GLOBAL 24.05.2018 | Jostein Lohr Hauge

Don't Rage Against the Machine

Automation is not stealing manufacturing jobs in the Global South – yet

In 1987, Adidas was closing shoe factories in Germany as part of a large-scale offshoring move to China. Last year, the company decided to bring some of its shoe production back to Germany, to a highly automated facility near Ansbach. Adidas' CEO at the time, Herbert Heiner, said he found it 'almost uncanny how things have come full circle'.

Things have not come full circle quite yet, but there is a growing anticipation that they will. With the advent of the so-called 4th industrial revolution — technological breakthroughs associated with things like artificial intelligence, robotics, the Internet of Things, autonomous vehicles, and 3-D printing — the automation hype train has definitely left the station and is running at full speed.

Low-skilled manufacturing jobs in the Global South are supposedly at highest risk of being automated. However, this hype is not strongly supported by evidence. While we should certainly recognise that emerging technologies have the potential of displacing some jobs, it looks like high-income countries will suffer more — although job displacement won't be dramatic even in these countries — and that the net impact on employment is not necessarily negative.

The automation hype

The global consultancy firm McKinsey recently published a study arguing that 60 per cent of all occupations in the world contain at least 30 per cent technically automatable activities. That represents 1.2 billion jobs. In a breakdown of economic sectors by activity type, the study claims that manufacturing is in the top three among automatable activities, where 60 per cent of jobs can potentially be automated.

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The automation alarm is raised to even higher levels in the context of developing countries. This is because developing countries typically

about the potential negative impact of automation.

specialise in manufacturing that is highly reliant on unskilled labour that can in theory be easily replaced by machines — like the manufacture of apparel, toys, and furniture. The World Bank's 2016 World Development Report estimates that two thirds of all jobs in developing countries are susceptible to automation. For example, sewing machine operators are currently 100 per cent automatable.

China stands out as the developing country most rapidly automating production. The stock of industrial robots in China has increased from 25,000 in 1995 to 206,000 in 2015. By 2018, this number is expected to reach 400,000, which will give China the highest stock of industrial robots in the world.

Africa is another region where people are worrying about the potential negative impact of automation. The impact of automation in Africa is understudied. However, if we assume that labour-intensive manufacturing will become drastically less labour-intensive, this will have dire consequences for industrialisation in most African countries, especially because Africa's population is growing at an alarming rate. By 2030, the continent is expected to have an estimated 800 million people eligible for work.

Evidence that should caution the hype

The fear that our jobs will be made redundant by machines is not new. In fact, it's been around since the Luddites' protests in England in 1811-16. The Luddites were a group of textile workers who destroyed machinery as a form of protest because they feared that their skills would go to waste as machines gradually replaced their roles in the textile factories.

200 years later, the textile industry is still highly labour-intensive, and so are a range of other manufacturing industries. For now, 3-D printing and robotics are used in relatively few countries. The existence of a certain technology does not translate into an easily applicable technology or a cost-efficient technology.

Don't get me wrong — machines will certainly displace manufacturing jobs in the Global South in

The studies by McKinsey and the World Bank mentioned above, suggesting that over half of current occupations worldwide stand at risk of automation, have not gone unchallenged. For example, this book cites a study which finds that only 2-8 per cent of jobs in developing countries

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are at risk of automation. The reason is that the tasks considered most susceptible to automation are those done mostly by workers in the middle of the global skills distribution — blue-collar workers in high-income countries — and in countries than can cost-efficiently deploy these new technologies. In fact, the manufacture of electronics, pharmaceuticals, electrical machinery and equipment stand at higher risk of automation than the manufacture of apparel, leather products, wood products, and basic metals.

Second, the assumption that the adoption of new technologies has a net negative effect on employment is not borne out by evidence. In some countries in Latin America, the opposite is actually happening: in Argentina, Chile, and Columbia, manufacturing firms that invest in ICT technology have experienced a net increase in employment.

Third, even if we assume the doomsday scenario of 3-D printers and robots stealing most of our jobs, we don't know if the manufacturing sector will experience larger job losses than the services sector or the agricultural sector. While the McKinsey report cited earlier shows that manufacturing is among the most automatable economic activities, it also shows that transportation and warehousing services are at equal risk of automation, and that food services are more susceptible to automation. In fact, sorting of agricultural products is 100 per cent automatable at this point.

So don't rage against the machine just yet. Don't get me wrong — machines will certainly displace manufacturing jobs in the Global South in the near future. But the scale of displacement is exaggerated.



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