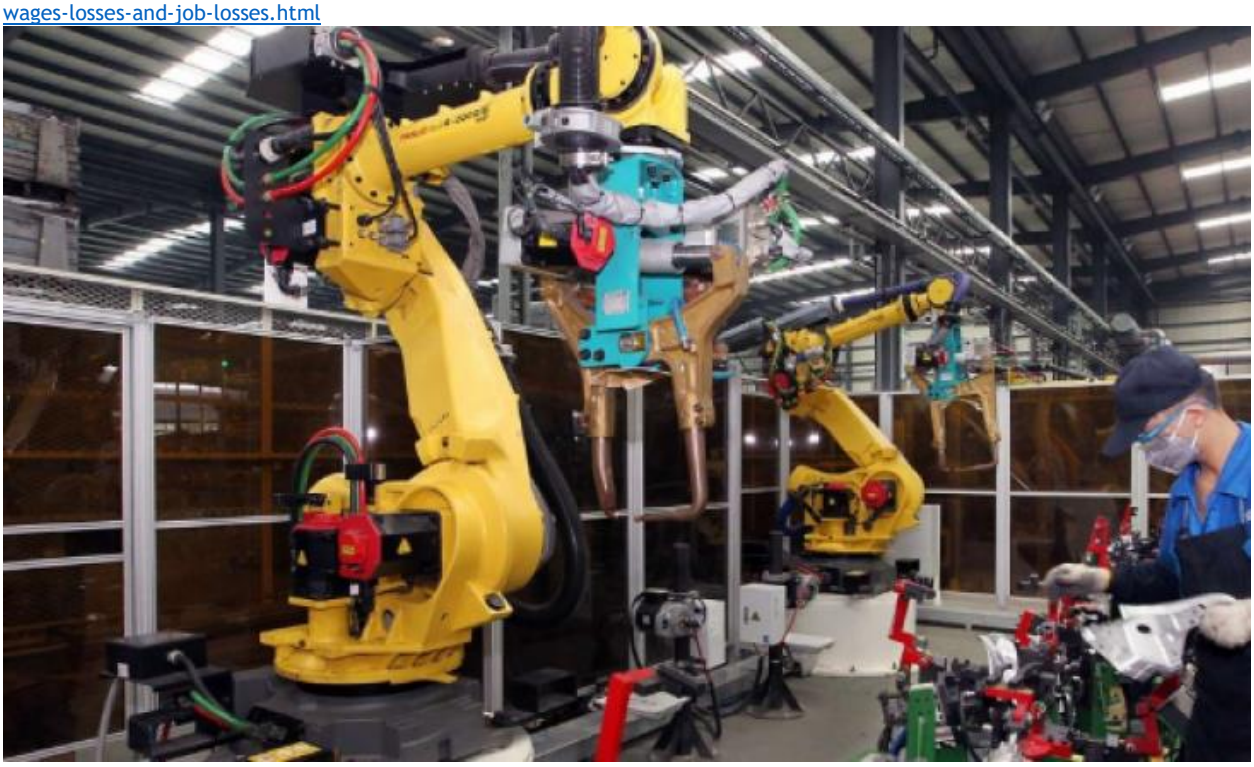
FEATURE

Bain forecasts 10-15 year automation driven economic boom but many impacts from wages losses and job losses

brian wang | March 26, 2018

https://www.nextbigfuture.com/2018/03/bain-forecasts-10-15-year-automation-driven-economic-boom-but-many-impacts-from-wages-losses-and-job-losses.html



Bain Consulting forecasts that the coming phase of automation could eventually eliminate up to 50% of all current jobs.

The job activity analysis only suggests the potential of technology to replace humans with hardware and software. It does not take into account the actual market conditions that would lead businesses to automate all work that could be automated. To arrive at an estimate of the likely impact of automation, they looked at the market context within which it could happen, considering four major factors:

1. job scarcity;
2. the impact of automation on the overall cost of a product or service; whether companies were likely to redeploy cost savings into higher profits,
3. higher wages or lower prices;
4. the impact of lower costs and prices on demand growth.

Using these four factors, Bain segmented the entire US labor force into distinct categories. Bain looked at more than 16,000 combinations of industries and jobs. They used a balanced sample of more than 130 individual industry and job categories in detailed case studies ranging from nursing assistants and flight attendants to

insurance underwriters and management analysts. This method enabled them to calibrate their findings based on what level of automation is possible and probable given technological progress in the next decade and beyond.

