



# Automation and Well-Being: Bridging the Gap between Economics and Business Ethics

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## Abstract

Some economists now predict that technology will eliminate many millions of jobs and lead to a future without work. Much debate focuses on the accuracy of such a prediction—whether, or at what rate, jobs will disappear. But there is a wider question raised by this prediction, namely the merits or otherwise of automating work. Beyond estimating future job losses via automation, there is the normative issue of whether the quality of life would be enhanced in a world where machines replace humans in work. Economics makes particular assumptions about the value of work and the nature of well-being that can address this normative issue. But a deeper enquiry into the scope for living well in a possible automated future requires us to think beyond the limits of standard economic theory and to engage in matters of relevance to business ethicists. This paper shows how automation raises crucial concerns about work—its meaning and contribution to well-being—and how the ability to envisage a better future of work depends on bridging the gap between economics and business ethics. Overall, the paper aims to further understanding of automation as a possible mechanism to raise well-being within work and beyond it.

**Keywords** Automation · Well-being · Work quality · Work time · Work futures

**JEL Classification** O33 · J32 · J54

## Introduction

Past economics debates retained a certain optimism about the progress of technology. While it was assumed that technology would be labour-saving and hence job-destroying, there was also the view that technological change would lead to higher employment and that any job losses linked to automation would be more than offset by new job creation—in particular, higher productivity due to technological progress would help to lower prices, raise real incomes and induce higher labour demand (Mokyr et al., 2015). History, indeed, has supported this view—as capitalist economies have developed, technology has advanced while the level of employment has grown. Despite claims to the contrary, technological unemployment has not proved a persistent or pressing problem under capitalism.

Some modern economists, however, argue that history is a poor guide to the future of work (Brynjolfsson & McAfee, 2014; Frey & Osborne, 2017). They highlight the great potential for new technology to replace jobs in the future. Where previously jobs have survived automation, in coming years, they will disappear, as technology is developed that can replicate the skills and ingenuity of human workers. Particular attention is given to developments in artificial intelligence and machine learning. While history shows us that work can be maintained with technological progress, the future—it is claimed—will usher in a new era where technology will sweep away many millions of jobs. The result will be a ‘world without work’ (Susskind, 2020).

An ongoing debate within economics relates to whether contemporary predictions of work’s demise are overblown. Some commentators point out how technology can complement labour and provide the basis for new employment opportunities (Autor, 2015). Beyond the hyperbole about robots taking all the jobs, there is a more sober reflection on how technology might destroy as well as create jobs and how the economy might sustain high employment levels into the

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future (Acemoglu & Restrepo, 2019). In this respect, there is a questioning of predictions of the end of work.

But there is a deeper issue raised by modern economics discourse on automation. This issue relates to the ability of people to live well without work. Assume the predictions about the future of work were to come to true. Then would people be able to achieve well-being without work to do? The above issue links to an important normative question, namely whether technology *should* reduce the volume of work and enable people to spend more of their time as leisure.

This question has obvious concern for business ethicists. It relates to the nature of work within businesses and its role in shaping well-being. It also raises issues around the impacts of technology on the scope for living well and asks us to consider whether the reduction of work and extension of leisure should be a key goal of business and the economy more generally. The issue of automation (with a few notable exceptions, see Kim and Scheller-Wolf (2019)), however, has been under-addressed in business ethics (see also Martin et al., 2019). One contribution of this paper is to extend understanding of this issue by addressing the effects of automation on well-being.

Another more specific contribution is to examine how mainstream neoclassical economics confronts these effects. This is important because the economics discipline tends to dominate discussions about automation. These discussions include those in business schools as well as in policy circles. Yet, as argued in the paper, the contribution of neoclassical economic theory is problematic—on automation and its well-being effects, it offers a very limited perspective and one that contains important gaps. Mainstream neoclassical economics, therefore, cannot be relied upon to provide a fully accurate assessment of the well-being impacts of automation. Rather, there is a need to revise and extend some of its core ideas notably on the place of work in human life and the nature of well-being itself. The paper suggests that bridging the gap between economics and business ethics can advance the economic understanding of automation and its effects on well-being. It is recognised that there are barriers to bridge-building due to the insularity of mainstream economics debates but it is argued that these barriers must be overcome if we are to understand the full potential for advancing well-being through automation.

