



The future of work: a policy perspective for the post-pandemic world

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SAMMENDRAG PÅ NORSK

Koronakrisen kunne vært en god anledning til å rydde opp i den økonomiske politikken i mange land. Men myndighetene har i stedet forsøkt å fryse strukturene som de var da krisen rammet. Det kan forsterke de økonomiske forskjellene og gjøre at utdøende industrier overlever lengre enn de ellers ville gjort. Manglende omstilling vil på sikt gi store kostnader både for innbyggere og myndigheter.

Det er ikke for sent å revurdere politikken, mens pandemien forhåpentlig ebber ut. Ideene om en garantiinntekt kan videreføres og danne grunnlag for velferdspolitikken. En borgerlønn for dem som trenger det mest kan skape rom for økonomisk endring og sosial fornyelse i møte med automatiseringen.

Når dette sikkerhetsnett er på plass, kan vi se på fremtidens arbeidsliv. Det handler ikke bare

om å skape nye arbeidsplasser i nye virksomheter. Det må også handle om å skape rettferdige, velstående og gode samfunn, med bedre representasjon, robuste rettigheter og personlig ansvar.

I dette essayet utforsker Guy Kiddey, som blant annet skriver for *The Economist* og har stilt til valg i Storbritannia, løsninger for fremtidens fagorganisering, for utdanning og for velferdspolitikken. Når grunninntekten er sikret, læringen skjer mer dynamisk og lokalsamfunnene har funnet en ny rolle, vil vi lettere kunne nå våre høyeste mål, både som enkeltpersoner og som samfunn.

Introduction

The storming of the Capitol building in early January this year was perhaps the most graphic and disturbing example of right-wing populism the world has seen since the credit crisis a decade ago. We now know that this financial crash marked the start of a period during which smartphone-fuelled social-media rage has come to represent a new paradigm in societal breakdown. There are countless other examples of a welling of anger across the developed world, particularly among young and middle-aged men. Many have turned to extreme views and acts as they vent the frustration and even fear that has, in many cases, been significantly more than ten years in the making.

Take the example of steel and coal workers in much of northern England. Since the collapse of these industries in the early 90s, there has been little or no replacement industry in this area of the country to employ the semi-skilled. Members of the generation following that sidelined by the collapse of heavy industry have found similar if not greater difficulty in securing regular work, let alone any notion of a career. At one point shortly after finishing my university studies, I considered becoming an officer in the British military. During the selection tests, I spent a day leading a group of soldiers in a variety of activities. Of the 12 in that platoon, two were barely literate, which was a glaring sign that the community of their birth had collapsed to such a degree that neither their schooling nor home life had been in a position to support the development of this essential skill. All the men were from northern English towns. Three had made a pact while decorating cakes in a confectionary factory that they would join the Army together. Understandably, they felt that life should have more to offer than squirting cream on a production line.

It is perhaps no wonder that citizens across great swathes of northern England voted in favour of leaving the European Union, though to do this they had to support the Conservatives, a political party long associated with “anti-worker” owners of capital. In a generally more passive way, but in some instances just as aggressive as the Capitol Hill rioters, these left-behind people overcame years of “Tory disgust” to lash out. They were revolting against what they saw—or, to be more accurate, what they were told by a partisan press and preying politicians—was the foremost representation of the global economic system that had led to the demise of their prospects. The European Union was to blame for their job losses; it was also to blame for “holding Britain back” from seeking economic opportunity elsewhere in the world, and therefore for denying them the decent (hopefully improving) standard of living that they expected. The two positions could not, of course, have been more contradictory. Surely yet more globalisation

would only deepen the jobs crisis that the free-trade European Union had “caused”, but that rift of reason, like so many others in the Brexit debate, lost all credence in the whirlwind of words that characterised the years between the referendum and the patchy withdrawal agreement eventually reached. Ironically, the terms of this settlement have so far throttled the normal operation of globalised trade; the great liberation of Britain’s trading potential remains to be seen.

Fallacies pervaded the whole of the Brexit debate. A similar species of irrationality, propped up by the same farcical propaganda, has become the foundation of populist parties and movements throughout Europe, again most noticeably over the past ten years or so. But as in England, the seeds of today’s anger and nationalism in continental Europe, particular in its former communist bloc, were sown in the 90s. Even in Germany, whose post-45 economic boom had reached its apex by the time the Berlin Wall crumbled, huge investment in eastern territories newly incorporated into capitalism has not managed to subdue a persistent bubbling of discontent.

No government spending, without radical policy interventions to deliver relevant education, training, and spur new economic activity, could counter the real cause of this joblessness. That root cause is automation, and the rebellions we are seeing now are merely a modern manifestation of machine sabotage, a recourse that first gained momentum with Britain’s Luddites in the 19th century. Now, just as then, capital costs less than labour. But now, unlike then, capital investments are in software, which is rather hard to destroy. Instead, the angry have turned to a kind of political protest in an attempt to destroy a system that, though it is being caused by machines, is seen more as a process of abandonment. It is only a kind of political protest because actually the political power of the people involved has diminished. Unions have become impotent in many places; they have generally failed to adapt to changing work patterns and structures (with Scandinavia being a notable exception), and the meaningful political representation of ordinary working people has withered in a similar fashion. This is partly because many of these people have placed their faith in single-issue parties, like Britain’s Brexit Party or Germany’s anti-immigration AfD. It is also because of apathy. If people see time and again that no politician or political entity is responding to their plight, despondency displaces democracy.

Most political representatives have not responded well to the impact of automation, whose disruptive tendencies are still only in their infancy. If horn-wearing conspiracy theorists intent on killing legislators are the result of the start of this transformative trend, then surely, without significant policy changes and a very different approach to political leadership, the same if not worse is bound to continue to happen. A 2013 paper by Carl Benedikt Frey and Michael Osborne predicted that around half of all current jobs were vulnerable to automation. It did not specify a timeframe for their “technological obsolescence”, but it did demonstrate that many middle-class jobs would go the same way as the (semi-) skilled blue-collar jobs that have already been disappearing with increasing rapidity over the past three decades. An oft-cited and significant example of major upheaval to come is the transport industry, where the reality already is that taxis, trucks, buses and trains can operate autonomously (and they already do in cities around the world). But Dr Frey says that, though his work provoked a reaction among political figures around the world, no government has taken any noticeable policymaking action in response to the very great likelihood that the paper’s forecasts will come true.

So far, then, we see a general continuation of political passivity towards the huge impact of automation and its corollary, which is the increasing concentration of wealth in ever fewer hands. The very unpredictability of technological advancement surely makes concerted action now even more important, not least because the history of applied innovation (technology that has practical use) shows its destruction to be sudden and then exponential. My brief account of the situation in northern England at the close of the twentieth century makes this clear. Indeed, it is fear of the inexorable rise of the machine that kept workers' guilds and unions strong throughout most of industrial history. In most jurisdictions around the world, strong unions prolonged the inevitable demise of heavy industry—and dithering politicians allowed union leaders to hold their ground for too long. The cost was born mostly by individuals; in the bitter end, they lost everything. The failure to make provision for the unavailability of significant economic upheaval caused by changing industrial dynamics ruined, and continues to ruin, many lives.

