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Manufacturing Sector's Growth Rate Inches Upward

Anderson Center for Economic Research

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Comments

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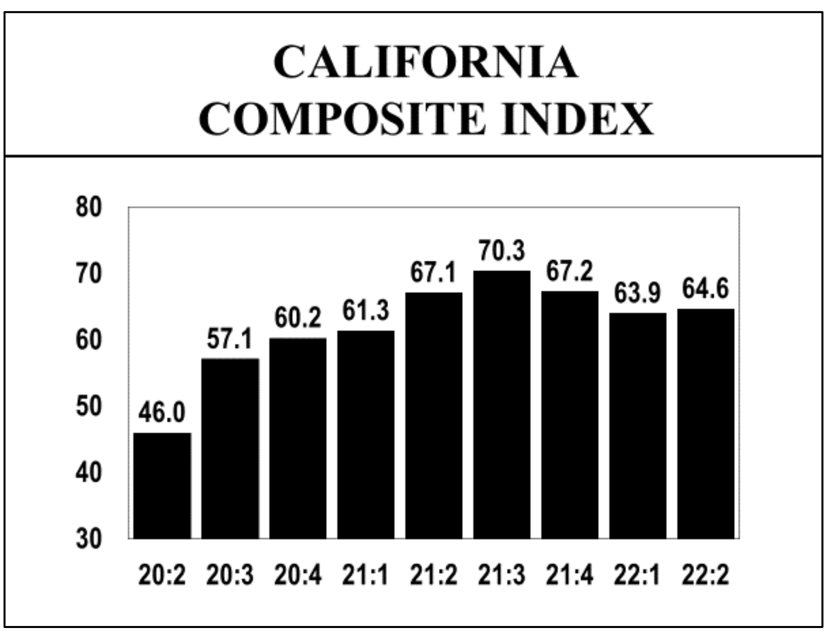
PRESS RELEASE

MANUFACTURING SECTOR'S GROWTH RATE INCHES UPWARD

ORANGE, CA — Based on a survey of purchasing managers, the California Composite Index, measuring overall manufacturing activity in the state, increased from 63.9 in the first quarter to 64.6 in the second quarter, indicating that the manufacturing sector is expected to grow at a higher rate in the second quarter of this year. "The purchasing managers report continued supply chain disruptions in many industries including Textile Mill Products, Printing, Chemicals and Fabricated Metal Products. The Russia-Ukraine war has pushed grain and metal prices even higher. No improvement is expected in the short-term on the labor shortage situation," said Dr. Raymond Sfeir, director of the purchasing managers' survey. Production is expected to grow at a higher rate, while inventories of purchased materials is expected to increase at a lower rate in the second quarter. The index for commodity prices has reached an all-time high at 96.3. Only 0.4 percent of purchasing managers expect a decrease in commodity prices in the second quarter. Passing higher production costs to the consumers is now pervading most industries.



California Manufacturing at a Glance

Composite Index	64.6	Increasing at a higher rate
Production	65.8	Increasing at a higher rate
Inventories of purchased materials	61.3	Increasing at a lower rate
Commodity prices	96.3	Rising at a higher rate
Supplier deliveries	76.0	Slowing at a higher rate
New orders	60.7	Increasing at a lower rate
Employment	61.0	Increasing at a higher rate

Performance by Industry Group

The index for the **non-durable goods industries** increased from 62.3 in the first quarter to 63.0 in the second quarter, indicating that these industries are expanding at a higher rate. Production and employment are expected to grow at a higher rate. Inventories of purchased materials and new orders are expected to grow at a lower rate. Commodity prices are expected to rise at a higher rate with the index reaching a new high at 97.5.

