

California Labor Market Trends: Manufacturing

According to the Bureau of Economic Analysis (BEA), the Gross Domestic Product (GDP) of the United States was \$16.7 trillion in 2013. The manufacturing industry contributed nearly \$2.1 trillion to that output. California accounted for roughly one-third (31 percent) of the nation's manufacturing GDP in 2013, the largest share of any state.

This report uses GDP data from the BEA and the Current Employment Statistics (CES) program of the Employment Development Department (EDD). The BEA defines U.S. GDP as the market value of goods and services produced by labor and property in the United States. The EDD's CES program provides detailed industry data on employment in California and hours and earnings data for California for manufacturing production workers and nonsupervisory employees in the motion picture and sound recording industries only.

California manufacturing continues to be an integral part of the economy.

In 2013, California's manufacturing gross domestic product (GDP) was \$5.8 billion higher than the next closest state, Texas. Furthermore, California's manufacturing GDP was nearly 18.9 percent greater than third-ranked Illinois and fourth-ranked Ohio combined. California's manufacturing sector is the largest in the nation in terms of firms and workers. In 2014, California employed almost 1.3 million manufacturing workers, roughly 400,000 more than Texas. In terms of job creation, research suggests that for every job established in manufacturing in California, at least two and a half jobs are generated to support the sector.¹

Over the years, the number of manufacturing jobs in California has significantly declined.

Despite increases in manufacturing outputs and their overall value, employment within the sector has declined over the years. In 2009, California's manufacturing GDP was \$230 billion and climbed to \$239 billion by 2013. However, between these periods, California lost about 32,000 manufacturing jobs. The EDD's California Industry Employment Projections 2012 – 2022 (<http://www.labormarketinfo.edd.ca.gov>) estimates employment declines in manufacturing will continue as businesses increase their use of production methods, for example, process compression, automation, and offshoring, that will require fewer workers.

Advanced manufacturing is one of the primary reasons why manufacturing employment has declined, while productivity continues to increase.

Firms involved in advanced manufacturing integrate a high-performance workforce with a production system capable of furnishing an assortment of products with the efficiency of mass production and the flexibility to respond to customer demands quickly. Research conducted by the Los Angeles County Institute for Applied Economics (www.laedc.org) suggests that labor productivity in manufacturing industries has been boosted by the automation of manufacturing processes and advances in materials as well as through the growth of computing power and the digitization of manufacturing. New technological advances, such as 3-D printers and digital production, lower the cost of manufacturing and reduce the time required to make prototypes and commercialize new items. As robots and software, rather than human labor, guide more of the manufacturing process, firms need fewer workers.

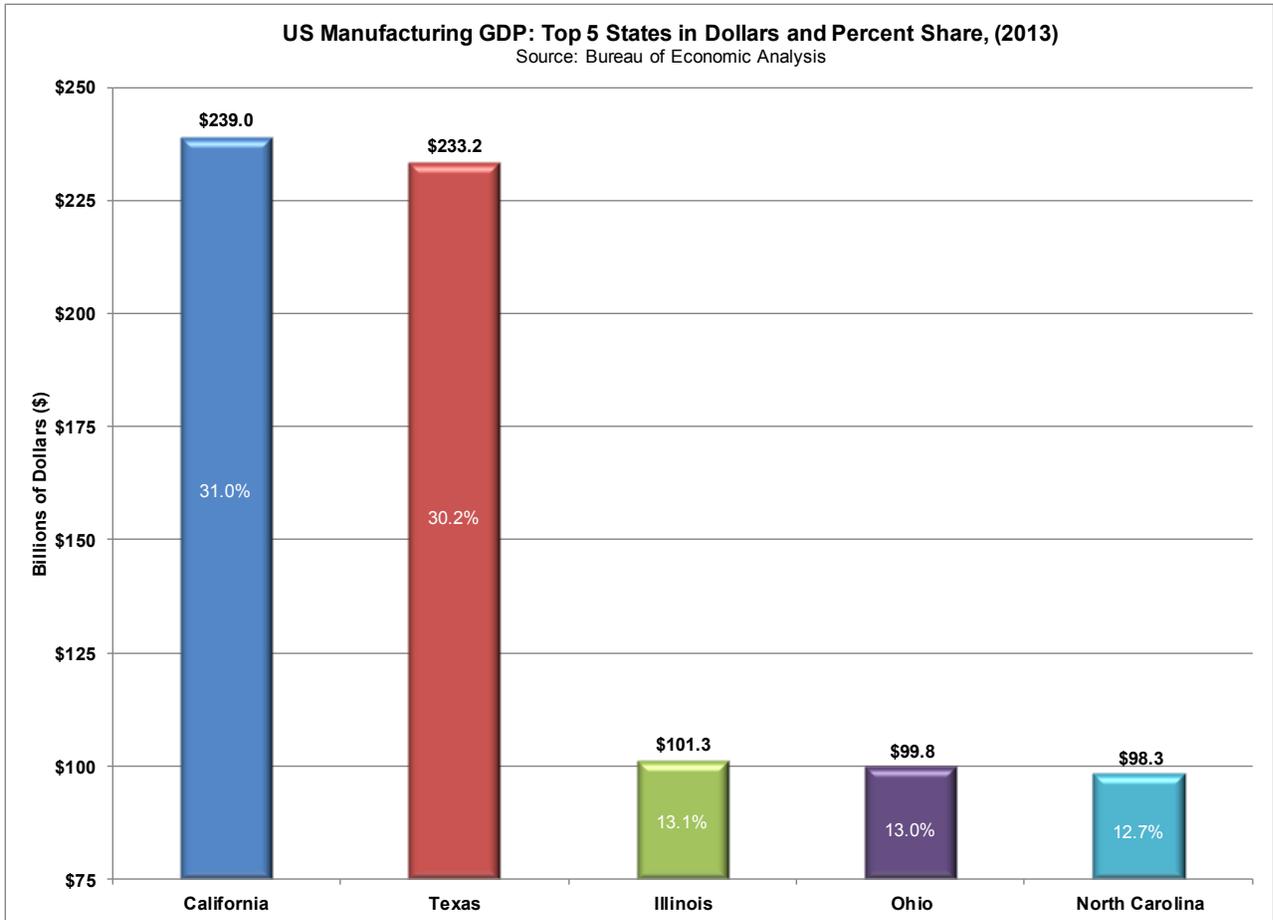
With this shift to advanced manufacturing comes the need for new skills sets.