Current evidence suggests the same is going to happen in the 21st century. Consider the legacy motor industry, whose widespread consolidation is already underway while new entrants lap up ever-greater market share. There have been several brand mergers in the last decade alone. The big collapses are yet to happen, but when they do, they will be just as painful as the steel and coal closures were in England in 80s and 90s (and in Detroit before then). The scene for this is already set in Germany, where Volkswagen, the least profitable brand in the VW Group, has too many workers. The state of Lower Saxony has a veto vote on any major decision made by the supervisory board. To protect jobs and investment in the region, labour representatives invariably get the state's backing. Decades-long pandering of both Germany's federal and state governments to the country's car industry, which enjoys even the Green Party's strong backing, is therefore setting up German car workers, and the millions employed in the supply sector, for a fall. Dogged determination to preserve the prospects of the industry has left German manufacturers on the back foot as newcomers led by hooded-wearing tech oligarchs have surged ahead. Not only does VW have too many employees, but its technology lags as its policy, buoyed by political intervention, has been to squeeze every last explosion out of internal combustion. As a result, Tesla's valuation now dwarfs that of any other car manufacturer.

Couple this policy backdrop with the pace of automation, and changing socio-cultural norms that mean, in many parts of the world, that it is neither fashionable nor desirable to own a car if you are a millennial or younger. Survey after survey shows a precipitous drop in motoring interest among these demographics. This implies a big fall in demand for individual ownership, with a preference instead for sharing. The mode of use is also sure to change, with more autonomous vehicles figuring in both urban and rural transport systems. In this latter scenario, such vehicles arguably make more sense: there are far fewer obstacles in the countryside. Furthermore, call-on-demand services would go some way towards reducing the significant inefficiencies of public-transport provision where population density is low.

Though the result of this shift will be more value per unit (good for the sharing economy), far fewer units will be sold (bad for manufacturers and the servicing sector). Waves of unemployment are almost inevitable, compounded by the fact that electric cars are much easier to build than their internal-combustion predecessors. All this was and is foreseeable, and yet still governments

in countries where car-building is an important sector have done nothing to avert an impending crisis. Quite the opposite: they are deepening it through a failure to accept inconvenient realities, which translates into an unwillingness to prepare workforces for alternative employment.

Automation is not the only lever of change the world is now facing. Climate change, and the huge changes in infrastructure that efforts to curb it will necessitate, is an even more immediate factor. Thankfully, unlike automation, building the zero-carbon economy will generate many jobs, providing the educational opportunity is in place to enable individuals to take advantage of this new employment. The economic effect will be enabling, not destructive—though that is not to say that automation will not create new jobs. It is highly unlikely, however, to create new jobs to the extent that proponents of technological innovation have long relied on to justify its short-term destructive effects. This time round, the whole point is to have automation in the form of artificial intelligence. Machines that can, to a greater or lesser extent, *think and work for themselves*. Though this means that some industries long unable to compete with a much lower cost base in Asia may enjoy a revival in the rich world, and with that create new employment opportunities, the consensus (and proof so far) is that automation in the 21st century is, overall, a job-reducing force.

I sketch out these observations on recent industrial history, and some of the consequences of resisting technological and market changes at the same time as pursuing the very technological innovations that drive those changes, to highlight certain predictable trends. These are, and certainly will be, applicable to many developing and all developed countries unless policymakers take action *now*. Otherwise, the predictable becomes the inevitable—even in Norway.

Governments in Norway still continue to place alarming faith in the prospects of the fossil-fuel industry. This is in spite of a sustained fall in prices, which is projected to continue; the recent record losses announced by Shell are just one example. Norway's own sovereign wealth fund has ditched all fossil-fuel holdings. The president of the European Investment Bank says that oil and gas are "over". The inevitability of sudden technological innovation and resultant policy changes around the world that will diminish the viability of fossil fuels if not in significant chunks, then in slower, but equally painful, slivers. Meanwhile, the private sector is already pulling away from the macroeconomic status quo in Norway. Freyr Battery, a Norwegian company, has just announced an \$850m deal with Alussa Energy Acquisition Corporation, which has a background in oil and gas. This is one or myriad examples of a strategic shift for investors. The Raggovidda wind farm in the far north of Norway is projected to start generating (green) hydrogen this year. A test facility has already been built at Raggovidda, and in the coming years enormous wind turbines on the nearby mountain will deliver yet more renewable power. Varanger Kraft, the operating company, intends to take the process a step further: they want to use the hydrogen to produce ammonia.

While the worst of climate change may well be some time off, the fate of Norwegian petroleum workers, those associated in other ways with the petroleum industry, and the estimated two thirds of others in Norway whose livelihoods are at risk because of automation, should give Norwegian policymakers enough of an incentive to think beyond the immediate imperatives of election to the

next parliament. Socio-economic history happens in the long term, but it is made in the short term. Norway will not escape the collapse of certain industries, but it could be at the forefront of efforts to minimise the impacts of this reality. Better to be in the vanguard of new economic frontiers than the last (oil) barrel standing.

This note is not an empirical analysis of the impact of automation and other factors like climate change on employment. My assumption is that these and other trends will cause great and unavoidable economic disruption. The question is the degree to which policymakers are imaginative and brave enough to spare societies the pain of this disruption—chiefly by avoiding past mistakes. Moreover, it is about the degree to which they are prepared to embrace not just new economic opportunities, but also models of polity that have a very real chance of repairing the fraying social contracts we see throughout the world.

Though there is more reference to the Norwegian situation than any other in this note, my survey is wide-ranging and includes of a number of policy initiatives that any government might be wise to consider and implement in a form relevant to its particular situation. These are measures that could provide a secure foundation on which profound economic change can happen, along with all the social and cultural changes that this implies. Properly executed, they will allow governments and individuals to anticipate and prepare for change, rather than hang on to the old order by the fingernails. And finally, they will go a long way to addressing deeper systemic problems in society brought about by increasing inequality in wealth and education.

Basic income: the essential foundation for economic change

The covid crisis would have been an excellent opportunity for an economic spring clean. Instead, every government around the world has acted in a way that will enrich or at least preserve the status of shareholders, and therefore deepen inequality. Admittedly, they have not done this to the same extent as happened in the credit crisis, where quantitative easing bolstered asset prices and really nobody operating in the real economy felt any benefit. In the covid crisis, governments have handed out grants and generous loans, but much of this money will prolong the lives of businesses whose future was anyway very limited. This will therefore delay the transition to new economic structures and employment opportunities that will provide more stable employment and growth prospects for individuals. As a result of this “zombie funding”, an unnecessarily large number of people are likely to suffer a fate similar to that of the English coal and steel workers, and the coming fate of the automotive workers. This is all quite apart from the debt burden now dumped on the shoulders of several generations of taxpayers to come.

Far better it would have been to provide a guaranteed basic income (not protect salaries), and to let the private sector bear the brunt of the costs of covid-induced slowdown. The necessary assets in e.g. aviation would have remained for new capital to monetise once again—or not, as the case may be. We will see huge change in travel alone now that, at long last, the true potential of video conferencing has been realised. It only took around 20 years, since the introduction of Skype in 2003, for this to happen. The impact of this inevitable change to the way that people judge the necessity of travel could have been yet more decisive had governments allowed proper consolidation

of airlines to happen immediately. Instead, consolidation, which even the International Air Transport Association acknowledges is long overdue, will be delayed. Untold amounts of taxpayer money will have protected creditors higher up the asset-stripping list; citizens in the real economy will see no return.