The **high-tech industries** include the following: Computer & Electronic Products, and Aerospace Products & Parts. The high-tech industries currently employ about 359,200 employees, amounting to 27.9% of total manufacturing employment in the state. The index for the high-tech industries barely increased from 64.8 in the first quarter to 64.9 in the second quarter, indicating practically the same growth rate in the second quarter. Production is expected to grow at a higher rate, while inventories of purchased materials are expected to grow at a lower rate. Supplier deliveries are expected to be slowing at a much higher rate with the index reaching a new high at 82.5. Commodity prices are expected to rise at a higher rate with the index reaching a new high at 98.1, a level not reached by any index.

The index for the **durable goods industries other than high-tech** increased from 65.2 in the first quarter to 66.4 in the second quarter, indicating a higher growth rate in these industries. Unlike the other industries, inventories of purchased materials are expected to increase at a higher rate in the second quarter. Commodity prices are expected to rise at a higher rate with the index reaching a new high at 93.7. Production is expected to grow at a lower rate.

Comments by the Purchasing Managers

Supply Chain issues continue to be a major issue. Raw materials in the food industry, for some key ingredients are actually 'sold out' for the next few months. Corrugated supply continues with much longer lead times than normal. LA / Long Beach port continues to be a nightmare, and a major reason we are opening up facilities outside of California. (Food)

We continue to deal with supply chain delays. Hard to keep up with price increases. We have filled all open employee positions. (Textile Mill Products)

Shipments from China continue to be delayed. China productivity has seen several interruptions due to covid shutdowns and container / air cost are at an all-time high. In addition, securing containers and airline capacity has been extremely challenging. Here in the U.S., warehouse labor is still difficult to find. (Apparel)

We are definitely seeing an increase in business - expected with companies opening back up and Covid restrictions diminishing. We're building up our inventory for all products due to rising costs, production delays, rationing of mill supplies and component shortages. We are hiring and expanding our employee base due to the increase in business and company direction. (Printing & Related Support Activities)

Prices for raw materials and services continue to skyrocket. Logistics remain challenging. Supply shortages continue...why did I get into purchasing??!!! (Chemicals)

Supply chain issues continue to plague us with shortages, stock outs, raw material allocations, and higher costs. Supply vs. demand. This impacts our production line efficiencies and causes our delivery of orders to our customers to be late and past due. Fuel surcharges trending upward and out of control. (Plastics & Rubber Products)

Supply from our mills still very tight. (Wood Products)

Limited supply of materials is causing higher prices (price war among companies); freight costs and surcharges due to fuel price increases are sky-rocketing out of control; extended long lead times; all causing unhappy customers and cancellations which equal poor quarter and looks like the same for next quarter. (Nonmetallic Mineral Products)

We continue to be busy. Raw materials are a little better to receive than in 2021 and lead times are still the same as 2021. We are still under-staffed and having a hard time finding quality employees. Metal prices continue to rise along with everything else. We have had no other choice but to pass along the increases to our customers. (Primary Metals)

Excited about the continued recovery, but a bidding war for new employees has emerged. Not much loyalty out there with those who are actively looking for employment. Soaring inflation and increased minimum wage have led to a new era of employees constantly looking elsewhere. Tough to compete with that environment. (Fabricated Metal Products)

Oil/gas prices continue to have significant impact on shipping cost and raw materials. Russian sanctions severely impacting metals markets, driving price volatility and increasing lead times. (Machinery)

Computer boards is an absolute disaster, buying for 2023 and 2024. Buying aluminum and other raw materials for my fabricators. Smaller industries facing existential threat. Not seen anything like it in 25 years. (Computer & Electronic Products)

Lead times and pricing for plastics (spooling for wire products, in particular for us) have been affected by both oil prices, and employment (keeping skilled workers on staff). Lead times have gone from 4 weeks to 25 weeks in some instances. (Electrical Equipment, Appliance & Components)

