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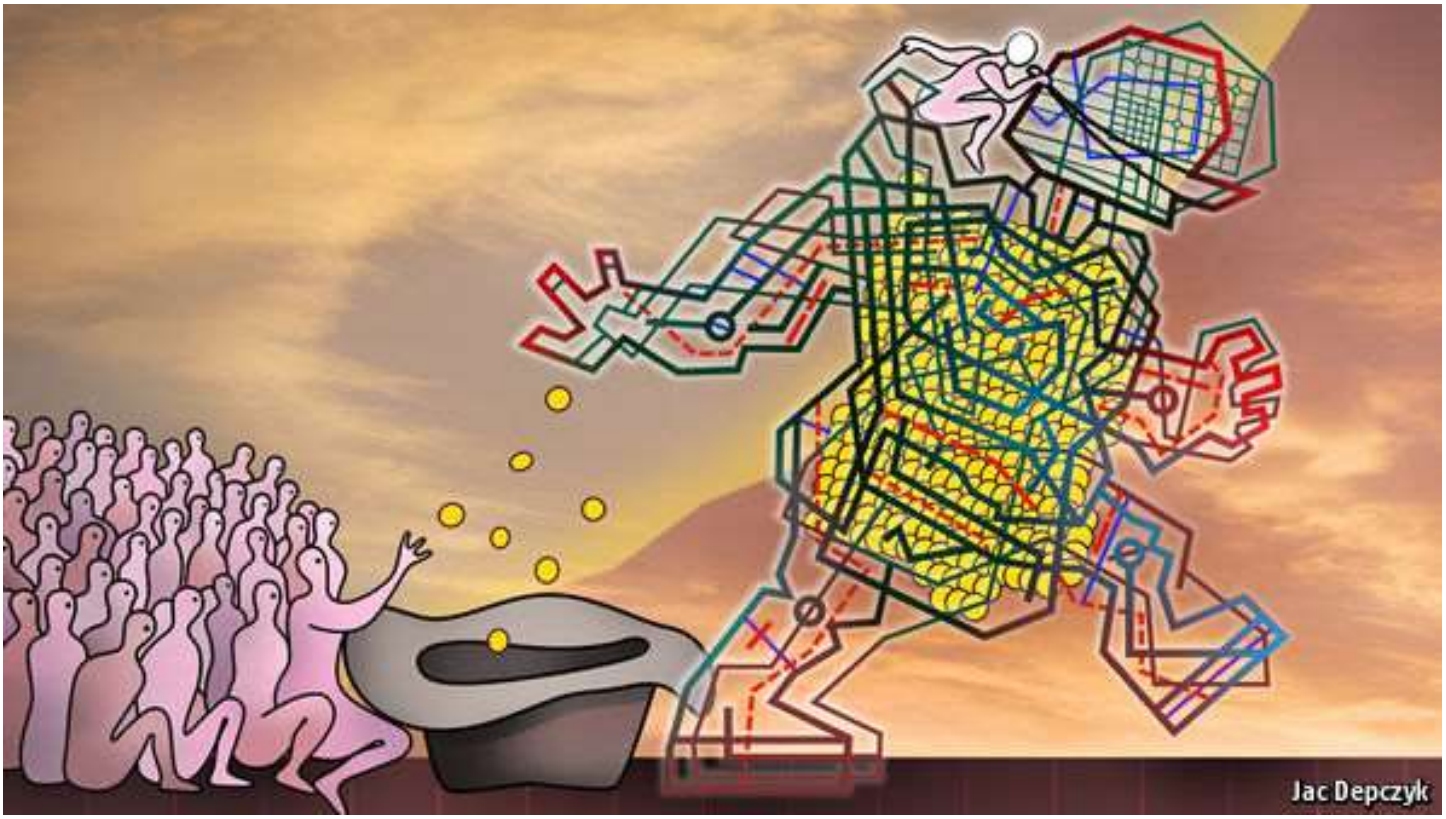
Why taxing robots is not a good idea

Bill Gates's proposal is revealing about the challenge automation poses



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BILL GATES is an unlikely Luddite, however much Microsoft may have provoked people to take a hammer to their computers. Yet in a recent interview with *Quartz*, an online publication, he expressed scepticism about society's ability to manage rapid automation. To forestall a social crisis, he mused, governments should consider a tax on robots; if automation slows as a result, so much the better. It is an intriguing if impracticable idea, which reveals a lot about the challenge of automation.