The same is true of high-street shops. Governments feared a wave of closures, so they introduced tax breaks and additional support for fixed costs. Had the focus been on protecting incomes, shopkeepers and landlords alike would have made it through the covid crisis fed and watered. True, many business owners would not have been able to pay their dues, but landlords would hardly have kicked tenants out in the full knowledge that finding replacements would have been impossible. A beneficial effect of this situation may have been a reinvigoration of the values of society that should, but often do not in this era of the increasingly subjectivist market society where anything not priced has no value, underpin all trading. This might sound sweeping, but it is a view I first heard espoused by Mark Carney, the former governor of the Bank of England, and one that finds increasing credence at the very heart of global finance. The [Task Force on Climate-Related Financial Disclosures](#) (TCFD) is a case in point, and the UK is the first G20 country to make the standard mandatory for all large companies. These are values such as honour and dignity—the “moral sentiments” of business—as espoused by Adam Smith and John Stuart Mill. Even if landlords had behaved with heavy hands, business owners could have stored stock ready for reopening post-crisis, safe in the knowledge that they would be able to make ends meet until that point. In fact, many such business owners, effectively liberated from the worry of having to pay rents and other costs, could have focused on alternative enterprises, including new digital modes of trading.

No government has been courageous enough to pursue such a pragmatic policy, perhaps out of fear not just of the immediate economic consequences, but of the “bad PR” that outcomes like high unemployment tend to precipitate. Better bad PR and everyone provided with a subsistence income than the true scope of wastage, let alone fraud, inherent to many aspects of covid panic bailouts. I am convinced that the cost of this policymaking will be greater than an income-protection scheme and a concerted effort to stimulate economic restructuring would have been. Granted, the crisis has hit different countries in different ways; those with large consumer, tourist, and legacy-industry economies have fared far worse than those without. But consumer economies, in particular, were already changing: think online shopping, food delivery, streaming services and app-based banking.

In general, the educational opportunity was huge. The wealth and opportunity-distribution potential was huge. And the opportunity to promote future macroeconomic stability was huge. To have prepared people for new working opportunities would have been the altogether more effective and morally right thing to do, both in the short and the long term. While no government could have conjured up a comprehensive response with immediate effect, basic income schemes would have provided de-facto flexicurity. Widespread yet really quite basic policy instruments favouring economic transition would have been easy to introduce. Effective carbon pricing alone would have worked wonders: the latest guidelines issued by the Swedish government recommend a whopping tag of SEK 7,000 per tonne of CO₂ for optimum cost-benefit outcomes (for domestic

transport). The bigger challenge would have been arranging training for economic transition, but more practical pursuits, like building green infrastructure, lend themselves well to learn-on-the-job approaches. Managerial expertise to oversee such projects was/is already present in economies: crash-courses in sector-specific knowledge surely would not have been too difficult to convene.

Basic income is, I think, the single most important policy that any government can entertain to eliminate poverty, to streamline welfare provision, and ultimately to stimulate economic transformation, growth and innovation. With these three basic factors in place, productive, purposeful and permanent work results. A proper examination of the basic-income instrument is the subject of a book, let alone another paper, but I would like to mention some key points.

Others speak of universal basic income, implying that everyone would be a beneficiary. My feeling is that only those unemployed or on low incomes should be net beneficiaries of such a hand-out, and that marginal income tax rates on all earnings should be adjusted to ensure that, above a certain minimum earned-income threshold, taxpayers actually fund an increasing share of the cost of basic income as their earned incomes rise. Up to and including mean income (baseline calculated before the introduction of basic income), there should be a net but progressively tapering benefit to recipients. Above this baseline, there would be no net benefit, but no loss to income. I prefer this approach to the much more bureaucratic graduated basic income, where there is no change to tax rates, but the net benefit to recipients is adjusted downwards as earned income increased (with no net benefit to anybody earning more than the mean-income baseline).

The effect of basic income on low-medium middle incomes would surely be appreciative, thereby addressing the wage stagnation that has afflicted middle earners in the past decade. Employers would be compelled to pay more to attract workers requiring higher levels of skill and education. At the higher end of the income scale, earners would see a reduction in earnings. Though the first generation of this group would probably be peeved at having to pay more tax, I do not think this would be a persistent effect, as in time, everyone, at some point in their life, would be a beneficiary of the basic-income payment (at the very least as students). Even if it were, there are relatively few voters in this category; their disgruntlement would not affect the political feasibility of the measure.

These adjustments to income taxation would go some way to paying for the basic income bill. Far more importantly, basic income would obviate the need for numerous discrete benefits currently paid as part of the Norwegian welfare system. A sprawling, complex and therefore inefficient regime of benefits requiring comprehensive assessment would therefore become far simpler. Not having to cover the cost of the administration and payment of these benefits would enable a consolidation of government welfare services. With this shrinkage of welfare payments, revenue from taxation would be liberated to cover (some of) the cost of basic income.

My view is that the state's role is to ensure a minimum dignified standard of living for all citizens; it is not the state's role to maintain the standard of living to which any citizen has become accustomed—not least because the promise of “free money” no doubt tempts some to claim state handouts fraudulently. Instead, my feeling is that people suddenly unable to work should be

entitled to defer outgoings without penalty, such as a proportion of mortgage or rental payments for a period of time. If, after this period, illness persisted or became chronic, creditors would be entitled to reclaim assets and debtors would be obliged to seek more affordable modes of living; perhaps not as affluent as before, but dignified all the same. To be clear, this approach to state support would represent a loss of privileges in the eyes of some Norwegians, but as the population ages and, in particular, the shock-absorbing effect of a currency effectively pegged to oil prices vanishes as a means of avoiding shock inflation (when oil prices go down, exports become more competitive and stop domestic prices from rising), Norway will have to be more pragmatic about its social spending. Without this shock absorber, greater deficit spending will become more likely. No country wants to be in a position where social spending cuts become a necessity. For example, 10 years of austerity policy in the United Kingdom may well have made covid borrowing more affordable, but the (by now ingrained) social cost has been enormous.

A basic income would also represent a means to counteract social-security exports by immigrant workers, which would lead to further savings, quite apart from acting as an antidote to the polarisation of society. “The more diverse a population becomes, the more appropriate it is to make welfare schemes universal,” says Hege Moen of NAV, Norway’s Labour and Welfare Administration. The last tranche of revenue to cover the cost of basic income would come from wealth and capital gains taxes on immovable assets such as land, rents, dividends and inheritance. Of course, certain regulatory measures would have to be introduced/adjusted to avoid an immediate inflationary response to basic income. Foremost of these would be rents, but fuel and energy prices might also come into the purview of tighter regulation.