From a political and policy perspective, the paper shows how the scope for improvement in well-being in a possible automated future depends on harnessing technology for specific ends. In particular, it means using technology to create less and better work. A superior future of work also requires broader institutional change, not least in a direction that affords workers more of a say over what and how technology is used in the workplace. In the present, capitalist employers decide on technology without direct regard to

the well-being of workers. Ensuring that technology serves society not just the profit-motives of capitalist employers, therefore, requires the democratic reform of work. The ideas in the paper offer ways to broaden economic and ethical enquiry on automation and also provide pointers about how technology might be harnessed to raise well-being both within work and beyond it. In these respects, the ideas aim to extend the boundaries and content of debates in both economics and business ethics.<sup>1</sup>

The paper is organised as follows. Section two addresses modern predictions of the demise of work. Section three looks at how mainstream neoclassical economics confronts the relationship between work automation and well-being. Section four considers how work might be reorganised and the division of labour between robots and humans reconstructed to facilitate higher well-being. Section five argues that greater democracy in workplaces remains crucial in turning automation into a progressive force in society. Section six concludes.

## The ‘This Time Will Be Different’ Narrative

Notions of the ‘Second Machine Age’ and ‘Fourth Industrial Revolution’ have encouraged the view that work is at risk (Brynjolfsson & McAfee, 2014; Ford, 2015; Schwab, 2016). They suggest that society is set to face a future where fewer people will be required to carry out work. Robots will be the workers of the future. While past predictions of the decline of work may have proven incorrect, this time will be truly different (Susskind, 2020).

Automation on a grand scale implies success. It suggests a world where total consumption can be met with less work. In effect, it implies the end of the economic problem of scarcity. Rather than worry about meeting its needs and wants, society can look forward to an abundant economy that offers the technological means to live with only a limited amount of necessary human labour.

But automation also poses clear threats. Most obviously, it threatens higher unemployment together with higher inequality. In modern society, work brings income. Indeed, work is the principle means for people to earn a living. Its

<sup>1</sup> A caveat can be added at the outset. The arguments in the paper focus on the potential for automation and examine the possibilities for well-being that would arise if it was achieved. Discussion is added in a later section that deals with possible reforms that could help to realise a form of automation that promotes well-being, but the paper does not address directly the many obstacles, economic as well as institutional, that prevent the automation of work. In this respect, it does not address whether automation will happen in practice and whether an automated future of less work will be actually realised. Note Kim and Scheller-Wolf (2019) add a similar disclaimer in their study of automation.

loss will mean hardship for many workers, at least without some compensating income support. This concern has led some writers to argue for a ‘basic income’ (BI) that can replace the money gained from work (Ford, 2015). A BI—to be paid to everyone regardless of need or status—is viewed as a necessary insurance policy against mass destitution caused by the disappearance of paid work.

Inequality is linked to the unequal distribution of the rewards from automation. In a ‘winner takes all’ society, the returns to the owners of technology will be high. Those dependent on waged work, by contrast, will suffer, both absolutely and relatively. A BI, again, is often offered as a solution to this problem—hence, it provides a mechanism to redistribute income and to combat higher inequality. Alternatively, higher progressive taxes could be used to close the gap between rich and poor (Mokyr et al., 2015, p. 47). This would offer a more conventional means to redistribute income.

Yet, there is a second, deeper-level threat—this relates to the loss of work itself. If automation denies people the opportunity to work, it will not only cause them a loss of income but will also prevent them from enjoying the non-material goods that work can bring (Cassar & Meier, 2018; Gheaus & Herzog, 2016). These goods include the opportunity to develop and exercise skills, and to gain a sense of purpose and achievement from pursuing activities in work. Participation in work can also offer sociality and fulfil psychological needs for relatedness. It can matter to the lives of people beyond the income it brings and can be missed even if the income gained from work is somehow replaced.

This second threat is linked by Kim and Scheller-Wolf (2019) to what they term as ‘*the axiological challenge*’. It includes the loss of meaning that comes from having no work to do. They point out how this challenge can persist even with compensation for income losses through automation and how its persistence raises acute ethical concerns about the meaning of work and life in a possible future world where workers are replaced by robots.

The existential threat outlined above, at least in economic debates, has tended to be overshadowed by the first (economic) threat. This is with some justification. People risk not being able to meet their material needs without paid work. The prospect of large-scale automation (and with it, mass unemployment) stands as a clear threat to people’s lives—it means their potentially facing direct economic hardship and poverty. But people do not live off bread alone. While work is important for earning money, as mentioned above, it also influences people’s ability to self-develop and to achieve well-being. The non-financial costs of automation may be significant and add to the economic losses stemming from the lack of income from paid work.

Evidence on the negative effects of unemployment on subjective well-being shows how work’s loss can be felt

directly by workers and how the lack of work can have long-lasting scarring effects on workers’ lives (Clark & Oswald, 1994). The unemployed suffer the loss of skills, social isolation and a lack of purpose in their lives, leading to lower well-being. These costs, again, magnify the loss of income they face. More recent research has also linked so-called ‘deaths of despair’ to the lack of paid work (Case & Deaton, 2020). This research suggests that automation may have potential mortal threats for humanity. Without work to do, many more people may face chronic ill-health, and in the extreme, shortened lives.