Labor market disruption

By 2030, employers will need 20% to 25% fewer workers, equivalent to 30 million to 40 million jobs in the US. Automation technologies will affect each industry and occupation differently. In some cases, lower costs resulting from automation combined with high demand for goods or services may add back jobs in a given industry.

Many sectors will be able to lower operating costs by 10% or more, including some of the largest service sector employers such as retail trade and food service. At lower prices, they will see increased demand for some products, which will offset some displacement. Without it, the total reduction in employment would rise to nearly 30% of existing workers, or almost 50 million workers in the US. To put these numbers in context, during the Great Recession, US employment fell rapidly from its peak in January 2008 to its trough in February 2010 by nearly 9 million jobs, or 6.3% of total employment.

The full impact of automation likely won't play out until after 2030 because cheap labor will continue to be available in some sectors and some businesses will be slower to adopt automation. However, in some sectors, automation may put downward pressure on wages long before workers are displaced. For example, the introduction of self-service kiosks and smartphone-based ordering technology in quick-service restaurants is likely to place a ceiling on order-taking wages at the point which it becomes cheaper to automate than employ a human order taker. As long as wages remain below that point, employment levels will be unaffected by automation, but wages will be firmly capped.

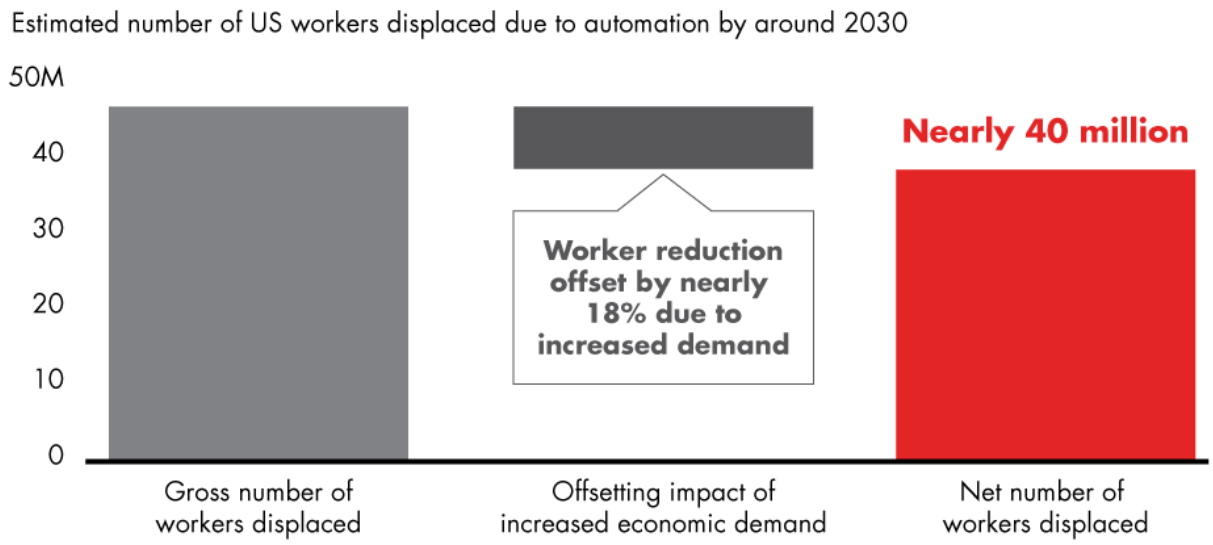
* In the industries hardest hit by automation, some of the remaining workers may be more productive and better off financially.

* Automation may also lower the cost barriers to entrepreneurship. Online media has essentially automated away the newspaper delivery job and replaced it with a wireless or fiber-optic connection—just one of many changes in the migration from print to online media—but it also has lowered the cost of targeted advertising for local businesses that might otherwise have struggled for visibility

The growing gap between the majority of workers who suffer automation's negative impact and the highly skilled few who benefit from it is likely to increase income inequality dramatically. Over time, an unchecked rise in income inequality risks choking off economic growth.

