

There've been grim warnings that Artificial Intelligence could create mass unemployment in the future. But is that really the case? RYAN KHURANA suggests otherwise...

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rtificial Intelligence (AI) has become a buzzword, resulting in some mythologising of the technology and its likely effects.

Nowhere is this more evident than in the pessimism over its impacts on the labour market, with many politicians and journalists, and even some economists, predicting mass technological unemployment.

A 2013 study by Carl Frey and Michael Osborne at the Oxford Martin School, predicted that 47% of US jobs would disappear as a result of new technologies. Their methodology has been applied to countries all over the world, encouraging the idea that Al is a threat to jobs.

Yet both economic theory and history suggest that, although AI is likely to change the kind of jobs people do, it will not cause long-term unemployment.

To see why not, start with the fundamental unit of analysis in employment: namely, a job.

A job is not simply a task, but a complex combination of tasks. The economic output produced by someone doing her job is the result of completing tasks in tandem.



For example, a lawyer's job requires meeting potential clients, enticing these clients to be represented by the firm, understanding the client's needs, undertaking the necessary background research, arriving at conclusions, and expressing these to clients, among other things.

None of these individual tasks results in the economic output of the lawyer unless done in tandem with others.

Al technologies struggle with complex combinations of tasks outside their narrow specifications, despite often being superior to human labourers at specific tasks.

As robotics pioneer Rodney Brooks has said: "People hear that some robot or some Al system has performed some task. They then generalize from that performance to a competence that a person performing the same task



of their time giving customers their cash and updating their bank books. Because ATMs can perform these tasks more efficiently, tellers largely stopped doing them. But they didn't become redundant.

Instead, by taking over these time-consuming tasks, ATMs allowed human tellers to reallocate their time to more profitable activities, such as improving customer



## ECONOMIC THEORY AND HISTORY SUGGEST THAT AI WILL NOT CAUSE LONG-TERM UNEMPLOYMENT

could be expected to have.

And they apply that generalization to the robot or AI system. Today's robots and AI systems are incredibly narrow in what they can do. Human-style generalizations do not apply".

Rather than replacing people, these new technologies must work with them.

Their aptitude for tasks that people now spend significant time doing does not mean they will reduce the economic value of human labour. On the contrary, they will allow people to do more valuable work.

The introduction of the ATM illustrates the point.

Before ATMs first came into use, human tellers spent most

service and upselling bank products.

At the same time, ATMs reduced the amount of space and investment required to deal with essential banking functions, allowing banks to serve more locations at lower costs.

This is the general pattern of the way labour changes with the introduction of new labour-saving technology.

Rather than responding by simply doing nothing, people do new and more valuable work.

As with ATMs and bank tellers, this work is sometimes in the same area. But completely new kinds of work often result from



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the productivity gains and increased prosperity.

Who in 1980 would have expected that in 2018, tens of thousands of British people would work as personal trainers and yoga instructors?

New technology and the increased prosperity it causes change the human skills that are demanded. In the coming years, general skills such as emotional intelligence and communication, which Al technologies will find difficult to reproduce, are likely to be in increasing demand.

The demand for more specific skills demanded is harder to anticipate. But there is likely to be a temporary mismatch between the skills demanded and the skills available in the workforce, since changes in education tend to lag changes in the skills demanded, and training takes time.

The issue of a "skills gap" in

many developed economies is likely to be exacerbated as Al becomes more prevalent.

Persistent skills gaps exist for many reasons, from low-cost university education allowing people to take courses with low labour market prospects, to state-run industries which lack dynamic wages to signal shortages, as in the health care and schooling sectors in much of Europe.

If unaddressed, the small pool of labour that has the skills for which there is

the labour market more dynamic, allowing new forms of contract (as in the gig economy) and a more fluid transfer between jobs.

Liberalising the education sector, so that it has the incentives and ability to respond more quickly to the changing demands of the labour market would also help to minimise the disruptions that AI is likely to create.

Al has the potential to vastly improve the productivity of modern



## IN COMING YEARS, SKILLS SUCH AS EMOTIONAL INTELLIGENCE AND COMMUNICATION ARE LIKELY TO BE IN INCREASING DEMAND

growing demand would see its pay increase significantly, while the pay of the expanding pool of workers without those skills would decline.

In responding to the rise of new AI technologies, the focus should not be on redistribution or finding ways to protect current jobs from disappearing.

Rather, public policy should be reformed to make

society, and solve many of the current economic challenges surrounding low growth seen today.

Its threat to work comes not from it replacing humans but, rather, from poor policies that keep people from adapting to the new skill demands•

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