Here we can observe the limits of interventions like a BI. While the latter compensates for income lost through the absence of paid work, it cannot replace the meaning and positive experience of work itself. The non-economic costs of automation, if significant and enduring, will require different types of reform. Brynjolfsson and McAfee (2014, p. 234), for example, call for policies to support new job creation on the basis that work itself is ‘beneficial’. In this respect, they draw on evidence showing how unemployment lowers well-being. In policy terms, they propose that people should be equipped with higher-level skills and present a vision of the future where work is preserved rather than curtailed. They reject a BI because it does not offer work for people to do. Instead, they favour a society that supports and encourages high levels of employment.<sup>2</sup>

Predictions of work’s demise, of course, are by no means certain—as in the past, work may well grow with technological progress (Autor, 2015). But even if these predictions do not come true, it can be still regarded as a worthwhile exercise exploring the possibilities for well-being achievement with less work. Indeed, it can be seen to stimulate critical thinking about how work fits into life and how its role might be changed via automation to suit human needs for meaningful activity.

Later discussion will address critically responses to automation in modern debate. Before then, however, we will examine how standard economic theory addresses the potential welfare losses due to the disappearance of work. This is important again because of the hegemonic position of economics in academic and policy debates on automation.

<sup>2</sup> Part of the cost of unemployment in modern society arises from the expectation that participation in work is a ‘normal’ part of life. If a BI was implemented at a sufficiently high level and people could meet their material needs without work, it would challenge this expectation and lessen the stigma of unemployment. With a universal BI, people may not suffer the same guilt and anxiety from not working—the fear of being without work, in other words, would reduce. But there remains the fact that work can still have meaning in itself and that a BI would not nullify the need and desire for people to secure meaningful work. Questions persist about the provisioning of meaningful work that can only be answered by looking beyond a BI (see below discussion).

Confronting this position remains a key task in broadening outlooks and expanding knowledge including on the ethics of automation. As we will see in the next section, mainstream neoclassical economics makes particular assumptions about work and well-being that lead to specific normative conclusions about the welfare impacts of automation. These conclusions will be challenged and used to highlight the need for the economics discipline to broaden its boundaries and to integrate insights from other subjects inclusive of business ethics.

## Work Disutility and Automation: The Limits of Neoclassical Economic Theory

The history of economic thought reveals some continuity in the definition of work and relatedly in the assessment of the impacts of technology on well-being. Work has been viewed as a ‘disutility’ and something that people normally wish to avoid (Spencer, 2014). If technology can enable people to meet their consumption wants by working less, then its benefits can be assured. Underlying this view is the idea that automation is useful and beneficial in reducing the hours that workers need to devote to work.

The disutility of work has been defined in different ways. An early view linked to classical economics saw work, in the words of Adam Smith (1976, vol. 1, p. 47), as all ‘toil and trouble’. The pain incurred by workers in the act of working led to a desire to work less. If automation could save people from work, then its acceleration could be justified. Critics like J.S. Mill and Karl Marx, however, worried that technology was not lightening work and that work hours were staying long despite automation (Hermann, 2014). The costs of work in this case were specific to the capitalist system and the use of technology to nullify these costs required wider institutional reform. Indeed, in the case of Marx, it required transcending capitalism.

The evolution of neoclassical economics has seen the move to formalise the labour supply decision as a straight choice between income and leisure (Becker, 1965). In the now standard labour supply model, work is reduced to a means to income and an opportunity cost. The price of working is the lost opportunity to spend time as leisure. The incentive to work is represented by the opportunity to gain income to fund consumption. Within this model, work is assumed to be a disutility ‘at the margin’—workers are assumed to weigh up the benefits and costs of work and to stop working at the point where the marginal benefit of work equals its marginal cost (Rätzel, 2012).

The above model incorporates understanding of workers’ preferences for work itself. For example, some workers may have positive motives for working and enjoy work over some range of hours. This enjoyment will then add to the

economic advantage of their gaining extra pay by extending work hours. Other workers, by contrast, may be averse to work. They may face dissatisfaction in the first hours of work and extend work hours only because of the economic benefits of higher consumption. What matters here are workers’ own preferences for work and the individual trade-offs they make over the uses of their time.

This model can be extended via the theory of compensating differentials (Rosen, 1986). In this theory, workers who prefer work with high intrinsic rewards will forgo higher wages to access such work. By contrast, those with neutral preferences for intrinsically rewarding work will be attracted to low-quality work where the pay is higher. The higher pay compensates them for doing such work and allows them to maximise utility.