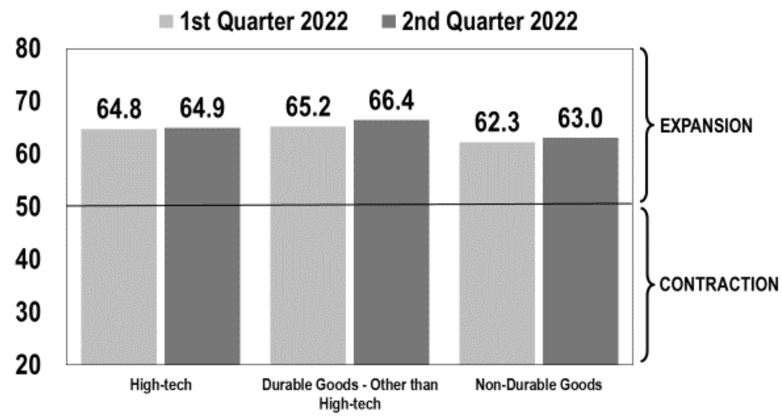
The slow supply chain is affecting our ability to ship orders in the right time buckets. Hopefully this will lighten up but not anytime soon. (Transportation Equipment)

It has been difficult to really ramp up production when we are constantly running into hurdles with raw materials being stuck in the water or delays due to labor shortages. Some of our vendors are now shipping in 8-12 months... on items that were once shipping in 8-12 weeks. (Furniture & Related Products)

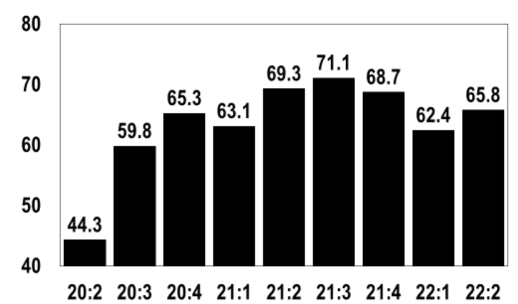
One of the biggest factors that will affect our operations will be increased shipping costs, both inbound and outbound, due to increased petroleum costs.... We also see more bureaucracy in reporting the origins of raw materials because of slave labor issues in China and the issues due to the Russian aggression. While we don't have any vendors that have been affected, the added cost and time dedicated to the research creates more uncertainty and more reporting from our suppliers. (Miscellaneous)

Cautiously optimistic while we all watch how the Federal Reserve approaches the inflation issue and interest rate hikes in coming week and month. (Aerospace Products & Parts)

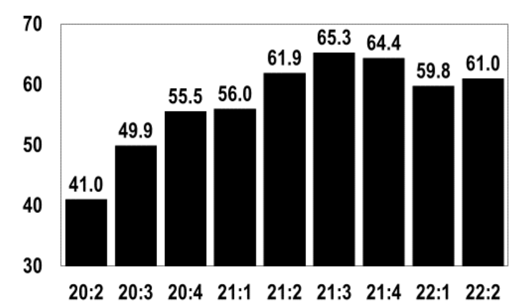
INDICES FOR INDUSTRY GROUPS



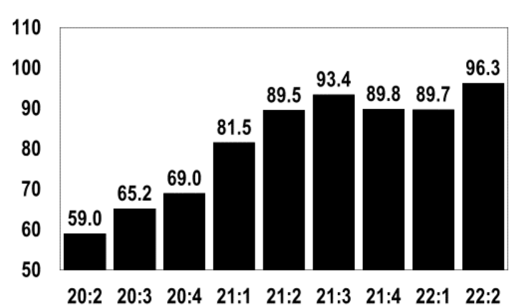
PRODUCTION INDEX



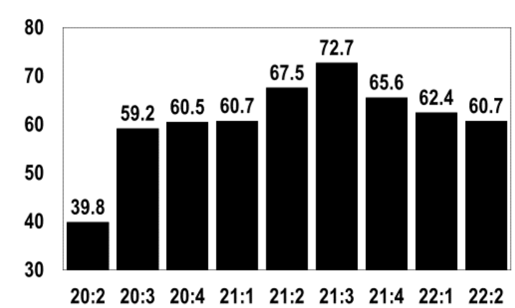
EMPLOYMENT INDEX



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 Second 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 increase from 62.4 in the first quarter to 65.8 in the second quarter, indicating that production is expected to increase at a higher rate in the second 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; Beverage & Tobacco; 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; Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. No industry reported an expected decrease in production.