In some distant future robots with their own consciousnesses, nest-eggs and accountants might pay income taxes like the rest of us (presumably with as much enthusiasm). That is not what Mr Gates has in mind. He argues that today's robots should be taxed—either their installation, or the profits firms enjoy by saving on the costs of the human labour displaced.

The money generated could be used to retrain workers, and perhaps to finance an expansion of health care and education, which provide lots of hard-to-automate jobs in teaching or caring for the old and sick.

A robot is a capital investment, like a blast furnace or a computer. Economists typically advise against taxing such things, which allow an economy to produce more. Taxation that deters investment is thought to make people poorer without raising much money. But Mr Gates seems to suggest that investment in robots is a little like investing in a coal-fired generator: it boosts economic output but also imposes a social cost, what economists call a negative externality. Perhaps rapid automation threatens to dislodge workers from old jobs faster than new sectors can absorb them. That could lead to socially costly long-term unemployment, and potentially to support for destructive government policy. A tax on robots that reduced those costs might well be worth implementing, just as a tax on harmful blast-furnace emissions can discourage pollution and leave society better off.

Reality, however, is more complex. Investments in robots can make human workers more productive rather than expendable; taxing them could leave the employees affected worse off. Particular workers may suffer by being displaced by robots, but workers as a whole might be better off because prices fall. Slowing the deployment of robots in health care and herding humans into such jobs might look like a useful way to maintain social stability. But if it means that health-care costs grow rapidly, gobbling up the gains in workers' incomes, then the victory is Pyrrhic.

The thorniest problem for Mr Gates's proposal, however, is that, for the moment at least, automation is occurring not too rapidly but too slowly. The displacement of workers by machines ought to register as an increase in the rate of productivity growth—and a faster-growing economy. But since a burst of rapid productivity growth in the late 1990s and early 2000s, America's economy has persistently disappointed on these measures. Mr Gates worries, understandably, about a looming era of automation in which machines take over driving or managing warehouses. Yet in an economy already awash with abundant, cheap labour, it may be that firms face too little pressure to invest in labour-saving technologies. Why refit a warehouse when people queue up to do the work at the minimum wage? Mr Gates's proposal, by increasing the expense of robots relative to human labour, might further delay an already overdue productivity boom.

When faster automation does arrive, robots might not be the right tax target. Automation can be understood as the replacement of labour with capital. To save humans from penury, the reasoning goes, a share of the economy's capital income needs to be diverted to displaced

workers. Expanding capital ownership is one strategy; people could own driverless vehicles that operate as taxis, for instance, and rely on the flow of fares for part of their income. Taxing robots and redistributing the proceeds is another.

But as machines displace humans in production, their incomes will face the same pressures that afflict humans. The share of total income paid in wages—the "labour share"—has been falling for decades. Labour abundance is partly to blame; the owners of factors of production in shorter supply—such as land in Silicon Valley or protected intellectual property—are in a better position to bargain. But machines are no less abundant than people. Factories can churn out even complex contraptions; the cost of producing the second or millionth copy of a piece of software is roughly zero. Every lorry driver needs individual instruction; a capable autonomous-driving system can be duplicated endlessly. Abundant machines will prove no more capable of grabbing a fair share of the gains from growth than abundant humans have.

A new working paper by Simcha Barkai, of the University of Chicago, concludes that, although the share of income flowing to workers has declined in recent decades, the share flowing to capital (ie, including robots) has shrunk faster. What has grown is the markup firms can charge over their production costs, ie, their profits. Similarly, an NBER working paper published in January argues that the decline in the labour share is linked to the rise of "superstar firms". A growing number of markets are "winner takes most", in which the dominant firm earns hefty profits.

DOS Kapital

Large and growing profits are an indicator of market power. That power might stem from network effects (the value, in a networked world, of being on the same platform as everyone else), the superior productive cultures of leading firms, government protection, or something else. Waves of automation might necessitate sharing the wealth of superstar firms: through distributed share-ownership when they are public, or by taxing their profits when they are not. Robots are a convenient villain, but Mr Gates might reconsider his target; when firms enjoy unassailable market positions, workers and machines alike lose out.

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