Basic income is controversial. Money for nothing, some say. But actually, whatever a person’s political leaning, I contend that the policy would make perfect sense. Every citizen, at some point in their life, would benefit from the payment: think periods of study, unemployment, and ill health. Countless and far more qualified people before me have thought the same, from Thomas More and even the neoliberals Milton Friedman and Friedrich Hayek; people don’t do well without society, and everyone can fall through the cracks. In fact, a recent survey by Shelter, a British charity, showed that one in three families in the United Kingdom were a month’s pay packet away from homelessness.

Seen from a rightist/individualist perspective, basic income is an aid to reducing the burden of welfare spending, minimising fraudulent claims, and consolidating the apparatus of the state. In the real economy, basic income would lead to productivity gains. In the knowledge that a subsistence income would always be there as a fallback option, we would surely see an elimination of presenteeism, the phenomenon where employees are unhappy or otherwise unproductive at work, but continue to show up each day to maintain a semblance of commitment and to maintain a steady income. From an individualistic standpoint, more people would be empowered to seek new opportunities, and also to attempt to realise entrepreneurial projects that would otherwise be impossible to entertain. This is also true in traditionally sporadic lines of work, such as the creative industries. Individual projects can be highly lucrative, but maintaining a flow of such work can be difficult. Basic income in the case of workers such as actors and musicians and those who support them would in effect be an insurance scheme. Their “premium” would be paid, in full or at least

in part, through taxation. With this would come economic diversification and, perhaps if boosted with e.g. tax incentives to trade out of city centres, countries would see a more even distribution of economic activity as well.

Centrists and liberals like the idea of basic income because it speaks to the notion of choice. As a liberal myself, I think that everybody should be able to lead the kind of life they want (with the usual caveats of not harming others or, as we should increasingly be thinking, public goods/the commons). Rightists, I think, are deluded to think that everybody can be, or wants to be, a “winner”. The prospect of riches is actually of little interest to most. Having had the opportunity to manage around 50 people in my career to date, it is clear that, across all age groups, but particularly among millennials and the younger generations, work that suits personal values is altogether more important to most people.

In fact, there is a nascent trend, in the United Kingdom at least, to shun affluence and material abundance. Middle-class people, which I mean all those who are not very poor or very rich—and particularly those born within the last three decades into relative wealth—are “discovering” or even outright fabricating a recent working-class ancestry. Commentators and researchers suggest this is the result of growing awareness of social inequality brought about by the Black Lives Matter protests of 2020, and the glaring evidence of vastly greater mortality rates from coronavirus among the most deprived in society. It may also be the result of greater efforts to enable access to institutions and vocations like medicine and the law traditionally dominated by the privileged, which has increased pressure on opportunity and made it more difficult for the well-to-do to preserve their social and material status. From Oxford and Cambridge universities to the professions, everybody is bent on improving diversity and access to opportunity. Indeed, I think that sophistication, defined as a person’s IQ, EQ and extent of life experience, is fast becoming the most important marker of status in society, and the best guarantee of professional and personal success in life.

Basic income enables choice. Liberals are also keen on the idea of fairness. Perhaps one of the strongest arguments in favour of basic income is that it would be a way of rewarding the huge amounts of work that do not figure in GDP figures, but are essential to the functioning of society. This includes such things as childcare, domestic work, the care of elderly relatives and, most broadly, charitable work. Incidentally, I think that charitable and volunteer work would, and will, become an important feature of many lives if it were more financially viable. With the rise of flexible working and multiple incomes, which I explore in more detail in the section on workers’ rights and union representation, it is perfectly feasible to think that such voluntary work could become more commonplace. Surely any government would want to encourage this.

Finally, from a leftist/welfarist perspective, basic income is the surest guarantee that nobody “falls through the cracks”. But perhaps more importantly, it is a highly equitable way to support social mobility by removing impediments to education, which is, as I later outline, the real lynchpin of improved standards of living through the realisation of greater individual potential.

Could basic income replace pensions? If it did, the (perceived) need to own property in order

to secure future financial stability would disappear. Private pension schemes would probably struggle to attract many new investors; most people would prefer to enjoy the extra disposable income in the knowledge that they would always have a fallback. Indeed, there would be a lot more money in the real economy, so consumer spending would increase. This implies more revenue to exchequers, and greater support for both established and nascent consumer industries. Think more revenue for hospitality, leisure and tourism, but also for re-shored manufacturing like home-ware and clothing; both categories are likely to become cost competitive with overseas manufacturing as the ease and availability of largely automated micro-manufacturing becomes more widespread.

In fact, I wonder whether we might forget about retirement altogether. Under conventional pension schemes and arrangements, it is already clear that my millennial generation will be working perhaps a decade or more longer than our parents. Given that working lives are from now on more likely to constitute several different careers, and the notion of flexi-working and sabbaticals to allow for families and periods of fun is gaining acceptance across all industries, perhaps retirement is an outdated concept. Already under existing norms, many people “retire” then work part-time or as consultants for a number of years.

Unions and workers’ rights. Empowering the employee.

The trade-union membership rate remains at around 50% in Norway, and workers in more or less every sector find union representation. Membership remains highest in the public sector and manufacturing and, unusually compared to the Anglo-Saxon context, in the high-skill high-pay realms of the private sector. Conversely, in service industries like retail, hotels and transport, representation hovers around 30%. Nevertheless, non-unionised workers in Norway still benefit from the significant presence of unions in the country. Collective agreements tend to represent industry pay standards in any sector. The overall effect of this situation in Norway is a compressed wage structure where everyone earns a respectable wage, and the premium enjoyed by people employed in manufacturing far exceeds pay for equivalent work even in other developed countries. Norway has overcome this disparity by relying on the productivity gains granted by staying at the forefront of technology, and also on operational factors such as cheap power from renewable sources. But now times are changing; the whole world is moving towards renewables, which implies a reduction in power costs for many other jurisdictions. Similarly, every nation is at least aware of the productivity gains to be enjoyed from investment in automation.

In other words, Norwegian manufacturing in particular is being challenged more than ever on what has long been its competitive edge. Its response must be to maintain investment, to consolidate existing niches and establish new ones, and to attach services to the products it makes. The implications for unions working against this backdrop are dramatic, because these accelerating shifts will demand not just significant policy change to facilitate investment in and provision of training, but also an acceptance of attrition. Some parts of Norwegian manufacturing and services, including the majority of activity in the oil and gas sector, will have to go by the wayside; as I have outlined previously, far better it is to predict this obsolescence than delay action in the hope of “milking the cow dry”—but the private sector needs the support of government to make

this process as painless as possible. Norway's current government has so far acted to secure oil and gas with generous tax breaks, much to the consternation of numerous economists alone both at home and abroad. On the other hand, a good example of a very wise policy to spur rapid adoption of new technology is the NOx levy, which is working especially well in shipping (though it also applies to the oil industry). Revenue from this scheme is ring-fenced, with funds redirected to pay for modifications to propulsion systems that will make ships less polluting. Such has been the success of this scheme that a CO2 levy proposed to work on the same basis enjoys widespread support in the shipping industry, and means Norway is making great progress in "greening" much of its domestic operations with electric ferries and even autonomous cargo ships.

