

INDICATOR INSIGHT

ECONOMICS ◀•▶ AN EXPERT'S INSIGHT ON THE ISSUE IN ARIZONA



ARIZONA
INDICATORS

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Arizona is Lagging Behind on International Exports

Arizona's total value of international exports as a share of gross product was 33rd highest among the 50 states and District of Columbia in 2012. Arizona ranked 36th for manufactured goods. In 1997, Arizona had ranked eighth overall and ninth for manufactured goods. The state's large relative decline in export share can be traced to its sizable relative decrease in its manufacturing sector. In particular, the electronics manufacturing subsector's share of total GDP has dropped considerably.

International imports and exports to and from Arizona are included in the Economy section of Arizona Indicators, in the Composition of Economy subsection. Annual data for imports by state of destination have been released by the U.S. Department of Commerce's Census Bureau since 2008, but there are serious problems with accurately assigning the state of destination. The quality of the export data, which begin in the mid-1990s, is better but caution is still urged in using these data. Exports are conceptually based on origin of movement, but this origin cannot always be determined, especially for nonmanufactured goods. In particular, shipments from different origins are sometimes consolidated, with the location of the consolidation assigned as the origin.

The trade data by state are limited to goods; services are not included. In the summary data, exported goods are placed into one of three categories: manufactured goods, other commodities (agricultural and mining products), and re-exports (foreign-origin goods that have not undergone any change in form after being imported into the United States). The export value reflects the transaction price plus inland freight, insurance, and other charges.

Total Export Value

In 2013, exports that originated in Arizona were valued at \$19.4 billion, 1.3 percent of the national export value of more than \$1.5 trillion. In contrast, Arizona's economy makes up 1.7 percent, and the number of Arizona residents is 2.1 percent, of the U.S. total.

The time series of the real value of exports from Arizona

is shown in Chart 1. The inflation-adjusted dollar value – calculated using the gross domestic product implicit price deflator – fell sharply in 2009, during the last recession, but has increased in each year since then. However, the 2013 value remained lower than the values from 2006 through 2008. In particular, the real value of exports of manufactured goods remains considerably below historical levels. The real values of other commodities and re-exports have trended up since the late 1990s, but these values are small relative to the value of manufactured goods.

In order to compare the value of Arizona's exports to those of the nation and other states, the

Arizona Indicators is an online information resource and analysis tool that centralizes data about the state and its communities. Arizona Indicators presents interactive visualizations, clear data descriptions, and public opinion data in a broad range of content areas.

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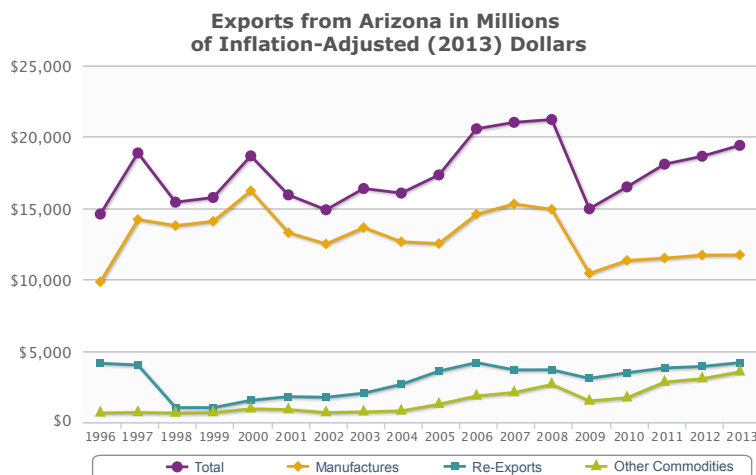


Chart 1 - Exports from Arizona in Millions of Inflation-Adjusted (2013) Dollars. Source: U.S. Department of Commerce, Census Bureau (exports) and Bureau of Economic Analysis (deflator).

export value is expressed as a percentage of gross domestic product (GDP). As seen in Chart 2, total exports as a share of gross domestic product over time have decreased in Arizona while increasing nationally. The export share was considerably higher in Arizona than the U.S. average in 1997, the first year of complete export data, but in recent years Arizona's share was substantially below the national average.

As the major component of exports, the value of manufactured commodities as a share of GDP also has declined in Arizona while rising nationally. The percentage was higher in Arizona than the national average through 2004 but has been lower since then. After 2009, national exports of manufactured goods relative to GDP rose to record levels but Arizona's figures were not much above the 2009 recessionary low.

In contrast, the value of exports from Arizona of nonmanufactured commodities as a share of GDP has increased over time at about the same rate as the national figure, with the percentage in 2013 a little higher than the U.S. average. The value of re-exports as a share of GDP generally has been higher in Arizona than the nation, probably due to the maquiladora program, in which manufacturing facilities in northern Mexico are paired with operations in Arizona. The national and Arizona percentages have trended up since 1999. In 2013, Arizona's proportion was a little higher than the national average.

