

# Robots and rapid technological advancement as the dynamics of progress in the mod...

[Science](#), [Computer Science](#)



Decades back, well known budgetary specialists John Maynard Keynes and Wassily Leontief foreseen a period when automated thinking would convey “imaginative joblessness.” In their view, work would end up being less objective and workers would be supplanted by machines. Science fiction writers often pick up by plots where robots expect control endeavours for the most part performed by individuals. In such a circumstance, what may be the recommendations on the present work grandstand? According to “Robots and occupations: affirm from US work markets” (National Bureau of Economic Research working paper no. 23285, March 2017) by Daron Acemoglu and Pascual Restrepo, the use of current robots may diminish work and wages in the U. S. economy.

A cutting edge robot does not require a human overseer. The makers’ review of the composition shows that, in the United States, the amount of robots extended from 1993 to 2007 and, by 2007, meant 1 robot for every thousand pros. There are a normal 1.5- 1.75 million robots in action, with the number foreseen that development would 4- 6 million by 2025.

Endeavours using various robots consolidate the auto business, equipment industry, metal things industry, and plastic and manufactured industry. The Acemoglu and Restrepo consider analysed the effect that cutting edge robot utilize had on work markets from 1990 to 2007.

The makers suggest that this finding may demonstrate that cutting edge robots may not supplement a particular occupation gathering. The examination found the effects on pay similarly were engaged around the base segment of the scattering. The makers perceive that in light of the way

that modestly couple of robots starting at now exist, robots have caused the loss of only a set number of jobs. As the usage of robots is anticipated to spread, in any case, future work and wages would in all likelihood be impacted. Minimal evidence exists of the adjust impacts that this spread may cause. This examination is seen by the makers as an underlying stage in surveying how robots affect function feature harmonies. The makers give a correct way to deal with address the nonattendance of research around there. Their investigation closes by communicating that if the spread of robots continues, there could be sizable future abatements in the employment- people extent.

The essential challenge, which most developed countries have to go through, is that the rapid technological advancement will displace millions of workers from their current jobs without any guarantees for many new jobs to be created and this is the case especially in the manufacturing industries. Companies have been investing in many labour-saving technologies, in many cases due to rising labour costs, in other cases, because machines are simply cheaper than human labour.

On the other hand, some economic theorists understood very well that new machinery will not automatically create an increase in jobs. While it may be possible to engage some workers to the high-skilled profession, there is no guarantee that most low-skilled workers who lose their jobs due to automation will find suitable jobs at comparable wage levels elsewhere.

Researchers like David Ricardo argued that the point of implementing technology is to reduce labour costs and jobs, which would generally benefit company owners and shareholders while “ the substitution of human labour with machinery for human labour is often very injurious to the interests of the class of labourers.” Ricardo assumed that Unemployment may cause all sorts of social problems like crime, and so Ricardo was perfectly content with the idea of hiring unemployed labourers into the army to fight wars or as menial servants for rich people to, in some cases, do useless tasks. Some economists like Jeremy Rifkin, have also argued that, with the computer revolution taking over businesses, only fewer jobs will be required in the economy and the rest will be automated.

Now taking the case of specific countries like the US as a result of introducing technology, productivity in the US is soaring, while employment has failed to pick up at least since 2000. While the use of computers and technological innovation is continuing with a strong pace, median wages have largely remained still. We do see employment growth is in the low-wage sector where automation is not occurring yet but A report by the National Employment Law Project finds that 60% of the jobs that were lost between 2008 and 2010 were mid-level wage jobs, while new jobs that were created between 2010 and 2011 were mostly in the low-wage sector.

Employers have hired an average of 148, 000 people per month from June to September of 2013, but 44, 000 of those new jobs came from the low-paying retail industry, including clothing stores, grocery shops, and electronic outlets. Employers in the united states have also increased the credential job

requirements for the workers, expecting a bachelor's degree, where a high school diploma had previously been enough. This act claimed to the fact that a college degree is the major determinant for getting good jobs.

Ford Motor Co.'s plant in Gujarat, a team of workers gathered around a bunch of vehicles assembled as soldiers would for a military parade. They worked with monk-like concentration, taking care to fill the tiniest of gaps while fixing door panels to fenders. They were quick too, completing the welding of an entire car in just 84 seconds. But for all the thuds and clanks they made, they were not sweating, they were not covered with grease and soot, nor were their arms dappled with burns — the signature signs of workers at automobile plants. That's because the team at work at the Ford Motor company were not human. They were robots. The Ford Sanad plant actually has 453 robots in the shop floor, with up to 90 per cent of the work automated.

Because of the changing environment many companies prefer robots than human because of the labour cost. Robots have begun to take over an array of functions from humans at car plants in India. Volkswagen India has 123 robots at its Pune plant while Hyundai Motor India, the subsidiary of the Korean carmaker, has 400 robots at its factory in Chennai. The entire body shop, most of the paint shop and parts of the final assembly line in these plants are now automated. Robots are performing functions ranging from welding to foundry operations to laser applications. Indian automobile makers pale in comparison, but companies such as Maruti Suzuki, Royal

Enfield, Mahindra & Mahindra and Tata Motors have increased the levels of automation in its newer plants, especially in the body shop.

In many ways, the rise of the robots in automobile manufacturing was inevitable. As cars become more sophisticated, manufacturing is becoming more complex. The quality and safety standards too have turned more stringent. Consumers have become far more discerning, conscious about safety, demanding on features, but unwilling to compromise on prices. “ The challenge that manufacturers face is to provide competitively priced products that are universal in terms of safety and quality, yet suitably differentiated to meet the needs of consumers specific to a region,” says Stephen Sudhakar, vice president - HR & GS, Hyundai Motor India.

There is also the matter of safety. Functions like roof laser welding are hazardous for humans. Robots also help carmakers to reduce wastage and save costs. “ In the sealant application area, only the right amount of material gets used because of automation. We saw a 50 per cent reduction in material consumption when we replaced the underbody sealer application from human labour to automation,” says Etais of VW India.

Companies like Tata Motors are embracing automation because of ergonomic challenges. The company employs seven spot welding robots at its framing stations in the Pune and Sanad plants, which ensure stability, repeatability and safety, according to Sinha. The company plans to extend automation — the low-cost variety — to other critical production functions, he says.

Robots also bring scale to manufacturing facilities, a necessity with automobile companies in India also catering to a number of overseas markets. Ford, Volkswagen, Hyundai as well as Nissan India also export vehicles to countries in Asia as well as Africa and some parts of Europe. With scale comes the requirement to run at faster line speeds, says Keel Kearns, manager of Ford India.