Automation fits into this theory as a mechanism that affects the way that workers allocate their time. Workers who prefer work with positive features may be able to work more if automation reduces drudge work, while those who are indifferent towards the qualitative content of work may be able to work less if technology allows for shorter average work hours. The assumption that time spent away from work (defined broadly as ‘leisure’) adds to utility gives credence to the idea that the economisation of work can be welfare-improving. The point is that workers make choices over the work they do and automation will affect these choices though in ways that will always produce maximum utility for workers.

There are problems with the above approach, however. Firstly, the idea that work is a disutility needs to be challenged and questioned. To be sure, as mentioned above, neoclassical economics assumes that work is a disutility only ‘at the margin’, leaving room for workers to possess non-instrumental preferences for work. But this assumption cannot conceal what is a rather impoverished view of work within neoclassical theory. Analysis of the meaning of work for how people live their lives remains outside of neoclassical economics. Established research (including in business ethics) shows how people gain meaning from work in a direct way (Lips-Wiersma & Morris, 2009; Michaelson et al., 2014; Spencer, 2013; Yeoman, 2014)—this extends beyond their having preferences for particular types of work and encompasses their active participation in and identification with work. To understand the full effects of automation on workers’ well-being, therefore, the meaningful aspects of work need to be analysed directly not simply assumed.

Secondly, there are limits to a preferences-based view of well-being. Meaning in life in neoclassical economics is equated with individuals meeting their preferences. Where these preferences come from and why they vary between individuals is not accounted for—instead, they are taken for granted and assumed to be exogenously determined. Preferences are assumed to be purely subjective and ‘revealed’

by the choices made by individuals. The problem is that preferences may be met where people are not achieving well-being. Consider workers who through lack of alternatives find themselves performing work in a sweat-shop. Neoclassical economists might interpret this outcome as fulfilling workers' preferences and providing the basis for utility maximisation. Based on objective criteria, however, it can be established that working in a sweat-shop does not offer any basis for well-being—rather, due to the presence of low wages and oppressive working conditions, it degrades and demeans workers.

Individual workers may also adapt their preferences in the face of adverse conditions and come to prefer work that lacks meaningful. This again would not imply their achieving well-being, but their making the most of what are, in objective terms, bad conditions. 'Making the most of a bad job' may make work-life more tolerable for workers but it does not mean that their lives at work are going at all well—indeed, it may conceal what are, in fact, harsh and health-limiting work conditions.

In evaluating the effects of automation on workers, then, it is important to move beyond a focus on meeting individual preferences and instead give consideration to the objective nature of work and its capacity to support the well-being of workers. In this way, it is possible to see how automation might raise well-being by reducing the exposure of workers to work that lacks meaning, while at the same enabling them to potentially do other work that is more meaningful and life-enhancing (Smids et al., 2020).

Thirdly, the nature of leisure remains relatively undefined. In neoclassical theory, leisure is simply all time not spent working. This leads to obvious anomalies such as the misclassification of unemployment as a freely chosen leisure activity (Layard, 2005, p. 67). But it also misses the underlying benefits of leisure—these benefits stem from people having the ability to do and be things in their lives that they are not necessarily able to achieve in work.

Leisure offers the freedom to be creative and to express one's self. It enables people to carry out activities, from sport to art, as ends in themselves. While work remains a necessary activity (one dictated by external needs), leisure possesses a relative freedom and offers a source of meaning in its own right. Automation, then, may be promoted as a way to extend the freedom for people to find meaning in their lives beyond work. This reinforces the need for a more objective definition of well-being that focuses on the freedoms and opportunities open to people in their lives.

Fourthly, there is the question of reform and workers' voice and participation in work. Neoclassical economics assumes that workers can get the work they want through the choices they make in the labour market. Just as they can gain the work hours they require to maximise their utility, so they can secure the types of work that match with their

preferences. The focus on workers' choices and freedom in the labour market is misleading at best and a distortion of reality at worst. In truth, most workers have to work to live—they have no choice but to work. This fact leaves workers vulnerable and open to exploitation. Against the theory of compensating differentials, there is no necessary compensation of higher wages for doing bad work—rather, low pay and low-quality work often coincide. The above vulnerability of workers raises clear ethical concerns and motivates an agenda for reform in work. In terms of automation, it is evident that workers cannot rely on the labour market to deliver the work they need to achieve well-being but instead must gain the ability to shape and mould technology in ways that suit their interests. This brings into focus issues around workplace governance and ownership that go beyond neoclassical economics.