A majority of unions in Norway now support incentives to shift economic activity away from oil and gas and, although there is some resistance in the private sector to this policy (and among certain ranks in the political realm), it is clear that leading players are already pulling ahead of a macroeconomic policy in Norway that seems still to assume an important role for fossil fuels far into the future. The reality is that companies like Aker Solutions have enjoyed a tripling of stock value in recent months since announcing a rapid move away from reliance on oil and gas to a focus on offshore wind and carbon capture and storage. The reaction of investors surely indicates a shortage of stock options of the kind Aker Solutions is now offering, and similar companies would do well to take advantage of this enthusiasm while it remains strong and international competition remains laggardly. As Norway approaches its next general election in the autumn of 2021, it's worth noting that even the Labour Party, long an ardent supporter of oil and gas, is showing signs of turning its back on fossil fuels (its youth wing has long been applying pressure to achieve this). This is a move that will only be good for Norway and represent the interests of increasing numbers of voters. The clear majority of people are now "anti-oil" – even if they enjoy the prosperity that the sector has bestowed upon Norwegian society.

Perhaps because of falling numbers of workers employed in manufacturing, which has traditionally been the strongest union lobby in Norway and many other developed countries besides, the political significance of unions everywhere has long been in decline. All unions in Norway report difficulty in recruiting new members on a political basis. Although union leaders are still highly political, and still wield significant influence on public policy even in the Anglo-Saxon world, their organisations' reason for being is to represent workers. Johan Røed Steen, a researcher at FAFO, Norway's institute for labour and social research, says it is factors like insurance and benefits that are now most attractive to new union members. He also remarks that, while Norwegian unions are still grappling with how to deal with the future of work, they are behind their counterparts elsewhere in Scandinavia when it comes to the provision of education and training. This is, in Norway, usually the preserve of the employer, but it should, I think, become a much more prominent issue in the collective bargaining undertaken by unions.

The bargaining position of unions in Norway and the rest of Scandinavia is unique, and resistance to any sort of liberalisation of the labour market is fierce. An example of this occurred recently in Norway, where the vast majority of people are employed in permanent, salaried positions. The current government attempted to change the basis on which short-term contract employment

could take place. Previously there had to be a reason such as the illness of an existing employee. Now it is possible to employ someone for a short period for any reason, but even this minor modification was met with widespread opposition. Indeed, the culture of secure, salaried positions is so strong in Norway that the gig economy in the country is vanishingly small. Elsewhere, it is becoming an increasingly prominent mode of working; if current trends continue, around a third of Americans will support themselves through contract work via online platforms like Deliveroo and Uber by 2027.

A number of important test cases are serving to clamp down on the abuses such employment can engender. Even in countries where the gig economy is so far in its infancy, it is worth taking note of developments. In the United Kingdom, a recent agreement between Hermes, a delivery company, and the GMB union means that freelance couriers can now choose to remain completely independent, or pay a small premium to receive union representation and certain welfare benefits like pay for during periods of sickness and holiday. Of course, in many parts of the world, employers are not legally obliged to give workers the right to organize. While I think this must change, and everyone should have the right to a voice in the workplace, unions must also adapt to changing times.

As the gig economy is so small in Norway, and the tradition of employee rights so strong, the likelihood of self-employed workers having to go through similar legal hurdles is lower, but certainly not impossible. Norwegian unions, like their counterparts elsewhere in the world, should be awake to the possibility of increasing numbers of people working on a contract basis. In many parts of the world, governments have provided levels of support during the covid pandemic to the self-employed in a way previously unimaginable even in the most generous states. This will surely lead to calls from workers and union leaders alike for maintenance of such measures; if these people have the same “help status” as salaried workers in a pandemic, then why not in normal times too? In turn, we can expect calls for more widespread democratisation of employee rights, regardless of contractual status. Governments should consider the fairness of welfare systems in the wake of covid, and unions have a role to play in this debate. Of course, my simple solution would be to introduce a basic income; not only would this payment be much easier to administrate, and much less vulnerable to fraudulent use, but it would apply to everyone. Still, though, self-employed people would continue to suffer reduced access to financial products and services such as loans and mortgages. It should not be beyond the bounds of possibility for lenders, perhaps with the administrative help of unions and with the cooperation of the state, to create a collateral fund to reduce the lending risk posed by those with unpredictable incomes.

While the Nordic model represents some of the best protection of employee rights in the world, other countries with a history of similarly unionized workforces have experimented with other approaches. So-called “flexicurity”, which has developed well in the Netherlands, maintains the bargaining role and power of unions, but enables far greater hiring and firing flexibility for employers. Indeed, it is perhaps better for an employer to be able to experiment and buy in expertise when and where it is needed. For some types of worker, it may be better to work for short periods of time for one company, or to work for a number of different companies simultaneously. This is a way to gain a greater breadth of experience in a shorter period of time, which only makes a

person who can offer this extent of knowledge and skills a more desirable prospect for prospective employers. In addition, extensive research by Kathleen Thelen at MIT shows that liberalisation of the labour market is not always bad for social mobility. Actually, a dualist system, where there is a strong organized foundation but freedom and flexibility within might present the best of both worlds.

As we enter a period of increasing disruption caused by automation, we should consider that existing employees in a company would ideally be retrained and repositioned as needs changed—but in many cases this may not be either possible or desirable either for the employer or for the employee. With the security that a basic income would provide, I think the time is nigh to accept and even to promote the benefits of greater dynamism in working life. We already know that the idea of a job for life is history; this current pandemic alone has made many reconsider their options, and the newspapers are full of profiles of the chef who became a healthcare worker, or the journalist who became a teacher. Even before covid reared its ugly head, people in middle age were striking out on new professional paths—including those requiring many years' training, such as medicine.

We must also accept the reality of automation. Even in China, where labour is comparatively cheap, around 40% of workers in the country's industrial companies have been replaced by robots in the last few years alone. At a mobile phone factory in Dongguan, 90% of the human workforce has been replaced by robots. In the professions, such disruption is similarly underway. JP Morgan recently tried out an AI system that processes contracts; it saved many thousands of man hours. The company is also using AI to write text for marketing and advertising campaigns, and comparisons between the efficacy of this machine-generated copy and that written by a person show that the machine's formulations, measured by the number of social-media clicks it generates, are on average twice as attractive to potential clients.

In medicine, AI already beats experienced doctors when diagnosing cancer and analyzing MRI images. And in the asset management and investment world, robotic consultants generate strategies at a fraction of the cost incurred when paying their human counterparts. The robots usually generate better results, too.

The point of outlining these realities is to show that highly regulated labour markets will likely hinder both companies and individuals. They will make it more difficult for all concerned to navigate the changes brought about by technological innovation. A better approach, I think, is for labour laws to prioritise education and training. This would move the onus from job retention to skills development and employee redeployment where necessary. If an employer could show sustained investment in and attention to training, and yet still felt it needed to consolidate its workforce, it would be a union's responsibility to accept this reality.

Unions should continue to ensure workers get good deals on pay and benefits, but they need to start pushing much harder for education and training to be a bigger and continuing part of any employment relationship. This will keep workforces on the front foot, and it will also entrench a culture of "managed obsolescence" where industries work faster to adopt new technologies,

practices and modes of production. This will also represent a benefit in kind in terms of wealth redistribution; rather than further “financialisation” of profits, by which I mean turning profits into financial investments, the biggest companies in particular will hand out less to shareholders in the short term while helping to secure the future both for their workers *and* their investors for the long term.