Production	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
2nd Quarter of 2022	52.6	33.6	13.8	38.8	65.8
1st Quarter of 2022	41.1	40.6	18.3	22.8	62.4
4th Quarter of 2021	46.4	36.2	17.4	29.1	68.7
3rd Quarter of 2021	55.0	35.9	9.0	46.0	71.1

Inventories of Purchased Materials: The seasonally adjusted index for inventories of purchased materials is expected to decrease from 65.1 in the first quarter to 61.3 in the second quarter, indicating that inventories are expected to increase at a lower rate in the second quarter. Inventories of purchased materials are expected to increase most rapidly in the following industries: Food; Apparel; Printing & Related Support Activities; Chemicals; Plastics & Rubber Products; Wood Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliance & Components; Transportation Equipment (other than Aerospace Products & Parts); and Miscellaneous. Inventories of purchased materials are expected to decrease most rapidly in the following industries: Nonmetallic Mineral Products; and Furniture & Related Products.

Inventories of Purchased Materials	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
2nd Quarter of 2022	45.1	37.4	17.5	27.5	61.3
1st Quarter of 2022	45.5	37.2	17.4	28.1	65.1
4th Quarter of 2021	41.1	33.9	24.9	16.2	61.7
3rd Quarter of 2021	44.7	38.1	17.2	27.5	61.5

Commodity Prices: The seasonally unadjusted index for commodity prices is expected to increase from 89.7 in the first quarter to 96.3 (an all-time high) in the second quarter, indicating that commodity prices are expected to rise at a much higher rate in the second quarter of this year. The expected increase in commodity prices was reported by 92.9 percent of respondents, while only 0.4 percent reported an expected decrease in commodity prices. All industries reported an expected increase in commodity prices.

Commodity Prices	% Higher	% Same	% Lower	Net	Index
2nd Quarter of 2022	92.9	6.7	0.4	92.5	96.3
1st Quarter of 2022	84.0	11.4	4.6	79.4	89.7
4th Quarter of 2021	83.7	12.2	4.1	79.7	89.8
3rd Quarter of 2021	89.3	8.2	2.5	86.9	93.4

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 75.0 in the first quarter to 76.0 in the second quarter, indicating that supplier deliveries are expected to be even slower in the second quarter. Supplier deliveries are expected to be slowest in the following industries: Food; Beverage & Tobacco; 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 (other than Aerospace Products & Parts); Aerospace Products & Parts; Furniture & Related Products; and Miscellaneous. The Textile Mill Products industry reported an expectation of faster supplier deliveries.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Seasonally Adjusted Index
2nd Quarter of 2022	58.8	35.4	5.8	52.9	76.0
1st Quarter of 2022	54.0	40.5	5.5	48.6	75.0
4th Quarter of 2021	61.1	35.2	3.7	57.5	78.1
3rd Quarter of 2021	55.6	38.9	5.5	50.1	75.4

New Orders: The seasonally adjusted index for new orders is expected to decrease from 62.4 in the first quarter to 60.7 in the second quarter, indicating that new orders are expected to increase at a lower rate in the second quarter. New orders are expected to increase most rapidly in the following industries: Food; Beverage & Tobacco; 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 (other than Aerospace Products & Parts); and Miscellaneous. New orders are expected to decrease most rapidly in the following industries: Textile Mill Products; Aerospace Products & Parts; and Furniture & Related Products.