Based on the above, it can be seen how mainstream neoclassical economics faces problems dealing with the impacts of automation on well-being. By failing to analyse closely the nature of work, it misses how automation can affect well-being directly by reducing and enlarging access to meaningful work. By adopting a preferences-focused view of well-being, it misses the objective limits to well-being stemming from the content and conditions of work. Finally, it misses the value of leisure as a space for self-development, and the need and scope for workplace reforms aimed at ensuring that automation delivers for workers.

## Rethinking the Organisation of Work and Division of Labour Between Robots and Humans

This section aims to rethink how work might be organised under conditions where automation occurs. It also considers how work might be divided between robots and humans and the best circumstances for securing well-being in a possible automated future.

### Automation at Work

Technology that automates work has different potential effects. Firstly, as suggested above, it can present the possibility for the loss of work that workers value and find meaningful. It may do this directly by taking away jobs. But it may also do this more subtly by removing specific tasks *within* jobs. Technology, for example, that leads to speed-up or reduces autonomy over work may inflict direct harm on workers. This harm may be felt even while workers face no obvious threat of unemployment. The point is that the costs of work can be enhanced by the uses of technology and that automation can erode the qualitative experience of work in

a direct way. Indeed, in the worst case, it can lead to work that lacks meaning and is detrimental to workers' well-being.

Secondly, from an opposite direction, automation can help to raise the quality of work. Take the example of robots that reduce the repetitive or boring tasks within jobs. By automating these tasks, they would help to make work more meaningful. At least, they would create the opportunity for workers to spend more time on activities that have greater intrinsic appeal. Here automation would be job-preserving, removing the low-quality elements of work and extending the high-quality elements. If automation is generally directed at reducing work that is costly to perform, its effect would be to enhance the average quality of work.

Thirdly, automation can help to extend time for leisure. As argued above, leisure creates space for people to perform activities that mean something to them and add to their well-being. Its extension via automation can then be viewed as desirable.

J.M. Keynes, in a famous 1930 essay, looked forward to a time when people would be set free to pursue all manner of non-work activities (Keynes, 1963). He forecasted that, by 2030, the working week would be just fifteen hours in length. This outcome would be achieved by constant technological progress. While recognising that people might take time to adjust to more leisure hours, Keynes was confident that the move to a leisure society would elevate the quality of human life. Automation would bring net benefits to society and was to be encouraged not opposed.

Keynes's positive vision of the future incorporated the idea of people gaining more time 'to live wisely and agreeably and well' (Keynes, 1963, p. 367). Living 'wisely' meant people pursuing knowledge and creating art. Like earlier writers such as Aristotle, Keynes envisaged people using their extended leisure time to become great artists, poets and writers. Work would remain a necessary obligation rather than a chosen activity and its pursuit would continue to crowd-out activities beyond work that people could pursue for their own sake. Keynes wanted to expand leisure time to allow people the opportunity to become better human beings.

On the above point, Keynes may be criticised for his inattention to the possible (and actual) benefits of work (Freeman, 2008; see also Kaplan & Schulhofer-Wohl, 2018, p. 256). He tended to see the disutility of work as universal and missed how workers might suffer direct losses from their non-participation in work. But at least Keynes offered a compelling vision of leisure—indeed, in seeing a way to promote well-being through the expansion of activities pursued during leisure time, he highlighted the possibilities for a better life in a future where machines would take on more work. His vision of a future economy was consistent with ethical values that promoted freedom from constraint over constant toil and the struggle for existence. This vision is

one that can inspire thinking in the present, not least by promoting the case for extending leisure time.

## The Goals of Automation

Automation offers scope to achieve two key goals. In the first place, it offers a way to reduce work time. In the second place, it presents scope to minimise work that lacks meaning.

On the first goal, work time reduction via automation would enhance the freedom of people to live as they want. Again this fits with Keynes's depiction of the benefits of automation and his wider support for increased leisure time. Other benefits from shorter work hours could include higher productivity from a more rested and alert workforce (Pencavel, 2018), lower carbon emissions from reduced commute times and the move to more sustainable forms of consumption (Schor, 2005), and greater gender equality as the distribution of paid and unpaid work time is equalised (Weeks, 2011).

Regarding the second goal, the focus is not just on protecting workers from work that has low meaning but also ensuring that they have some opportunity to pursue meaningful work. Beyond providing meaning outside of work, automation should contribute to meaning in work.

A benefit of automation is that it can help to reduce drudge work. By targeting technology at the least appealing aspects of work, as argued above, improvements can be made in the average quality of work. One problem at present is that technological progress has coincided with the persistence of low-quality work. For example, evidence suggests that work has become more intensive, in part, because of the greater use of technology (Green et al., 2022). But this reflects on the particular direction taken by technological progress—there is no reason why, under reformed conditions, different outcomes could be reached: ones in which the quality of work is protected and improved upon (see below).