Another thing to consider is that the relentless trend in education and work over the past several decades has been towards specialisation. While this has enabled increases in productivity in many realms, it has also backed many employees and, in some cases, employers too, into a corner. It’s all very well being the world leader in something until a competitor appears suddenly on the scene, able to undercut incumbents both on production and labour costs. Worse still is when a whole sector undergoes a paradigm shift, as is happening now in the car industry. Electric cars have hundreds of parts. Conventional combustion-engine cars have around 10,000, the vast majority of which come from SMEs. Many of them will struggle to find alternative uses for their expertise.

Both mindsets and education need to change as automation opens up new opportunities for individuals and businesses alike. In terms of education, the broad need is one that progressive educationalists have been championing for years, but apparently without all the success they have hoped for: the focus needs to be on *how* to learn, so that people can be endlessly adaptable to changing needs and circumstances throughout their lives. But the focus also needs to be on breadth of ability, so that people can access multiple areas of knowledge and skills and combine these different fields in ever-more innovative ways. I’ll look at education in more depth in the next chapter, but for now I’d like to present an example of the kind of mindset change that digital and robotic technologies now require.

On a recent assignment for *The Economist*, I visited Cambridge University’s Whittle Laboratory for aerospace propulsion research. In recent years, work there has changed completely in terms both of scope and speed thanks to inspiration taken from Formula 1. Speed is, of course, the defining characteristic of this pursuit. Shortening lap times relies on continuous technological improvements, and race engineers deliver this by constantly remodelling parts, testing them quickly, and mounting them in readiness for next-day track practice.

Contrast this approach with the aerospace industry, where engine technology programmes alone can drag on for decade. Testing a single engine part often takes six months or more. Dr Toby Dickens was working for Red Bull’s race team. He told Professor Rob Miller, an old acquaintance and head of the Whittle Laboratory, how his team were able to test 20 rear wings in a wind tunnel, find the one that worked best, then send the design to a trackside lab. 24 hours later, the car was racing with its new appendage on show.

Aviation engineers used to start off with lengthy computational studies, then risk everything on the design they had painstakingly deemed to be the best. Results would often not match expectations, but there was no time to try new geometrical configurations. But Professor Miller has now brought the pit-stop approach to today’s Whittle Lab. Graphics processing units designed for computer gaming now run thousands of design concepts through these same studies. The upshot

is a dataset that AI software can use to produce a promising design in around two days. Supply chains consume more time in manufacturing test concepts than anything else. Professor Miller says he would routinely wait three months for a contractor to produce a set of compressor blades, and often the end product would turn out to have defects. After an enthusiastic commercial sponsor donated a snazzy blisk (bladed disk) manufacturing machine it now takes eight hours to do the same job in-house. All three stages of the “innovation loop” of design, build and test now produce new parts in days rather than months. The new Whittle Lab approach is Industry 4.0 in practice, Professor Miller says, and represents the true merging of the virtual and physical worlds.

Clearly, this transformation at the Whittle Laboratory can be applied to almost any manufacturing practice. It implies shorter supply chains, which means much of what used to be contracted out can be brought in-house. But this also means that in-house workers need to be more knowledgeable across more fields than ever before. This is a step-change in approaches to work and production that unions must support and acknowledge in their engagement both with employers and policymakers.

The last big area that unions should consider is flexibility. The pandemic has demonstrated that many businesses and public services can operate well even when managed remotely from desks crammed into corners or even garden sheds. This unplanned experiment might lead to undesirable outcomes in the long term, with employers spotting opportunities to reduce overheads and, in future, requiring their members of staff to work remotely, or mostly remotely. While this flexibility is surely welcome, too much of it may also be counterproductive. Inspiration is the product of interaction and cooperation. More importantly, it is often spontaneous. A scheduled video call is a poor substitute for in-person collaboration, and the very fact that a Zoom call takes place at a specific time obviates (most of) the opportunity for chance ideas and occurrences. Without this, companies will be less innovative, and individuals will have a lower chance of being able to realise their full potential. My feeling therefore is that unions should call for a considered balance of home-working flexibility with all its benefits (time for childcare, reduced commuting, peace and quiet for concentration, the ability to work from any location) and office time. While employers and employees will perhaps have different imperatives, both parties should feel supported in their efforts to enjoy the best of both the old world of the 9-5 in the office, and the new world with all the possibilities it offers.

There is another dimension to this issue, which is loneliness. Even before the pandemic swept the world, 40% of people worldwide said they felt lonely at work. In the UK, it was 60%. Almost half of people in Generation K, meaning those born between 1995 and 2002, say they feel emotionally distant from their peers—though this is surely not entirely because of the structure of the workplace. The “smartphone generation” has never experienced rites of passage in an analogue fashion; for them, everything has happened digitally. As a millennial who knew nothing of Facebook until 2006 and whose whole school life took place on paper, I remember well the trepidation of phoning a girlfriend’s house in the desperate hope that her father would not answer. Come to think of, a mother’s interrogation often wasn’t much more comfortable. But my peers and I learned the basics of social interaction in the tried-and-tested way of generations before us.

Generation K is alone in a new, virtual world with all the distance and danger this involves. For their and others' sake, we must resist the temptation to make as much as possible digital. There is still space and indeed a great need for the analogue, and I think that unions concerned for the wellbeing of the workers they represent should take significant note of the deleterious effect of the digital world while continuing to recognize its benefits.

Loneliness in the workplace is bad not only for employees, but also for business strategy. There is a clear link between loneliness, commitment and productivity. Those who do not have a friend at work are seven times less likely to be intellectually and emotionally engaged in their work. It's worth noting that another trend, besides the increasing digitalisation of working methods, is having adverse effects on workers' health and performance. A Harvard Business School study showed that, when employees moved from discrete offices or cubicles to open office landscapes, this see-all hear-all situation made people withdraw from their colleagues. They were more likely to send emails to each other than talk. Having worked in environments like this, I can only concur; such lifeless offices typically house people hunched behind laptops. They wear noise-cancelling headphones and retreat either to a corridor or stairwell to make phone calls. The result of all this is an absence of coffee breaks, beers after work, or a shared dinner every once in a while. An absence, in other words, of society in the workplace.

Flexibility also implies the ability to work fewer hours each week than the standard 35-40 hours. Increasing numbers of people want to do work with real, tangible social impact. Not everyone can find that kind of work—but they could devote more time to other things that do correspond more with their personal priorities and values; for most people, this means time with family and friends, and contributing to society in a positive manner. If more people were able to fulfill these desires, we would surely see an uptick in productivity, simply because workers would be generally happier. They would also bring skills and inspiration derived from other aspects of life to the workplace, which can only be beneficial. Even though parental leave and childcare provisions are very generous in Norway, the majority of part-time workers in the country are women, partly because they are more likely to take on more of the childcare responsibility, but also because of health issues experienced disproportionately among women. While addressing the root causes of these is mainly outside the scope of policy on labour relations, making job-sharing, even in senior positions, more feasible both for employers and employees might redress the balance somewhat, and enable all workers to dial work up or down depending on their circumstances. Against this backdrop, we would probably see a tighter jobs market because more people would be employed to cover a certain area of work, though this would not necessarily be a good thing at a time when the competition for jobs is at an all-time high. In addition, job-sharing at any meaningful scale would not happen unless fiscal policy were adjusted to ensure that it would not cost more to employ two people to do a job that formerly occupied just one.