Today's manufacturing jobs require enhanced skills in engineering and mathematics as well as varied experience working with computerized equipment (see [O*NET](#) manufacturing summary reports). The most sought-after workers within the manufacturing sector are highly educated (e.g., postsecondary education, skills certification) and can apply scientific and technical principles to work with industrial robots, utilize problem solving techniques, and fabricate modern materials.

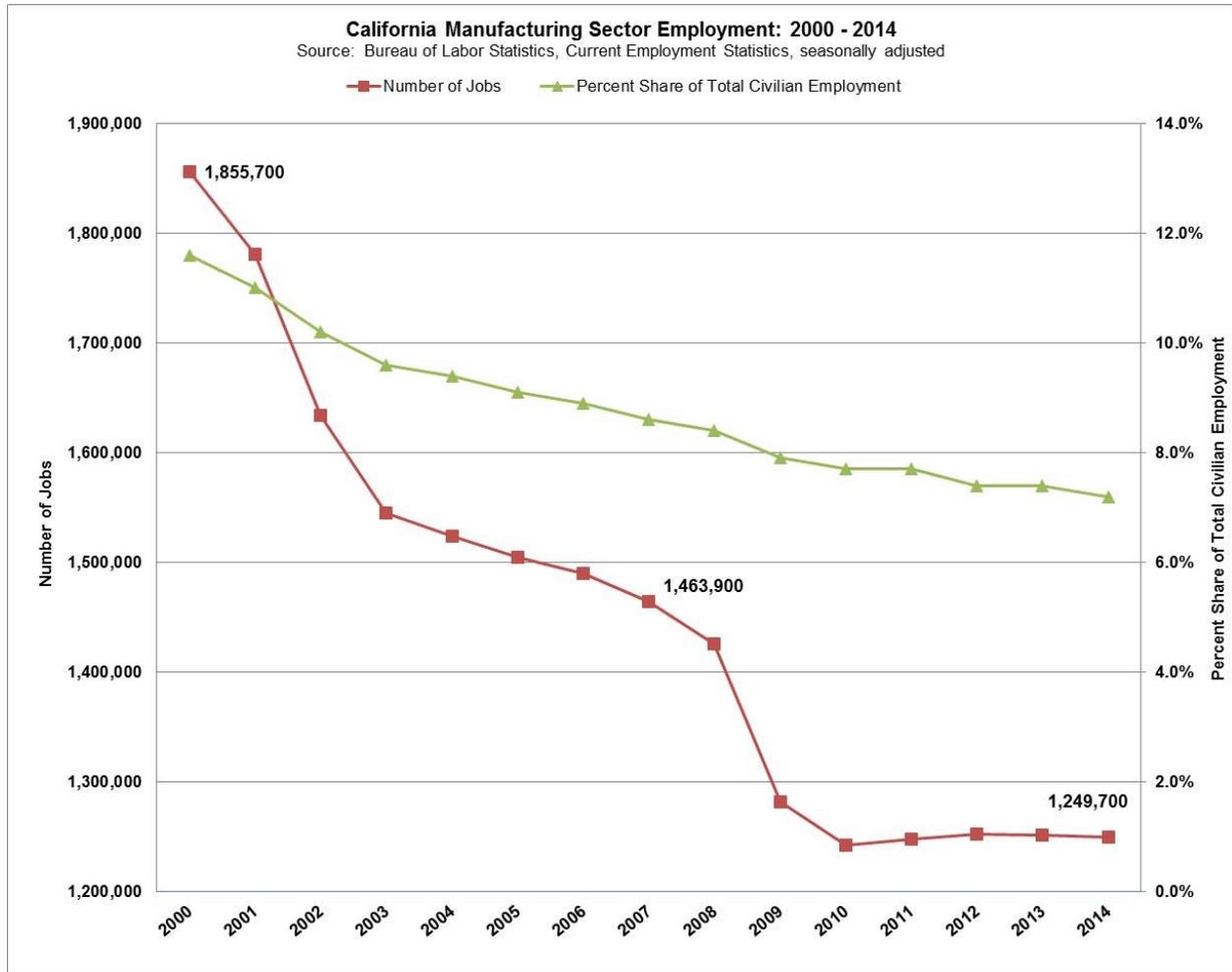
¹ Economic and Workforce Development through the California Community Colleges (2012). Doing What Matters for Jobs & the Economy: Advanced Manufacturing (http://www.coecc.net/documents/dwm_advvmfg_sector_CA_12.pdf).

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State of California

Labor and Workforce Development Agency

Employment Development Department

The EDD is an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. Requests for services, aids, and/or alternate forms need to be made by calling 916-262-2166 (voice). TTY users, please call the California Relay Service at 711.