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A higher minimum wage acts as a subsidy to automation

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The fear that machines or robots are coming for our jobs has echoed through time. The militant weavers and textile workers of the early 19th century, known as “Luddites”, went as far as destroying machinery to seek to prevent technological unemployment, or at least the usurpation of their skills. For the past five years we’ve been constantly forewarned about a coming technological revolution, which will render millions of jobs obsolete.

Economists tend to dismiss such thinking as fallacious, at least at a macroeconomic level. The evidence of the past two centuries, after all, suggests progress broadly brings rising wealth and opportunity, rather than mass worklessness. Certainly, though, some demographic groups are likely to be affected more than others. Such a trend also brings into question the wisdom of policies that artificially raise the cost of low-skilled labour and speed up these investments.

New evidence suggests that speeding up automation of low-skilled jobs is precisely the effect of raising minimum wage rates. Logically, the costs of raising statutory pay rates can be borne by shareholders in the form of lower profits, consumers through higher prices, or workers in the form of less labour demand. In a new paper, Grace Loren of the London School of Economics and David Neumark at the University of California show that between 1980 and 2015, minimum-wage increases led to a significant increase in the automation of low-skilled work in the US.

We see evidence of this phenomenon all around us, in the US and the UK. Supermarkets have replaced cashiers with self-service checkouts. Airline check-in assistants have seen their numbers dwindle. Many labour-intensive manufacturing activities have become completely automated with robots. Coffees and fast-food now can be ordered through apps, without the need to interact with a human. In fact, several fast-food chains have even been working on burger-making robots to operate alongside app-based ordering technologies.

No doubt a very high proportion of these investments and changes occurred because it was profitable for the businesses to undertake them. But Neumark and Loren suggest the rising cost of low-skilled labour driven by minimum wage policy was a key factor. Across all industries, they find that raising a minimum wage by \$1 results in a decline in “automatable” jobs by 0.43pc, with the effect much higher in manufacturing.

Of course, this is not the complete picture. Replacing low-skilled workers with machines leads to other jobs, such as those utilising or servicing the machines, which we might expect to be higher

skilled and higher paying positions. The net effect on overall employment might therefore be small. But Neumark and Loren suggest that low-skilled workers younger than 25 and older than 40, especially women, are particularly affected by the automation effects.

Younger workers tend to get displaced across a range of industries, whereas for older workers the negative effects occur mainly in manufacturing and public administration. Evidence suggests these groups then find it more difficult to find employment elsewhere.

A higher minimum wage, by raising the cost of labour, is therefore in effect an industrial policy to encourage labour-saving innovation. It is like a subsidy for substituting machines for labour – a regulation that makes as-yet uneconomic technologies economic.

It is no surprise that in France, for example, with high levels of labour regulation, high minimum wage rates and a large payroll tax, fast-food chains such as McDonald's trialled self-ordering machines as long as five years ago. Pushing for a higher minimum wage to compensate workers for the effects of automation makes no sense.

Some commentators labour under the delusion that this encouragement to invest is good for the economy, because it helps to boost productivity and living standards. It's certainly good for the workers able to maintain their jobs with a higher minimum wage.

But “regulating to innovate”, subsidising the introduction of some technologies before they are actually high quality and cost effective, does not come for free. It drives up costs and hence prices for consumers. And it eliminates the sorts of low-skilled, entry-level jobs that allow the development of human capital and transferable skills, such as punctuality, customer service and being able to work in a team.

The introduction of the National Living Wage here and the push for higher minimum wages in certain states therefore looks a risky gamble. A recent paper from the University of Washington suggested that payroll spending on low-skilled workers fell in Seattle after its recent wage hike to such an extent that the average employees' earnings fell by \$125 (£97) per month in 2016.

In the UK, the Government's own projections on the effects of the National Living Wage suggested that it would lead to 60,000 fewer jobs overall by 2020. Loren and Neumark's work suggests that looking at this estimate – the net effect – could hide much bigger impacts on workers nearer the start and end of their working careers.

The social consequences of this could be profound. If we are moving into a period when technological innovations are speeding up, we could be hiking minimum wages dramatically at just the wrong time. It will prove enough of a policy challenge as it is, to equip people with new skills to adapt in a rapidly changing labour market. Making more low-skilled jobs uneconomic by artificially hiking the cost of labour substantially could exacerbate this change at a time before new investments would otherwise make economic sense.

Being worried about this consequence is not to be anti-technology or anti-innovation. We all recognise that mechanisation and technological innovation are the only way to sustainably raise living standards. But encouraging new investments by raising business costs and driving out low-skilled jobs is another matter entirely.

Just because Luddite efforts to destroy machines was economically harmful does not mean that destroying low-skilled employment opportunities would be beneficial.

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