Figure 22

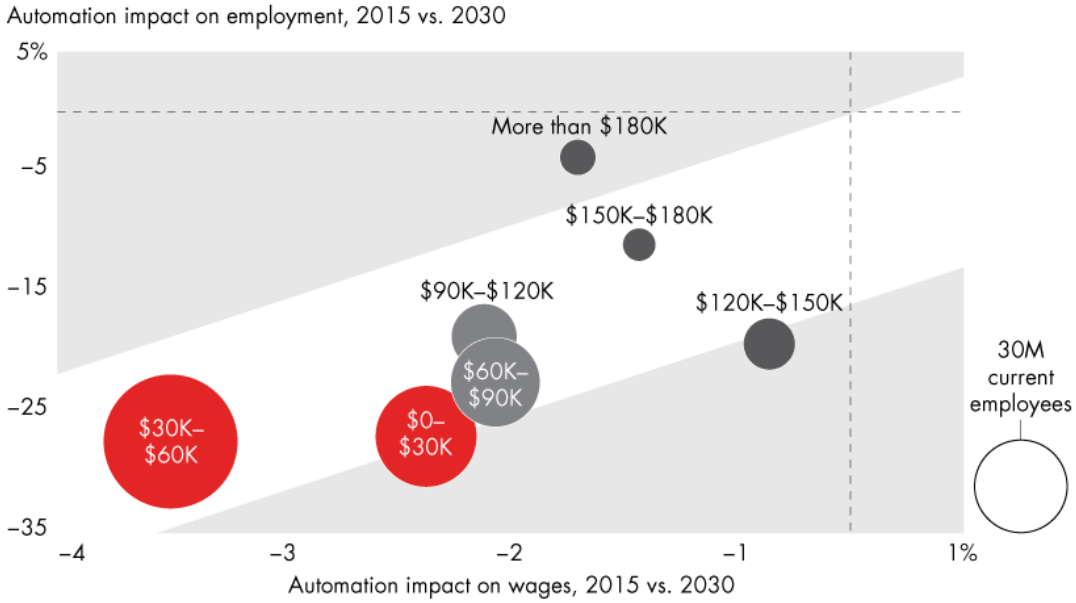
Automation could eliminate 40 million jobs in the US and depress wage growth



Note: Excludes reabsorption effect of newly formed sectors not yet in existence
Sources: US Bureau of Labor Statistics; Bain Macro Trends Group analysis, 2017

Figure 35

Automation may create worse outcomes for lower-income workers



Notes: Population per income bracket based on 2015 wages; wage brackets based on US Bureau of Economic Analysis national accounts data
Sources: US Bureau of Economic Analysis; US Bureau of Labor Statistics; Bain Macro Trends Group analysis, 2017

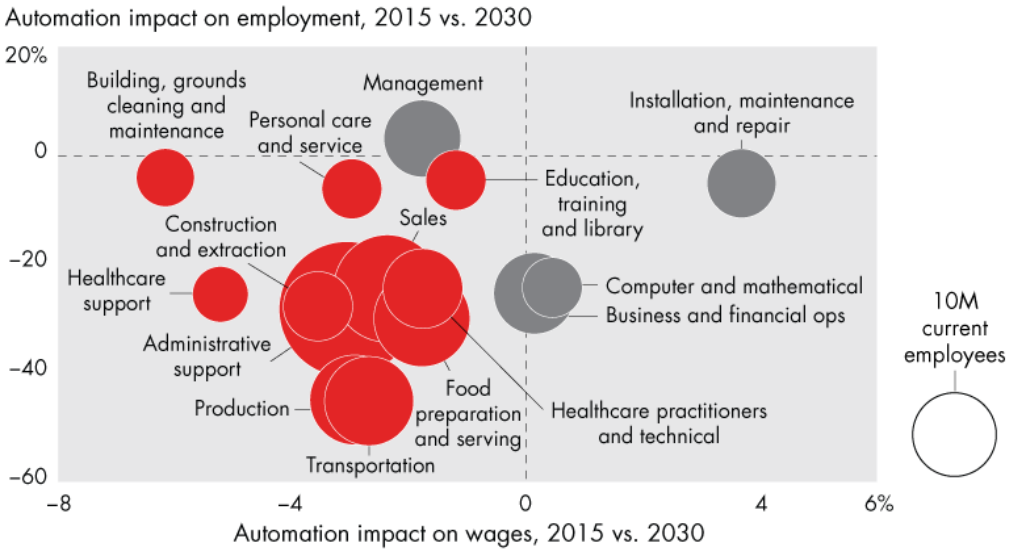
Figure 36

Labor's share of GDP is already declining; increased automation may accelerate this trend

