

NOW HIRING

From Farmers to Programmers

University of Colorado researchers found that 47% of American jobs risk being replaced by computers. From loan officers to economists, your job (yes, you!) is probably next. But this has always been the case. Observers have worried for centuries about technological unemployment—the idea that the advent of new ways of production would eliminate the need for a human labor component.

It is true: the US job market looks nothing like it did 50 or 150 years ago. We looked back to 1869 and found an American economy dominated by farmers. **85%** of all employment in the Civil War era was in the agriculture sector.

Today, despite an eight-fold increase in mouths to feed, the agriculture sector accounts for just **1%**. But we haven't run out of food. Interestingly, agriculture **produces 140 million times more food**. With a much smaller segment of the population farming, we produce vastly more food. What happened was we figured out how to make food production routine and automated.

The same is true of manufacturing. Goods-producing jobs account for just **14%** of all employment today. Today, we have more people and **400% more** amount of stuff we produce each year. So what do people do today if they aren't farming or building cars? Services. **85%** of all employment is in services, everything from web developers to artificial limb fitters, according to the list maintained by the Bureau of Labor Statistics.

Yes, job **automation** will replace the human component. But all that seems to have done is free up human creativity to do other things. As the last 150 years have demonstrated, human creativity has been unleashed to accomplish tasks and perform jobs unimaginable in 1869 or even 1989. Such is the nature of economic change.

2014 Job Openings

- Web developers
- Wireless internet installer
- Robotics testing technician
- Industrial robotics mechanic
- Artificial limb fitter
- Applications programmer
- National Association of Stock Car Drivers
- Jingle writer
- Show host

Composition of Service Sector in 2014

- 22% Trade, Transportation & Utilities
- 18% Government
- 18% Education & Health Services
- 16% Professional & Business Services
- 12% Leisure & Hospitality
- 7% Financial Activities
- 5% Other
- 2% Information

Percent of U.S. Employment by Sector

Services

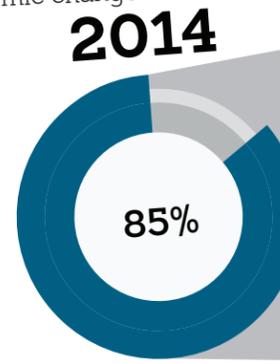
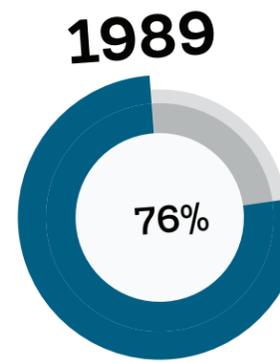
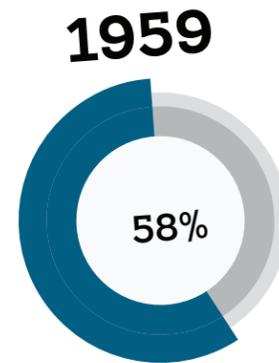
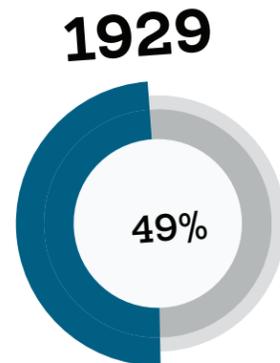
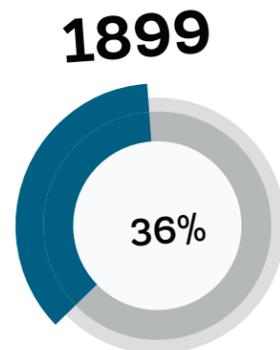
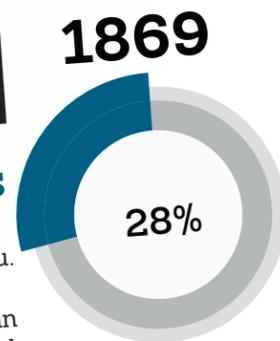
Service-providing jobs create the intangible things around you. The barber provides you with a haircut, but that service is not an object you can hold in your hand. This includes jobs to sell the very things provided by the goods-producing sector.

Goods

Goods-producing jobs create the tangible things around you. These jobs produce tangible things like cars, TVs, coal, lumber for furniture and the furniture itself!

Agriculture

This includes workers engaged in growing our crops and livestock.



400%
Increase in Industrial Output since 1959

While we have lost around 3 million manufacturing jobs, the US is manufacturing more than ever before on account of increasing productivity

900%
Increase in Agriculture Output since 1869

While agriculture only employs 1% of the labor force today, these farmers can more than provide for domestic agriculture needs.

WOW!

Sources: Kendrick, John W. and Pech, Maude R. (1961). "Productivity Trends in the United States." NBER, General Series no. 71. Bureau of Labor Statistics, United States Department of Agriculture, Federal Reserve, Payden & Rygel Calculations