Automation can also help to widen access to work that has meaningful aspects. This can be achieved directly by minimising drudgery but can also be achieved indirectly by increasing the opportunity for people to explore different and better ways of working. Another problem in the present is that high-quality work tends to be hoarded by a subset of the workforce (Sayer, 2009)—by increasing the number of work opportunities with meaningful content, automation could help to equalise the distribution of high-quality work. In this respect, it would fit with the aspiration of making meaningful work available to more of the workforce. Achieving this goal, as argued further below, will require reforms in work organisation, but it can be noted here how it is compatible with a broader project to improve the quality of work.

The two goals—fewer work hours and more meaningful work—imply a particular vision of the future. Specifically,

there is an emphasis on creating more time—in work and beyond it—for meaningful activity. There is recognition that both work and leisure time can be meaningful and add positively to human lives. This responds to one issue in the literature, namely the potential costs of meaningful work (Bunderson & Thompson, 2009). A devotion to meaningful work, in short, can entail sacrifices, including the loss of time for meaningful-generating leisure activities. The vision presented here resolves this problem by encompassing the use of technology to promote both meaningful work and leisure.

In terms of well-being, the above discussion focuses on objective conditions. It emphasises the need for shorter work hours, and meaningful work and leisure activities in providing the basis for people to achieve well-being. Assuming these conditions are met, people may be regarded as enjoying a positive subjective state. But then this is an effect of the objective conditions being in place and their enabling people to live well.

How technology might be harnessed for progressive ends is tackled below. In particular, it is emphasised how greater democracy over the uses of technology and democratic reform in workplaces are vital in achieving positive change. This point has implications for business ethics since it challenges existing notions of the purpose of the firm and wider ideas of economic progress.

## Democratising Technology and Work

In mainstream neoclassical economics, as discussed above, much is made of the freedom of individuals to make choices. Workers, in particular, are assumed to choose jobs they want to do in the labour market. In the process, they are assumed to meet their preferences. But missing from this explanation is how workers make choices within the workplace. Once workers agree to undertake jobs, they face having to take orders from managers. In this regard, they are subject to relations of power and control. This matters because workers' choices are not guaranteed to be realised and their well-being may be limited or reduced by the actions of those with power in the workplace.

Using modern economics language, there is a principal-agent problem at the centre of the employment relationship. Managers have power over workers and conflicts arise where the interests of the two groups diverge. The assumption is now made in economics that workers wish to 'shirk'—work is assumed to be painful and unattractive—and this leads to the view that managers cannot rely on the voluntary effort of workers to achieve their goals. Rather, they must intervene to motivate workers to work hard (Lazear, 2018). The idea of work as an opportunity cost is supplemented with the notion

that work itself has a direct cost. Resistance to work effort is seen as the primary problem of management.

It is assumed that managers must implement forms of monitoring technology that restrict workers' shirking behaviour. This technology is assumed to benefit workers collectively. The size of the economic pie is greater, the more managers intervene to stop individual workers from shirking. In transaction cost terms, the exercise of power by managers over workers is viewed as 'efficient' (Williamson, 1985)—it creates the basis for workers and capitalists to promote their material interests. Technology enters here as a benign process that helps to monitor workers more effectively and increase labour productivity. If jobs are lost through automation, this helps to increase the pressure on workers to work more and offers a further basis for mutual gain-sharing (Shapiro & Stiglitz, 1984). Beyond this, there is the idea that if technology could free people from work and meet their consumption wants directly it would benefit them by affording them more time to shirk.

But there are clear missing aspects from the above approaches. The standard choice (and market-centred) framework, as already outlined, misses how workers' choices over the work they do are constrained and how choices made by managers over the use of technology can lead to processes like work intensification that reduce the quality of work. The limits to workers' freedom within the workplace are real and can lead to direct welfare losses. To ignore these limits is to misunderstand how work is experienced by workers in the real world and how workers' well-being may be reduced by technology. Ethical and political concerns can be raised about the role that power imbalances play in preventing workers from realising their needs through work.

Innovations based on the principal-agent model, in addition, miss the effects of unequal power. In particular, they overlook how managers can be partial in their behaviour and how policies implemented by them—far from raising efficiency—can produce outcomes that are directly detrimental to workers' interests and welfare. The scope for management opportunism and exploitation, in particular, is overlooked (Edwards, 1990). Further, from a vision perspective, the idea of a utopia of unlimited shirking overlooks the human need for creative action and the costs of a sedentary or inactive way of life. It is not considered that people might benefit from not shirking and contributing positively—through both work and leisure—to activities that they find meaningful.

