TEXAS

PRIMARY METALS MANUFACTURING

Primary metals manufacturing includes mills and foundries that make a variety of upstream metal products such as closures, castings, pipes, tubes, wires and springs. Demand for primary metals stems from the industries that rely on them, including the automotive, energy, machinery and transportation industries. Other major operational considerations include access to raw materials and the costs of energy inputs and transportation.

69,500
DIRECT & INDIRECT EMPLOYMENT

$3.1 Billion
STATE SUBSECTOR GDP

$57,500
AVERAGE ANNUAL WAGE

$4.6 Billion
EXPORTS

Sources: U.S. Bureau of Economic Analysis, Regional Economic Models, Inc., Emsi, U.S. Census Bureau Annual Survey of Manufacturers

ADVANCED INDUSTRIES

Some industries in the primary metals subsector are considered "advanced" as defined by the Brookings Institution — their research and development spending per worker ranks in the top 20 percent of industries and their share of workers with high levels of scientific and technical knowledge exceeds the national average.

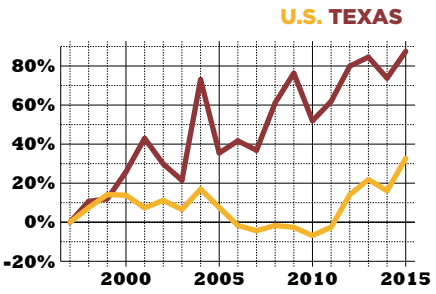
SUBSECTOR TOTALS	DIRECT JOBS 2016	JOB CHANGE 2010-2016	AVERAGE TEXAS SALARIES 2016	LOCATION QUOTIENT* 2016
	20,159	2%	$57,532	0.65
IRON AND STEEL MILLS AND FERROALLOY MANUFACTURING	4,777	15%	$60,262	0.70
STEEL PRODUCT MANUFACTURING FROM PURCHASED STEEL	4,140	10%	$61,114	0.89
ALUMINA AND ALUMINUM PRODUCTION AND PROCESSING	3,529	-15%	$57,925	0.73
NONFERROUS METAL (EXCEPT ALUMINUM) PRODUCTION AND PROCESSING	3,791	30%	$59,787	0.76
FOUNDRIES	3,922	-17%	$47,891	0.40

*Location quotient compares an industry's share of jobs in a specific region with its share of nationwide employment.
Source: Emsi

MORE THAN 60 MILLION TONS OF STEEL ARE RECYCLED OR EXPORTED FOR RECYCLING EACH YEAR IN NORTH AMERICA ALONE.

Source: American Iron and Steel Institute

TEXAS REAL GDP OUTPACES U.S. GROWTH

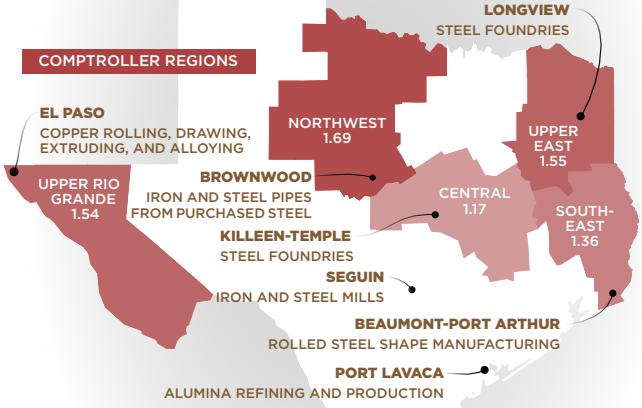


The state's primary metals manufacturing GDP rose by an inflation-adjusted 87 percent from 1997 through 2015, compared to 33 percent nationwide.

Source: U.S. Bureau of Economic Analysis and Texas Comptroller of Public Accounts

REGIONAL SUBSECTOR LQs* AND AREAS OF INDUSTRY SPECIALIZATION BY METRO AREA

The Northwest, Upper East and Upper Rio Grande regions have the highest concentration of primary metal employment in Texas. The share of subsector employment in the Northwest region is about 70 percent higher than in the U.S. as a whole.



*Location quotient compares an industry's share of jobs in a specific region with its share of nationwide employment.
Sources: Emsi, Texas Comptroller of Public Accounts

CONCLUSION

Manufacturing continues to drive output and productivity in the Texas economy, creating jobs paying well above the statewide average. It also contributes significantly to job creation in other industries, particularly in design operations and services.

The primary metals subsector faces economic transitions that will affect demand levels, including reduced use of steel in the automotive market as carmakers strive to produce lighter, more fuel-efficient vehicles and a shift toward increased recycling and reuse of steel. However, the subsector's employment in Texas rose by 2.1 percent from 2010 through 2016, led by job gains in nonferrous metal production, which increased employment by nearly 30 percent during this period.