Notes: US labor share of output is five-year moving average; labor share is for nonfarm sector; data is for average hourly compensation of production/nonsupervisory workers in private sector and net productivity of total economy; net productivity is growth of output of goods and services minus depreciation per hour worked
Sources: US Bureau of Labor Statistics; Economic Policy Institute; Bain Macro Trends Group analysis, 2017

Figure 26

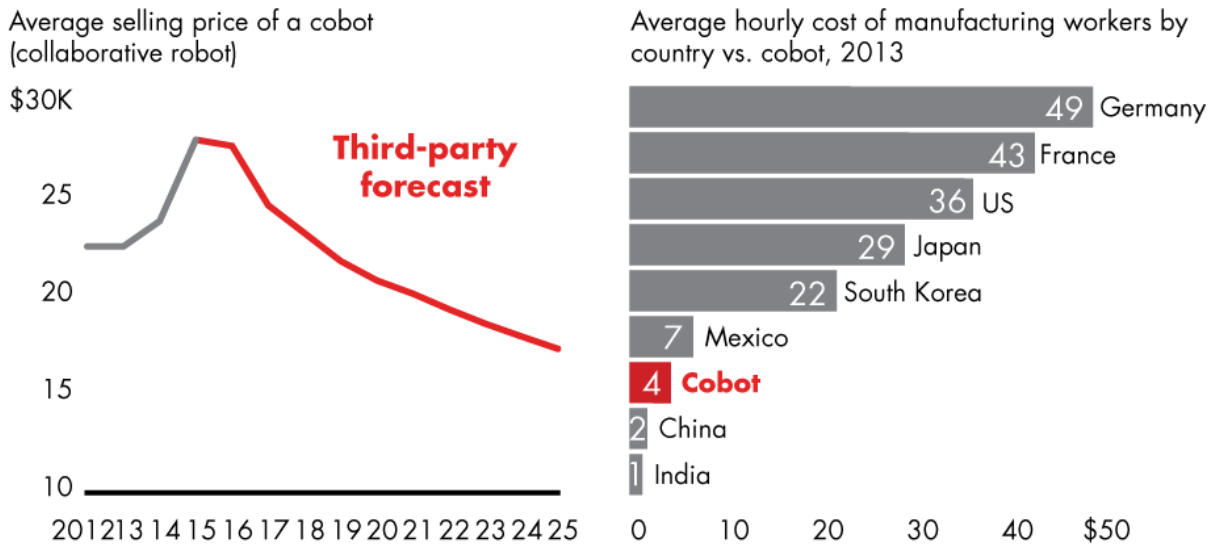
Automation will affect 80% of workers through wage suppression and job loss



Notes: Seven smallest employment categories omitted (architecture and engineering; life, physical and social sciences; community and social service; legal; art, design, entertainment, sports and media; protective service); projections do not include baseline forecasts of employment and wage growth; wage impact weighted by current employment
Sources: US Bureau of Labor Statistics; Bain Macro Trends Group analysis, 2017