This underlines the need to rethink and revise conventional economic thinking (both traditional and modern). In particular, there is a need for economists to take seriously issues of power and to locate the boundaries to individual choice. It is also important that economists consider ways to widen democracy at work and to enable forms of automation that promote well-being not reduce it. This is important if economists are to craft a vision of the future that includes the

use of technology to reduce work time as well as to enhance the quality of work.

From an economic and political perspective, who owns and controls technology matters in terms of its distributional and qualitative effects. Part of the reason why technology has evolved in recent times, while work hours have stagnated and bad jobs have persisted, is that workers have lost bargaining power (Friedman, 2017). Workers have not been able to secure the gains in technology that would have enabled them to work less and better. Rather, these gains have gone mostly to capital owners, with the effect that levels of inequality within capitalist economies have grown generally (Piketty, 2014). This fact reflects how technology is influenced by politics and how shifts in power—from capital to labour—matter for the outcomes of technological progress. In short, if workers are to gain more from technology—gains here may be measured by shorter work hours and more meaningful work—they will need to secure greater ownership stakes in and over technology.

This brings into focus issues of reform (especially within the workplace). In particular, it remains important to identify ways to involve workers more directly in decision-making over the development, use and allocation of the rewards of technology. Different options present themselves here. For example, like in Germany, workers could be involved in works councils. These would help to give workers a voice in the workplace and the opportunity to shape technology. In financial terms, profit-sharing schemes could also be used to grant workers greater access to the economic returns stemming from automation (Freeman, 2015). These would help to combat the regressive effects of technology on income distribution and would provide a possible mechanism for boosting investment in work redesign that improves its quality (Parker & Grote, 2020).

A more radical intervention would be to encourage the formation of more worker-run and owned firms. A more democratic economy would be facilitated by extending the degree to which workers own productive assets. The capitalist firm may seem the conventional option, but there is scope for reform in existing ownership relations. Indeed, by making workers joint owners of firms, there is the possibility for alleviating the costs of work. The point is that workers will be more likely to give emphasis and priority to this possibility because they have more to gain from its realisation.

It is often claimed that society has choices over the uses of technology. Some modern writers see these choices in stark terms. Either society risks choosing the wrong path, leading to a robot-induced economic crisis with higher unemployment and chronic levels of poverty (Ford, 2015). Or it can choose the right path and build a future of abundance and freedom. Taking this second path is invariably seen to depend on equipping workers with the skills to complement the latest technology. Writers like Brynjolfsson and

McAfee (2014), as we have seen above, propose that work be maintained in the face of strong automation processes because that is what workers want and need for a positive life experience. Work is seen as the best way to promote well-being and there is an emphasis on up-skilling so that workers can remain in work, even while technological progress accelerates.

Other more critical voices, by contrast, suggest that a brighter automated future depends on eliminating work (Graeber, 2018; Srnicek & Williams, 2015). They support a BI and a mandated shorter (four-day) working week. The creation of a fully automated society is seen as consistent with moving to a superior post-capitalist world—one where people live better lives without the need to work.

But relatively neglected in these discussions is the choice over ownership. A focus on more and better skills, and with it, the maintenance of work, ignores the need for shifts in ownership. It also overlooks the case for using technology to reduce the volume of work and to achieve shorter work hours. Under more democratic conditions, work time reduction may be targeted as an objective. The goal need not be to preserve work, but to lessen its burden, including through the shortening of working time.

Critical perspectives at least recognise the importance of more fundamental change in society including the possibility of alternative ownership models. But they tend to limit the goals to be achieved by reforms in ownership. The focus on eliminating work takes precedence over the goal of improving its quality. In this respect, there is a failure to see how reform in work can be realised alongside reduction in work hours.

From the above discussion, there are clear lessons to draw for economic thought. Firstly, as argued above, it is important to see the limits to choice and the scope for technology to impair workers' well-being directly where they are not able to exercise effective choices in the workplace. Secondly, it is vital to push for democratic reform—changing institutions to empower workers remains a key task in ensuring that technology advances their well-being both in work and outside it. Ultimately, the challenge for economics is to recognise the need to democratise technology and work, and to promote the case for wider institutional reforms.