Education and training: learning to learn

If I think back to my school days, I recall a time that was joyous and intellectually stimulating. If I think back to the first years of my working life, I recall a time that was full of anxiety and confusion. In short, neither school nor university had prepared me for the challenges of adulthood. I had

no sector knowledge, and very little experience of professional cooperation; in fact, my only experience of this had come from editing my university newspaper. I made numerous blunders in my early years of work through lacking the tact and awareness that keeps all workplaces in some state of equilibrium. Now perhaps I am not a typical example of what the Anglo-Saxon education model churns out. Those who study vocational degrees probably enjoy better preparation for the commencement of their working life, at least on a practical level. But whatever their educational and personal experience, I am sure that any working adult today will identify with at least some of what I have outlined here. Much of this ill preparation has to do with an approach to education that is still fundamentally rooted in the 19th century. Pupils sit in rows, they listen to a teacher telling them what they need to know to pass exams, they write this information down, and then they learn it. Clearly, this setup is far from the way everyday adult life works.

If I think again about my school days, I remember how long it took me to master abstract concepts in mathematics, and how my rudimentary technology lessons, which consisted mainly of learning how to use formulae in Excel spreadsheets, were agonizingly dull. Nowadays I remember more of my technology teacher's profuse ear and nasal hair than I do his classes. Since then, I have revisited mathematics and the sciences as a distance-learning student. I have made use of so-called MOOCs – massive open online courses. I have also taught myself to code in the Python programming language using the array of free videos available on platforms like YouTube. While the very point of such materials is to open up knowledge to as many people as possible, I am lucky that the early-life educational experiences I had taught me the single most important professional skill anyone can have: the ability to learn.

If I think a third time about my school days, I realise that learning to learn was only partly because of the classroom teaching I enjoyed. It was more because of my stable home environment and the extra-curricular activities I pursued, ranging from music to sport and being a Scout in the mountains and national parks of my home country. Learning good camp craft was probably the single most valuable thing I did as a youth; the metaphorical significance of being able to pitch a tent in a storm, make dinner on a single stove, and still have enough fuel and water left to make a generous cup of tea, makes any subsequent hardship seem trivial. Tragically, it is becoming more and more difficult for young people to experience expeditions like this because of the encroachment of test cases and legislation that have the effect of turning accidents into both civil and criminal offences. While legal matters are outside the scope of this paper, I feel it is worth mentioning that the law exists to protect people from harm; it should not exist to prescribe a government's or, worse still, a judge's view of acceptable risk. Apart from the fact that youth leaders become increasingly wary of accidents involving young people becoming a matter of civil or criminal liability when such codes hang over their heads, young people become increasingly deprived of the opportunity to learn about risk. Fundamentally, they lose opportunities to learn self-reliance. Quite apart from impinging on individual freedoms, the effect of e.g. denying people the right to engage in risky activities by outlawing these activities, or by making the potential liability so threatening as to discourage adult leaders, is to infantilise society.

It is the resourcefulness that all of these experiences imparted that has enabled me to navigate my way through adult life. I am acutely aware that I was and am extremely lucky. For every other

like me there are several more who cannot look back on such good fortune. Regardless of providence, everyone could be served by an education system that emphasized contextual learning. Rather than convey Pythagoras' theorem and other aspects of trigonometry in the abstract, why not teach a pupil how to build a house? Education must also provide a person with resilience and resourcefulness: an ability to learn *how* to think, and to be aware therefore of the danger of cognitive biases and logical fallacies; but also, therefore, an ability to apply that thinking to the many challenges we all face in our working and general lives.

The liberal theory of industrialisation says that structural transformation in economies, which are changes in the modes and methods production, keep children from following in their parents' footsteps. This is enabled by increasingly universal modes of organisation (chiefly education), which ensure the dispersal of new opportunities across the population. Intergenerational persistence of circumstances, including earnings, is actually a common feature of all eras of industrialisation, but liberals seem never really to have noticed this reality. Breaking this persistence means education must keep pace with skill demand — but it hasn't and still doesn't in many places.

It's more than just education that we need to maintain increasing standards of living. According to the Oxford University researcher Per Engzell, the liberal view of industrialisation often fails to take account of the other factors that did lead to increased social mobility during the 19th and 20th centuries. Apart from educational expansion, these include the rise of the welfare state, and widely shared redistributions of economic growth. In the 19th century in particular, there is significant evidence to suggest that the growth of modern infrastructure and public goods contributed more to both individual and national wealth creation than industrialisation itself.

Theorists like Thomas Piketty say you need significant global shocks to spur this kind of “mobilising” policymaking. The Second World War was the last major example of this. The financial crisis of a decade ago was not; the response to that, which was mainly in the form of quantitative easing, had the effect of concentrating ever more wealth in ever fewer hands. With Piketty's hypothesis in mind, a growing body of research demonstrates that, while automation is the root cause of declining social mobility and, with this, standards of living, the actual cause is the failure of government. A recent study by Per Engzell et al shows that the distributional and intergenerational consequences of technology adoption are a political choice, and they depend on institutional arrangements. Studies of the interplay between automation and social inequality highlight that there actually is no deterministic relationship between the two; there is no inevitability that if one happens, so must the other. Industry is an arena where politics shape not only how new production technologies are deployed, but also who benefits from them. The proof of this comes from evidence that the negative consequences of automation are largely concentrated in areas with high top incomes, declining labour union influence, and a lack of access to relevant education.

The World Economic Forum identifies the following priorities for education:

1. Global citizenship skills: Include content that focuses on building awareness about the wider world, sustainability and playing an active role in the global community.
2. Innovation and creativity skills: Include content that fosters skills required for innovation, including complex problem-solving, analytical thinking, creativity and systems analysis.

3. Technology skills: Include content that is based on developing digital skills, including programming, digital responsibility and the use of technology.
4. Interpersonal skills: Include content that focuses on interpersonal emotional intelligence, including empathy, cooperation, negotiation, leadership and social awareness.
5. Personalized and self-paced learning: Move from a system where learning is standardized, to one based on the diverse individual needs of each learner, and flexible enough to enable each learner to progress at their own pace.
6. Accessible and inclusive learning: Move from a system where learning is confined to those with access to school buildings to one in which everyone has access to learning and is therefore inclusive.
7. Problem-based and collaborative learning: Move from process-based to project- and problem-based content delivery, requiring peer collaboration and more closely mirroring the future of work.
8. Lifelong and student-driven learning: Move from a system where learning and skilling decrease over one's lifespan to one where everyone continuously improves on existing skills and acquires new ones based on individual needs.