Figure 21

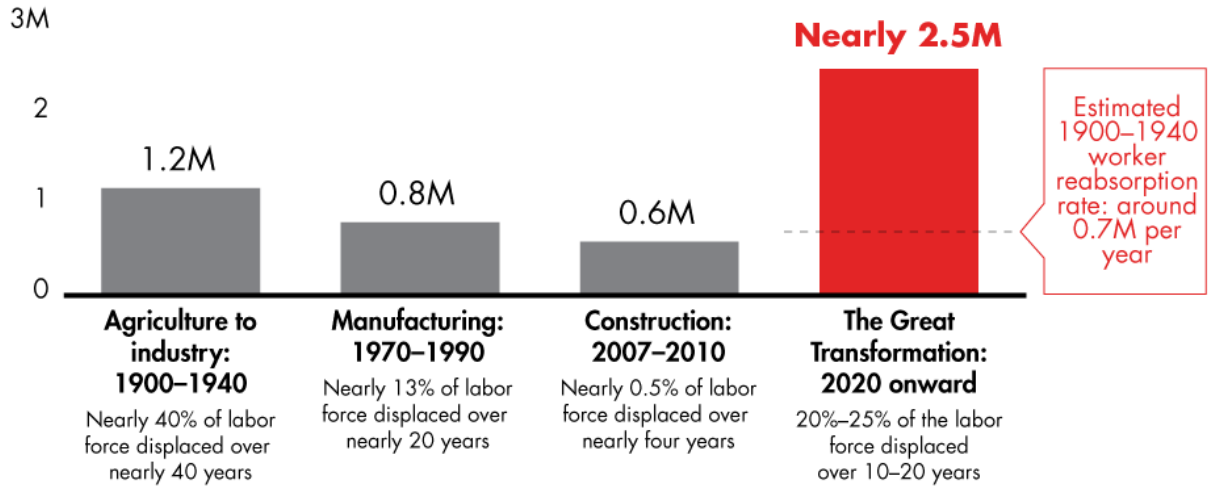
Next-generation robots are becoming cost competitive against developing-economy workers



Notes: Hourly cost of cobots calculated using 6,300-hour warranty life that comes with the Baxter cobot; China and India data from 2012 and 2011, respectively
Sources: Barclays Equity Research; Conference Board; Robotworx; Rethink Robotics; Bain Macro Trends Group analysis, 2017

Figure 27

US service sector automation could displace labor two to three times more rapidly than previous transformations

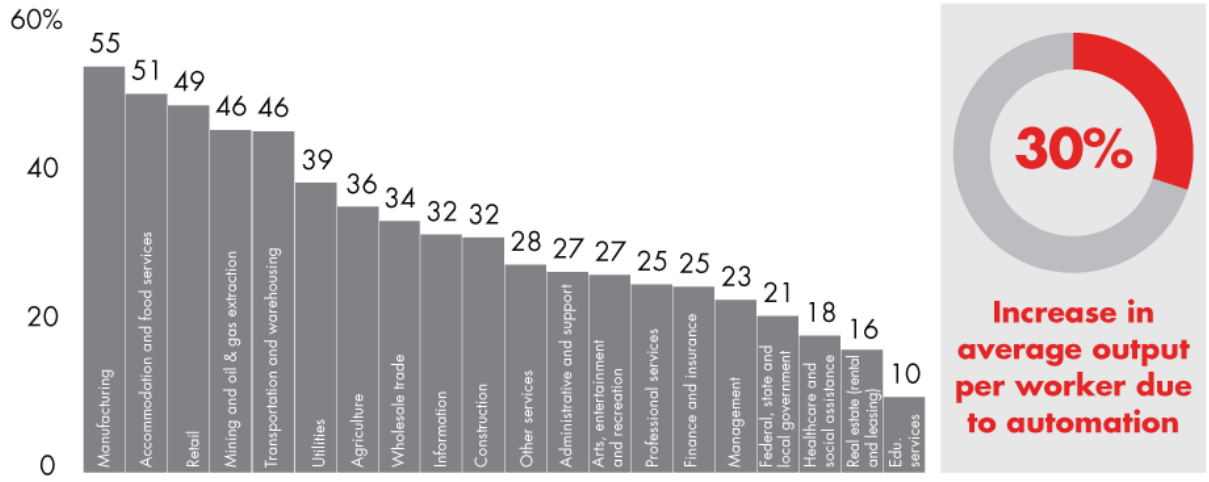


Note: Reabsorption rate calculated based on estimated average annual reabsorption of displaced agricultural workers from 1900 to 1940
Sources: US Census Bureau; US Bureau of Labor Statistics; Bain Macro Trends Group analysis, 2017

Figure 18

Productivity gains from automation will vary broadly across industries by about 10% to 55%

Automation-driven labor productivty growth, 2015 vs. 2030



Notes: Labor productivity measured in dollars of gross output per employee; projections do not include baseline forecasts of labor productivity growth
Sources: US Bureau of Economic Analysis; US Bureau of Labor Statistics; Bain Macro Trends Group analysis, 2017

Bain & Company *is a global management consultancy headquartered in Boston, Massachusetts. It is one of the 'Big Three' management consultancies (MBB). The firm provides advice to public, private, and non-profit organizations.*