To see more in-depth Texas manufacturing data, visit:
comptroller.texas.gov/economy/economic-data/manufacturing/

Glenn Hegar Texas Comptroller of Public Accounts

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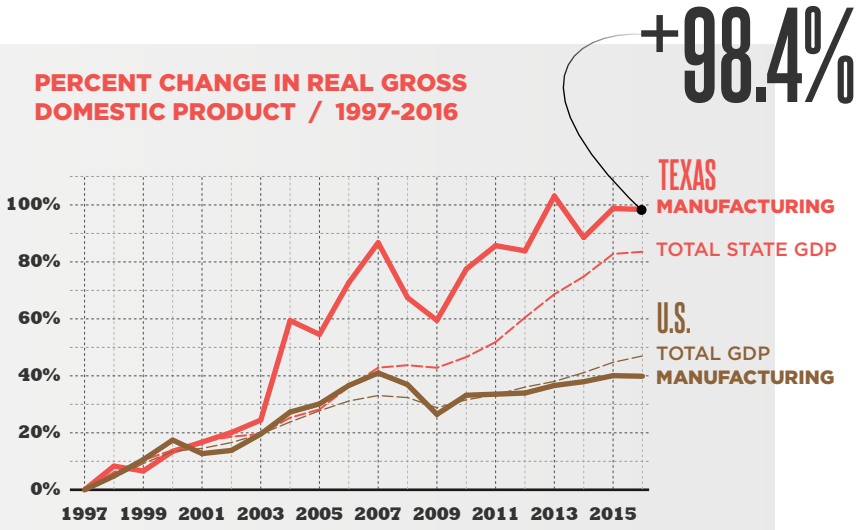
TEXAS MANUFACTURING

Texas has an extraordinary manufacturing economy. The state's resources make it a natural leader in petroleum and chemical manufacturing; its research institutions have fostered computer-related and other high-tech manufacturing; and a business-friendly environment and skilled labor have helped create a burgeoning automotive manufacturing sector. **IN ALL, MANUFACTURING CONTRIBUTED $226 BILLION TO TEXAS' GROSS DOMESTIC PRODUCT** (GDP) in 2016, an amount larger than the entire economy of Portugal.

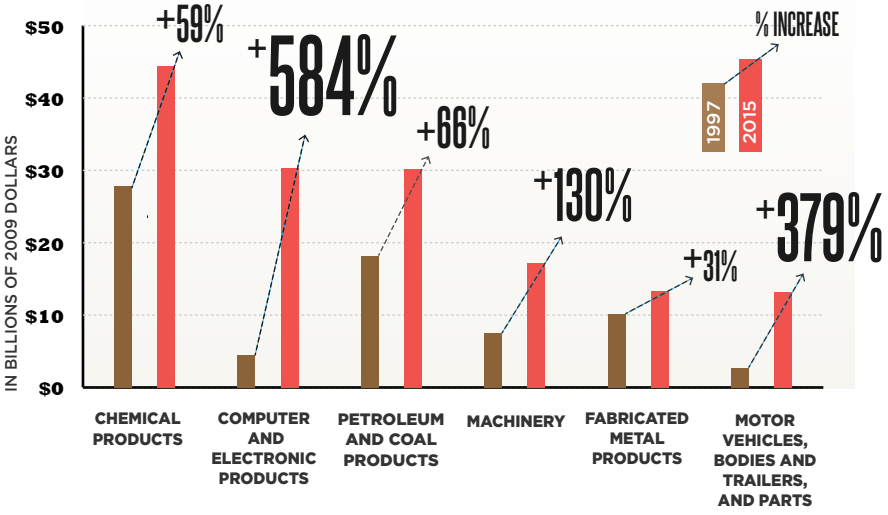
Glenn Hegar
Texas Comptroller of Public Accounts

PERCENT CHANGE IN REAL GROSS DOMESTIC PRODUCT / 1997-2016



Sources: U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics

LARGEST MANUFACTURING SUBSECTORS IN TEXAS BY GDP: GROWTH FROM 1997 TO 2015



Sources: U.S. Bureau of Economic Analysis, Texas Comptroller of Public Accounts

TEXAS MANUFACTURING OUTPUT HAS OUTPACED THE TOTAL TEXAS ECONOMY.

TEXAS MANUFACTURING ACCOUNTED FOR 10.4 PERCENT OF U.S. MANUFACTURING GDP IN 2016.

BETWEEN 1997 AND 2016, MANUFACTURING REAL GDP INCREASED 98 PERCENT, COMPARED WITH AN 84 PERCENT GAIN ACROSS ALL TEXAS INDUSTRIES.

From 1997 through 2016, growth in Texas manufacturers' economic output more than doubled U.S. manufacturing gains of 40 percent.

Sources: U.S. Bureau of Economic Analysis, Texas Comptroller of Public Accounts

3,000,000
DIRECT & INDIRECT EMPLOYMENT

$225.8 Billion
TEXAS MANUFACTURING GDP

$73,738
AVERAGE ANNUAL WAGE

$210.3 Billion
EXPORTS

Sources: U.S. Bureau of Economic Analysis, Regional Economic Models, Inc., Emsi, U.S. Department of Commerce International Trade Administration

While Texas' manufacturing employment has diminished as a result of automation, technological advances and other factors, its economic output has increased. From 1997 through 2016, Texas' manufacturing job count fell by 19 percent, but its real GDP rose by 98 percent. Texas has **858,000 DIRECT MANUFACTURING JOBS**, as well as another **2.2 MILLION JOBS** indirectly created or supported by manufacturers. In 2016, average annual Texas wages in manufacturing approached **$74,000**, much higher than the statewide average of $54,000.

To see more in-depth Texas manufacturing data, visit:
comptroller.texas.gov/economy/economic-data/manufacturing/