As a share of GDP, Arizona's total export value in 2013 ranked 26th among the 50 states and the District of Columbia. Arizona ranked 10th for both other commodities and re-exports, but only 33rd in the largest category of manufactured goods. Between 1997 and 2013, Arizona's rank for other commodities rose, but the rank for re-exports dropped and the rank for manufactured commodities fell 28 places, with the overall export rank dropping 26 places from sixth to 26th.

In 2013, the total export value as a share of GDP was highest in Louisiana, Washington, and Texas. Among 10 western states, Arizona ranked seventh overall, ahead of Nevada, Colorado, and New Mexico. For manufactured goods, Arizona was higher than only New Mexico and Colorado. Arizona ranked third for other commodities and fourth for re-exports. California and Oregon experienced declines between 1997 and 2013 in the rank of total exports as a share of GDP, though not as large a decrease as in Arizona. Idaho, Utah and Nevada had large gains in rank.

The total export value as a share of GDP was 9.0 percent nationally in 2013. The figure ranged widely, from 1 percent in Hawaii to 25 percent in Louisiana. Arizona's figure was 7 percent. For manufactured goods, the range across the states was from 0.5-to-17.9 percent; Arizona's 4.2 percent was less than the national figure of 6.9 percent. The range was not as wide for other commodities, from near zero to 6.8 percent; Arizona's 1.3 percent was higher than the national figure of 0.9 percent. The share for re-exports ranged from near zero to 4.8 percent; Arizona's 1.5 percent was higher than the national figure of 1.2 percent.

Export values as a share of GDP vary by state for several reasons. The relative size of the manufacturing sector, and to a lesser extent the agriculture and mining sectors, in a state's economy is one factor. The type of goods produced is another factor, since certain goods are more commonly exported and certain goods have higher values. Some of the variation may be due to data insufficiencies; for example, consolidations of shipments in New Orleans likely contribute to the high figures in Louisiana.

Exports as a Percentage of Gross Domestic Product

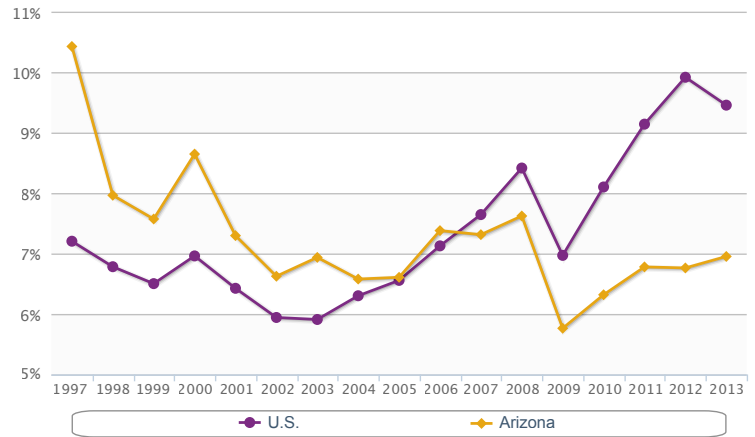


Chart 2 - Exports as a Percentage of Gross Domestic Product. Source: U.S. Department of Commerce, Census Bureau (exports) and Bureau of Economic Analysis (gross product).

Value of Exports From Arizona for Major Commodities in 2013 (In Millions of Dollars)

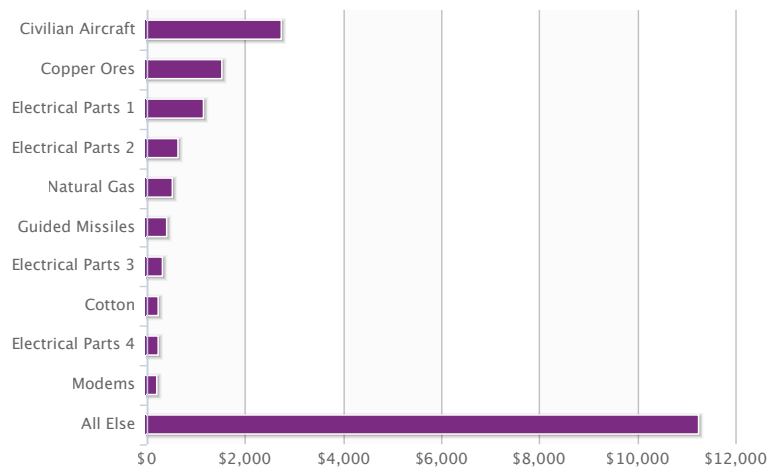


Chart 3 - Value of Exports From Arizona for Major Commodities in 2013 (In Millions of Dollars). Source: U.S. Department of Commerce, Census Bureau.

Electrical Parts Commodities

- 1: Unclassified parts of processors and controllers for electronic integrated circuits
- 2: Other parts of processors and controllers for electronic integrated circuits
- 3: Unclassified parts of electrical apparatus for switching or protecting electrical circuits
- 4: Parts of other electrical machines

Exports by Commodity

Nationally, civilian aircraft, fuel oil, other petroleum products, motor vehicles, and a wide range of electronics are among the leading exports.