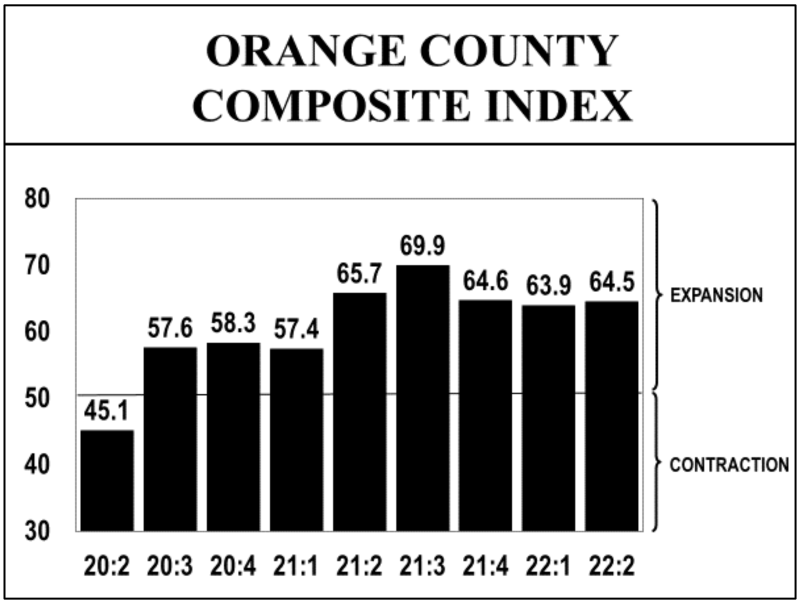
New Orders	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
2nd Quarter of 2022	40.9	46.3	12.8	28.1	60.7
1st Quarter of 2022	38.0	47.4	14.6	23.5	62.4
4th Quarter of 2021	40.3	42.7	17.0	23.3	65.6
3rd Quarter of 2021	58.7	30.9	10.4	48.2	72.7

Employment: The seasonally adjusted index for employment is expected to increase from 59.8 in the first quarter to 61.0 in the second quarter, indicating that employment in manufacturing is expected to improve in the second quarter. Employment is expected to increase most rapidly in the following industries: Food; Beverage & Tobacco; 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 (other than Aerospace Products & Parts); Aerospace Products & Parts; and Miscellaneous. The Textile Mill Products industry reported an expected decrease in employment.

Employment	% Higher	% Same	% Lower	Net	Seasonally Adjusted Index
2nd Quarter of 2022	34.9	54.2	10.9	24.1	61.0
1st Quarter of 2022	33.0	52.4	14.5	18.5	59.8
4th Quarter of 2021	34.4	55.7	10.0	24.4	64.4
3rd Quarter of 2021	43.2	47.5	9.3	33.9	65.3

Orange County's Manufacturing Survey

The Orange County manufacturing sector's Composite Index increased from 63.9 in the first quarter to 64.5 in the second quarter, indicating that the county's manufacturing economy is expected to expand at a higher rate in the second quarter of this year.



The seasonally adjusted index for production increased from 61.0 in the first quarter to 63.9 in the second quarter, indicating that production is expected to increase at a higher rate in the second quarter. The seasonally adjusted index for inventories of purchased materials decreased from 63.4 to 60.7 indicating that inventories of purchased materials are expected to increase at a lower rate. New orders and employment are expected to increase at a higher rate. Similar to California, the seasonally unadjusted index for commodity prices is expected to increase from 85.7 to 91.7 (a new high) indicating that commodity prices are expected to rise at a higher rate. Only 3.2 of respondents reported an expected decrease in commodity prices.

The index for the **non-durable goods industries** decreased from 64.5 in the first quarter to 57.0 in the second quarter, indicating that these industries are expected to expand at a lower rate in the second quarter. The index for production decreased from 59.4 to 50.4, indicating that production is expected to increase at a lower rate. The index for the **high-tech industries** decreased from 68.8 to 66.5, indicating that these industries are expected to expand at a lower rate. The index for production increased from 66.3 to 70.5 indicating that production is expected to increase at a higher rate. The index for inventories of purchased materials decreased from 65.6 to 60.5 indicating that inventories of purchased materials are expected to increase at a lower rate. The index for the **durable goods industries other than high-tech** increased from 62.8 to 68.5 indicating that the durable goods industries other than high-tech are expected to expand at a higher rate. The indices for inventories of purchased materials, new orders, and production all indicate higher growth rates 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

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