# IMPACT OF AUTOMATION ON WORKFORCE – AN ANALYSIS OF THE WORLD DEVELOPMENT REPORT 2019

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## INTRODUCTION

Humanity is on the verge of an advanced automation age in which the technology is increasingly outperforming humans in all spheres that were earlier assumed to require human judgment and experience. The solace of few limitations on Artificial Intelligence is short lived, given the speed at which it is developing. The emergence of Artificial Intelligence is a giant step towards changing the face of human civilization altogether, either in form of unprecedented progress as advocated by Zuckerberg or wiping them off from the earth as affirmed by Stephen Hawking and Elon Musk.[1]

The growth in the application of automation has been vigorously debated among economic planners, think tanks and public policy analysts alike. **The World Development Report 2019** titled **The Changing Nature of Work (Working Draft)** discusses the impact of technology on work across various sectors on a positive note and the need to focus on building human capital to be in tandem with such changes. The overwhelming rate of technological advancement and the fears of disruptive consequences for labour across world are not unprecedented. History is evident of the fact that the deployment of new technologies leads to erosion of previous jobs but creation of new jobs which could not be predicted at the time. The World Development Report 2019 argues on similar lines, contending that technology creates

[1] Rory Cellan Jones, *Stephen Hawking warns artificial intelligence could end mankind*, BBC (August 23, 2018, 1:14 PM) https://www.bbc.com/news/technology-30290540.

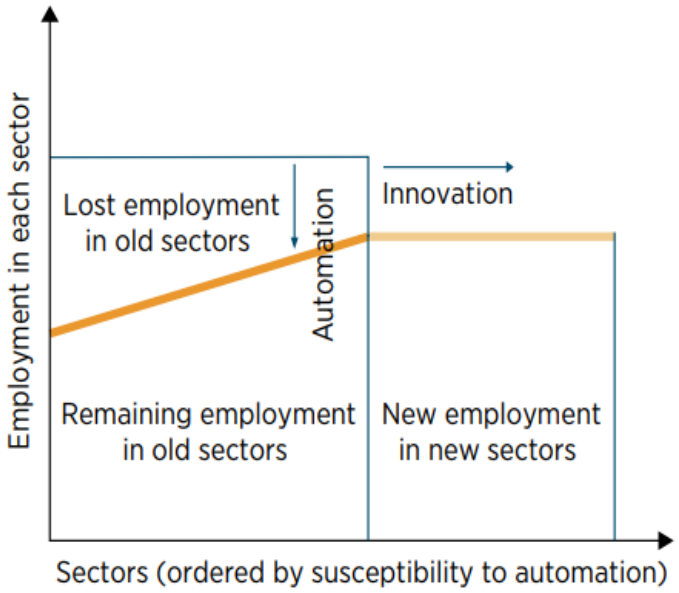
more jobs than it displaces and that the actors in the economic system accordingly evolve to adapt to such changes.[2]

## DEVELOPMENT OF TECHNOLOGY AND AUTOMATION

The report eulogizes major recent technological developments like growth of social media, access to vast goods and services via online platforms which have shaped the current world economies.[3] It does acknowledge the fear of automation on labour in these words - "It is true that in some advanced economies and middle-income countries manufacturing jobs are being lost to automation. Workers undertaking routine tasks that are "codifiable" are the most vulnerable to replacement. And yet technology provides opportunities to create new jobs, increase productivity, and deliver effective public services. Through innovation, technology generates new sectors and new tasks." However, it dismisses the threat to jobs from technology as 'exaggerated'.[4]

[2] *World Development Report 2019*, WORLD BANK (August 21, 2018, 1:14 PM) http://pubdocs.worldbank.org/en/816281518818814423/2019-WDR-Draft-Report.pdf.
[3] *World Development Report 2019*, WORLD BANK (August 21, 2018, 1:14 PM) http://pubdocs.worldbank.org/en/816281518818814423/2019-WDR-Draft-Report.pdf.
[4] *Id.*

**FIGURE 1.5** **In the future, the forces of automation and innovation will shape employment**




*Source:* Glaeser 2018.

[5]

[5] *Id.* The ordering of the sectors in the figure should be understood as running from the most automatable to the least automatable, or from low-skill and middle-skill jobs to high-skill jobs where there is a decline in the relative demand for some less educated workers.