For each state, the Census Bureau provides export data for recent years for the 25 detailed commodity codes with the greatest value. Chart 3 displays the major commodities exported from Arizona in 2013. Civilian aircraft accounted for 14 percent of the total export value, followed by copper ore (8 percent) and processors and controllers for electronic integrated circuits (6 percent). No other commodity accounted for even 3.5 percent of the total. More generally, 10 of the top 25 commodities were in the electrical machinery and equipment category and together accounted for 17 percent of the total export value. Five commodities in the machinery and mechanical appliances category were among the top 25, but combined they accounted for only 3 percent of the total export value.

Most of the states with a high total value of exports as a share of GDP have a large proportion of their export value in just one or two commodities. For example, in top-ranked Louisiana, 38 percent of the 2013 export value was in two petroleum/fuel oil commodities. In second-ranked Washington, civilian aircraft accounted for 53 percent of the total export value. Third-ranked Texas has a broader range of exports, but 21 percent of the value was in two petroleum/fuel oil commodities. In Vermont, 58 percent of the export value was in two electronic integrated circuit commodities. In West Virginia, coal accounted for 52 percent of the total export value. Among other western states, gold accounted for one-half of the exports from Utah, one electronic integrated circuit commodity was responsible for 35 percent of the total value in Idaho, and gold accounted for 45 percent of the total in Nevada.

Thus, Arizona's relatively low rank on export value as a percentage of GDP in part is due to its lack of a dominant product. More generally, the manufacturing sector's low share of the total economy limits the opportunity to export. Arizona's manufacturing sector in 2013 contributed only 8.6 percent of the state's GDP, with the share ranking 36th. Between 1997 and 2013, only three states had a greater percent decrease in the manufacturing share. Among the 10 western states, Arizona's manufacturing share ranked seventh, and only New Mexico experienced a larger percent decline in share between 1997 and 2013.

Much of the decrease over time in the state's relative export rank can be traced to the decline in the state's electronics manufacturing subsector. In 1997, the electronics share in Arizona was 8.7 percent, well above the U.S. average of 2.3 percent. In 2012 (the latest subsectoral GDP data are for 2012), the share was down to 2.8 percent in Arizona, compared to 1.6 percent nationally. Though still ranked eighth in 2012, Arizona's electronics share of total GDP had ranked fourth in 1997. Only five states had a larger percent drop in share between 1997 and 2012. Among the 10 western states, Arizona's electronics share ranked fifth in 2012, with only New Mexico experiencing a larger percent decline in share between 1997 and 2012.

Exports by Destination

The Census Bureau also reports exports by state by country of destination. As seen in Chart 4, exports from Arizona to Mexico greatly exceeded those to any other country in 2013; 36 percent of the total value of exports went to Mexico.

Only Texas had as high a share of its exports going to Mexico. Mexico also was the top-ranked destination for exports from the other border states of California and New Mexico. Mexico did not rank first in any other state, though it ranked second in 20 states and in the top 25 in all but two states.

For the nation as a whole, Mexico ranked second to Canada on the value of exports in 2013. Canada was the top destination for exports of 34 states and ranked in the top 10 of all states. China received the nation's third-highest value of exports and ranked in the top 25 in all states. Other major destinations for U.S. exports include Japan, Germany, the United Kingdom, Brazil, the Netherlands, Hong Kong, and South Korea. Each of these countries ranked among the top 15 for Arizona exports. Thailand and Malaysia were relatively more important destinations for exports from Arizona than from the nation as a whole.

Value of Exports From Arizona to Major Trading Partners in 2013 (In Millions of Dollars)

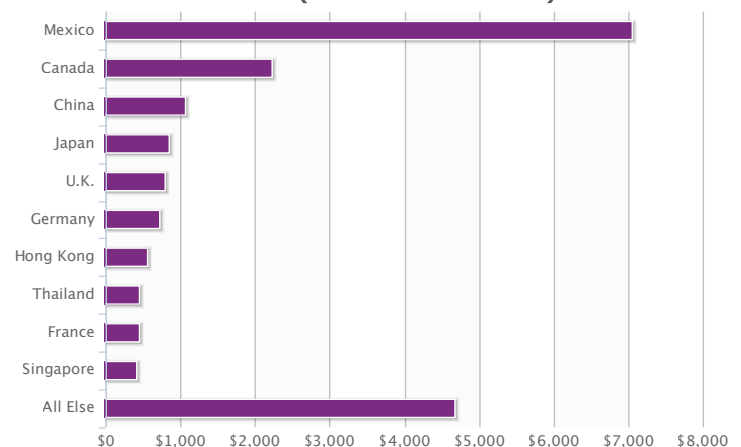


Chart 4 - Value of Exports from Arizona to Major Trading Partners in 2013 (In Millions of Dollars).
Source: U.S. Department of Commerce, Census Bureau.