But there are lessons too for business ethics. Debates in the latter concern the duties of firms to society. Under a traditional shareholder model, firms have no concern for the effects of automation beyond its contribution to profitability. This means that the costs linked to automation—for workers and society—are likely to be ignored (Martin et al., 2019). An alternative stakeholder model recognises wider interests and goals beyond those related to profit-making. But it too contains blind spots—for example, Kim and Scheller-Wolf (2019) argue that it does not consider the interests of future generations and their potential loss of the benefits of work



in a world where automation accelerates. They propose a different organisational model based on the Greek notion of ‘agora’. This model would offer deliberative structures that would allow a full range of stakeholders to have a say about the purpose of business. More directly, for those displaced by technology, it would offer some meaning in life and agency to create a better society.

The argument here, however, is that extending democracy in workplaces can help respond to and deal with some of the concerns raised by Kim and Scheller-Wolf. A well-functioning works council, for example, would take into account the interests of ‘outsiders’ and would help to fashion strategies that spread the rewards of technology beyond those within the firm. This could be achieved through a collective commitment to use technology in ways that reduce work hours and share better job opportunities. The wider commitment to worker ownership would create scope to rethink the objectives of the firm, from value extraction to serving the needs of society. The point is that, with economic democracy as a core goal, the opportunity for harnessing technology in progressive ways is enhanced. A truly democratic economy, in short, can enable people to lead more meaningful lives inside and outside of work.

Realising positive change will be difficult and will face many obstacles. Capital owners are not likely to relinquish their powerful position without resistance. And even if reforms can be implemented, there may be a transitional stage where inequalities of opportunity and outcome persist. Getting from the present to a future of less and better work will mean significant upheaval in society. But this should not detract from the need for change. Rather, it should make us aware of the need to manage this change effectively and to ensure that it is undertaken in ways that benefit the majority.

## Conclusions

This paper has intervened in the modern economics-dominated debate on automation in a very specific way. It has argued that beyond simply affecting the scope for people to earn wages automation can also affect their ability to gain the intrinsic rewards of working. Work is valued for ends beyond money-getting, and in that sense, automation can prevent access to meaningful work. Equally, by reducing the costs of work, it can also offer a way for people to achieve work that is meaningful.

The paper has shown how, despite its influence on policy and academic debates, mainstream neoclassical economics is not able to fully address the well-being effects of automation. This reflects on its failure to adequately consider the meanings of work and leisure, and to move beyond a view of well-being based on preferences fulfilment. These problems, as argued above, reduce its ability to grasp the full impacts

of automation on well-being. Indeed, it leaves it with a very narrow and misleading view of these impacts.

It is important to recognise that work can be meaningful as well as not meaningful in its own right and that automation can impair as well as enhance the quality of work. It is also essential to capture the potential role of automation in securing more meaningful work while reducing work hours. The conception of automation needs to include the scope for using technology to liberate people from drudgery, add to the meaning of work and extend free time.

This is where knowledge of business ethics can help advance economic thinking. It can provide it with a fuller understanding of the meanings of work and leisure and of the potential for technology to lighten work, both quantitatively and qualitatively. It can also help to show how business responsibility can extend beyond profit-making and instead can encompass provisioning work that is meaningful. Businesses can also be seen to have responsibilities for curtailing work time. In an enlightened and ethical view of the economy (consistent with Keynes’s original vision, as outlined in his 1930 essay), technology could and should help to win more freedom for workers to be and do what they want. Well-being and meaning in life can be viewed in objective terms and not related directly to preferences, and can be seen as realised where workers have the freedom to pursue work and leisure activities that mean something to them.

Of course, in arguing the above point, it is recognised that economists are often reluctant to engage with other subjects. Many want to retain the purity of their discipline and see other scholarship as ‘soft’ in comparison to the ‘hard science’ of economics (Fourcade et al., 2015). But such sentiments speak more to prejudice than a genuine commitment to scientific endeavour. The fact is that mainstream neoclassical economics is flawed in some fundamental ways and would benefit from drawing insight from other subjects. This fact is no better illustrated than in the case of automation and its relationship to well-being. Building bridges between economics and business ethics in this area at least can bear fruit.

Finally, the paper has argued in favour of greater democracy within workplaces. The lack of democracy in modern workplaces tilts automation in favour of capital owners—long hours of work and poor working conditions can and do persist, even while technology exists that could help to resolve them. Progress will depend on rebalancing power. In Freeman’s emotive words, ‘who owns the robots owns the world’ (Freeman, 2015). Creating more democratic workplaces that enable technology to be used to lighten work remains an essential task in society and one that should be at the centre of debates about the scope for automating work. In conclusion, those interested in promoting an ethical and normative case for automation should look to embrace the goal of economic democracy and seek its realisation at work.

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## Declarations

**Conflict of interest** The author has no competing interests to declare that are relevant to the content of this article.

**Informed Consent** The research did not involve human participants and/or animals and no informed consent was required.

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