The spectre of automation? Three strategies to ensure automation works for the common good

*Could the consequences of automation lead to the growth of communism, as Mark Carney has warned? **Mathew Lawrence** writes that deep technological change opens up two divergent paths: one where technologies are managed and owned to our collective advancement against one where they deepen inequalities. He draws on IPPR research to outline three strategies that will ensure automation works for the common good.*

A spectre is haunting economists, the spectre of automation. Mass unemployment, wage stagnation and the intellectual and political revival of communism – these are just some of the outcomes Mark Carney foresaw over the weekend when discussing the potential economic impact of technological change. Nothing is determined; how we manage automation will determine whether it immiserates or helps emancipate.

We are not on the cusp of a 'post-human' economy, with breathless rhetoric about the imminent rise of the robots and technologically-induced mass unemployment overblown. Nonetheless, the governor of the Bank of England was right to argue the accelerating capability of automating technologies could shake foundational economic and social assumptions: the role of employment as the primary means of distributing economic reward, labour's position as the central factor in production, notions of scarcity, and how we organise working time, among others.

The reason why the coming wave of automation could, in time, be different to previous waves – more rapid, pervasive, and disruptive – is because of the growing power of artificial intelligence. Whereas past waves of automation typically required machines to have a clear set of instructions in structured environments to enable them to perform tasks once done by humans, today's machines can act without explicit instruction in complex environments. In other words, machines are increasingly able to problem-solve, and 'learn', independently; and are able to perform an expanding range of both physical and mental tasks better and more cheaply than we can.

Under these conditions, automation could emancipate or immiserate. Managed well, automation could build a future of shared economic plenty, the productivity gains of technological change allowing us all to live better and more freely. Managed poorly, automation could create a 'paradox of plenty', in which we produce more, yet the fruits are less equally shared, as the benefits of technological change flow to the owners of capital.

Critically, the nature of the machine age will be human-shaped. This is because the pace, extent, and distributional effects of automation are determined by institutional arrangements, and the broader distribution of economic power in society. The future is not technologically determined. Automation is not an external force acting on us, but something shaped by our collective choices, with public policy powerfully steering how technologies are developed, used, and for whose benefit.

IPPR's report on managing automation set out three core strategies to ensure it works for the common good.

First, we need a managed acceleration of automation to reap the full productivity benefits and enable higher wages and living standards. Due to the UK's low investment rates, poor management practices, and long tail of low-wage, low-productivity firms, it is the relative absence of robots in the UK economy, not their imminent rise, that is the biggest challenge. To address this, the more rapid adoption of digital technologies, including automation, should become one of the national 'missions' of the government's industrial strategy. A new partnership body, Productivity UK, should also be established with the goal of raising firm-level productivity, including the acceleration of investment in automation technologies. It should focus on the adoption of digital and other technologies for firms in the non-frontier 'everyday economy', where technological adoption rates are low, and support ordinary workers to develop and implement technological solutions.

Second, as the fallout from Facebook's actions continue, it is clear we need to act to ensure the ethical and regulatory architecture shaping the use of digital technologies is publicly determined, not left in the hands of tech giants. We therefore recommended the establishment of An Authority for the Ethical Use of Robotics and Artificial Intelligence to regulate the use of automating technologies. Interestingly, there appears to be growing momentum towards such an outcome; whether the government's new Centre for Data Ethics and Innovation will be sufficient will be worth watching.

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Finally, if automation is to underpin a future of shared prosperity, we urgently need to develop new models of collective ownership. As automation grows, 'Who owns the robots?' becomes a vital determinant of the distribution of prosperity. If the share of national income flowing to the owners of capital increases, then existing, deeply unequal levels of capital ownership will accelerate inequality. To make sure that the dividends of automation are broadly shared, we need new models of ownership that hold wealth in common and democratise capital at scale.These could include a Citizens' Wealth Fund that owns a broad portfolio of assets on behalf of the public and pays out a universal capital dividend and the creation of employee ownership trusts to give workers a stronger stake in the firms for which they work – and an ownership claim on the value they help create.

Carney was right to highlight Marx and Engels as useful guides to an age of automation. When considering the divergent paths deep technological change is opening up – a world where technologies are managed and owned to our collective advancement against one where they deepen inequalities of power and reward – we have one political choice confronting us: socialism or barbarism.

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