are expected to increase at a lower rate. The seasonally unadjusted index for commodity prices is expected to decrease from 91.7 to 89.6 indicating that commodity prices are expected to rise at a lower rate. Only 2.1 percent of respondents reported an expected decrease in commodity prices.

The index for the **non-durable goods industries** decreased from 57.0 in the second quarter to 53.5 in the third quarter, indicating that these industries are expected to expand at a lower rate in the third quarter. The index for production increased from 50.4 to 51.4, indicating that production is expected to increase at a higher rate. The index for the **high-tech industries** decreased from 66.5 to 61.0, indicating that these industries are expected to expand at a lower rate. The index for production decreased from 70.5 to 63.1 indicating that production is expected to increase at a lower rate. The index for inventories of purchased materials decreased from 60.5 to 49.3 indicating that inventories of purchased materials are expected to decrease slightly. The index for the **durable goods industries other than high-tech** decreased from 68.5 to 60.3 indicating that the durable goods industries other than high-tech are expected to expand at a lower rate. The indices for production, inventories of purchased materials, new orders, and employment all indicate lower growth rates in the third 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

| JANUARY               | ‣ Economic Forecast Conferences for the Inland Empire  
|                      | ‣ California Purchasing Managers Survey               |
| APRIL                | ‣ California Purchasing Managers Survey               |
| JUNE                 | ‣ Economic Forecast Update Conference for the U.S., California and Orange County |
| JULY                 | ‣ California Purchasing Managers Survey               |
| OCTOBER              | ‣ California Purchasing Managers Survey               |
| DECEMBER             | ‣ Economic Forecast Conference for the U.S., California and Orange County |