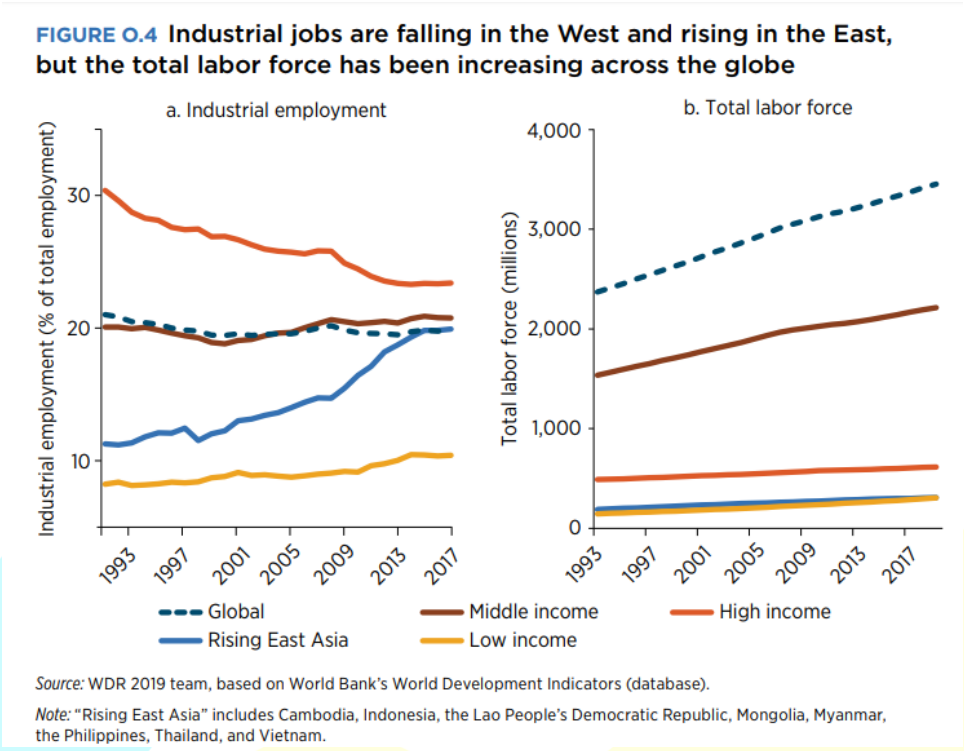



**FIGURE O.4 Industrial jobs are falling in the West and rising in the East, but the total labor force has been increasing across the globe**

*Source:* WDR 2019 team, based on World Bank's World Development Indicators (database).

*Note:* "Rising East Asia" includes Cambodia, Indonesia, the Lao People's Democratic Republic, Mongolia, Myanmar, the Philippines, Thailand, and Vietnam.

Though the rapid use of automation paves the path for a highly efficient and productive economy, its impact on labour markets is arguable and the threats posed by it are too grave to be overlooked, especially for developing economies with a large labour force like India. The rise of machines especially puts at risk the workers engaged in low skill jobs involving routine tasks. Displaced workers are likely to compete with other low-skill workers for jobs with low wages. Even when new jobs are created, retooling is costly, and often impossible. The number of robots operating worldwide is rising quickly. By 2019, 1.4 million new industrial robots will be in operation, raising the total to 2.6 million worldwide.[6]

## AUTOMATION AND JOBS

The major recent studies[7] welcome the prospects of automation enthusiastically but do not deny that jobs will be lost in millions across various sectors and the inequality would rise steadily.

[6] International Federation of Robotics, Frankfurt (August 21, 2018, 1:14 PM) https://ifr.org/.

[7] Gerlind Wisskirchen et al., *Artificial Intelligence and Robotics and Their Impact on the Workplace*, IBA GLOBAL EMPLOYMENT INSTITUTE (April 2017); James Manyika et al., *A Future that Works: Automation, Employment, and Productivity*, MCKINSEY GLOBAL INSTITUTE (2017); James Manyika et al., *Jobs lost, jobs gained: Workforce transitions in a time of automation*, MCKINSEY GLOBAL INSTITUTE

In the OECD, 57% of jobs are vulnerable to automation and the number rises to 69% in India and 77% in China.[8] India with a population of 1.3 billion has a lot at stake considering that automation will replace 69% of jobs in India implying large-scale socio-economic polarization. With large number of unemployed population already existing, automation will be a severe blow to workers across all sectors.

A study by ILO of five ASEAN countries – Cambodia, Indonesia, the Philippines, Thailand and Viet Nam predicts that approximately 56 percent of all employment in the ASEAN-5 is at high risk of displacement due to technology over the next decade or two. Further, a major study by McKinsey Global Institute concludes that 49 percent of the activities that people are paid to do in the global economy have the potential to be automated by adapting currently demonstrated technology and about 60 percent of all occupations have at least 30 percent of constituent activities that could be automated.[9]

The much-acclaimed study by Frey and Osborne concludes that 47% of all US jobs might be at risk of being automated as the current speed with which human labour becomes potentially obsolete is high and even increasing, attempts to upgrade skills and education may no longer suffice to win the "Race against the Machines". As Hawking pointed out, "Humans, who are limited by slow biological evolution, couldn't compete, and would be superseded."

## CONCLUSION

In light of such an uncertain future of Artificial Intelligence, the technological advancement cannot obviously be stopped; but its regulation and monitoring maybe considered to prevent the probable all-powerful artificial intelligence terminator science fiction from turning into reality. Whatever the case be, human resources will be released from routine and mechanical work and be available for new activities which will take the world to different horizons

(December 2017); Jonathan Woetzel et al., *India's labour market a new emphasis on gainful employment*, MCKINSEY GLOBAL INSTITUTE (June, 2017).

[8] Carl Benedikt Frey et al., *Technology at Work v2.0: The future is not what it used to be*, CITIBANK 7 (2016).

[9] James Manyika et al., *A Future that Works: Automation, Employment, and Productivity*, MCKINSEY GLOBAL INSTITUTE (2017).

altogether. As Keynes observed, in the long run, mankind is actually solving its economic problem.[10]

The potential for growth of automation should be embraced while simultaneously evolve laws and policies that aid workers and institutions in adapting to the technological change. The social inclusion for all workers regardless of how or where they work is required. Investing in human capital is the priority to make the most of this evolving economic opportunity.[11] Creating more quality jobs is also important to seize the benefits of technological change.[12] Investments in infrastructure are also needed. Most obvious are investments in affordable access to the Internet for people in developing countries who remain unconnected.[13]

Further, implementing Universal Basic Income or negative income tax may be reassessed to secure the rights of the labour. As the Report suggests, Governments could try to strengthen social protection and reduce inequality through requirements or subsidies for employer-provided support such as a minimum wage, employer provided health care, or protection against dismissal. Alternatively, governments could pursue the same goals through direct, state-provided support in the form of social assistance programs and subsidized universal social insurance or public jobs.

[10] *Supra note* at 6.
[11] *World Development Report 2019*, WORLD BANK (August 21, 2018, 1:14 PM) http://pubdocs.worldbank.org/en/816281518818814423/2019-WDR-Draft-Report.pdf.
[12] *Id.*
[13] *Id.*

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