Meanwhile all the talk among educationalists as the impact of the covid pandemic becomes clear is of the decade or more it could take some school learners to make up for the classroom time lost, and the deficiencies of online learning. Young children in particular are likely to be most disadvantaged; missing a year of education is for the worst affected a quarter of their entire life's learning opportunity. Their lost immersion in fundamental literacy and numeracy skills is likely to delay intellectual development and therefore have repercussions for years to come. But early-years education is not just about cognitive nurturing; it extends to crucial social skills and emotional receptiveness developed mostly passively as a result of day-to-day contact with peers and superiors alike. In many ways, making good the loss of opportunity to socialise, make friends and learn the hard lessons of the playground is a much greater challenge.

The effect of the pandemic on young people represents an exacerbation of trends that have been years in the making. I have already mentioned the particular sense of isolation in the workplace reported by Generation K—the first to grow up with social media and all the trappings of the digital world. But this isolation extends to all areas of life, and those born subsequently are suffering levels of mental illness never seen before. In recent years, there has been a doubling in the number of children under the age of 10 ending up in hospital with life-threatening self-harm injuries. Young people spending more time alone than ever, parents being more protective and even restrictive than ever. Repairing the damage done to young people by the pandemic represents a fine opportunity to recalibrate educational policy so that it provides rich social and emotional experiences once again, and can work to undo some of the harm that virtual tendencies are causing. Over above this, education must encourage the development of a large degree resourcefulness, self-reliance, and self-confidence. People need to grow up with the ability to seek opportunities for themselves, and to seek change whenever any aspect of life becomes unpromising or otherwise undesirable.

There are three broad areas to the education of children and young people. The home, the school,

and the community. In this section, I'd like to look primarily at formal school education as a means to addressing the WEF priorities listed previously. The home is not directly the responsibility of policymakers, and the community I will address in the section on social mobility. It is worth saying, briefly, that factors not directly related to education have a huge bearing on educational attainment. Poverty is perhaps the greatest of these, and clearly this is a policy area that does relate to the home. Numerous studies have shown that people living in poverty are more likely to be less healthy, less happy, and less able. Yes, poverty has a direct bearing on cognitive ability; it is thought that the psychological burden of money worries, and the social problems this can lead to (such as drug and alcohol abuse), can decrease a person's IQ by around 10 points below its unaffected value. Impoverished homes are more likely to suffer other ills, like relationship breakdown and domestic violence. All of these factors work to retard a child's educational progress, so it follows that any policy initiative to reduce, or preferably eliminate poverty, would solve multiple social problems at once. This is perhaps less of a priority in Norway, where a tightly woven social-security net means that very few people live in penury. In almost everywhere else in the world, a national basic income would, in one go, remove what is perhaps the greatest single impediment to a successful adult life.

Early-years education must emphasise discovery and promote curiosity. While digital devices play an increasingly important role in all strands of education, I think that children must be allowed to explore the analogue world before they become too immersed in, and reliant on, the digital. It is only through making and creating using found objects that play and the nurturing of imagination truly happens—and it is crucial that this faculty is exercised from the earliest age, for it is the very foundation of resourcefulness and resilience. My own father was a teacher for most of his working life. He retired early from the profession because he found it increasingly difficult and even depressing to attempt to inspire cohorts of students who, he said, increasingly lacked imagination. That was 15 years ago, well before digital devices came to be glued to our hands for most of the day. The situation now, according to acquaintances who work in education, is far worse. I think it is imperative that this spirit of play—of “getting hands dirty”—continues throughout compulsory education, where its purpose is more to encourage the development of common sense and practical ability. Traditionally, this has happened through extra-curricular activity, and in the coming section on social mobility, I will emphasise this point again. Helpfully, another educational policy initiative—contextual learning—provides many opportunities to enable further engagement with the physical world.

In the United Kingdom and many other nations besides, recent years have seen a resurgence of traditionalism in education, where the teaching of facts, and examination of a pupil's ability to retain this information, have led teaching methodology. While this approach may make assessment of a certain kind of ability (rote learning) easier, it largely neglects the application of knowledge and skills to the real world.

Take the example of language and literature studies, where it is surely better to study and consider the social and cultural context of a novel than learn quotations and the concepts of literary criticism. More important still is the opportunity that studying novels and other creative works presents for developing emotional intelligence. Rather than learn the habits and customs

of a character, pupils would more usefully consider *why* characters do the things they do—and appreciate that the flaws and frailties of character are actually as important a part of personality and human interaction as are the supposedly positive aspects of character. Another example might be the study of dramatic works. The production of a play, no matter how rudimentary, would provide opportunities for whole classes of students to exercise their skills of memory, performance, and dramatic direction—not to mention all the technical and practical aspects of theatre, ranging from the creation of props to lighting and audio-visual effects. The same is true for the study of science, mathematics and information technology. Give children the chance to apply their knowledge to solving problems and building items that are relevant to them, and they will surely find greater ease and reward in learning what are otherwise abstract concepts with seemingly no relevance to everyday life. Given this meaning, however, young people will come to understand not just the applicability of the pure sciences to workaday phenomena, but also the global impact of the whole value chain in commerce from extraction of raw materials to consumption and recycling. This, in turn, is essential for conveying the concept of the global commons—the resources on which we all rely and through whose consumption we collectively abuse in the absence of international limits and protocols. This notion is very new in policymaking circles, and represents the advent of the notion of global long-termism. Reaching and enforcing agreements based on this principle will require a generation of people educated to understand, support and administrate them.

In addition, assuming this contextual approach, pupils will engage with their peers in a quasi-professional fashion, and therefore in a way that will prepare them for working life and the need for collaboration and cooperation this entails. These words by Hege Moen, a researcher at the Norwegian Labour and Welfare Administration, seem to provide a summary of the philosophy behind what I am advocating: “In pedagogy, a distinction is made between the concepts of self-confidence and self-esteem. Quite simply, one can say that self-esteem is about feeling valued as an individual, and the degree to which you are confident - and like yourself. Self-confidence, on the other hand, is about what you master. And the value you place on yourself develops independently of your self-esteem. Those of us who master school and education, who do well in working life, and who earn accordingly, seem to have developed self-confidence along the way. If the surroundings and the people around us both support and secure us in our upbringing, then self-esteem will probably also be in place.”

With this concept for the education of young people sketched out, it's time to look at adult education, which is now more accessible than ever before through MOOCs that are either free or charge a minimal fee for access to materials. This phenomenon alone represents a huge democratisation of education and, in some ways, a threat to traditional approaches to adult education such as night school, which requires students to study in a classroom setting. MOOCs and their proprietary (i.e. in-house) counterparts are good for providing on-going educational updates, but adult education today needs to be able to provide training in completely new fields, and to increasingly large numbers of people. Retraining in your forties is becoming more common, but only among those who have the means to do so (such as savings earned from previous work or a partner who earns well). As it is clear that the majority of those for whom retraining will be a necessity, not a choice, are low-skill workers, financial security cannot be prerequisite.

Once again, a basic income scheme would provide the foundation for “mass retraining”. Provision of training, however, would also come at a cost, and require specialist human resources in almost all cases. Unions could negotiate for a greater share of profits to be directed towards staff training; governments could legislate to levy additional taxes, or even supertaxes on more profitable companies, which would represent a ring-fenced funding mechanism to which any business could apply for help to cover the costs of staff training. It is important to be realistic about these costs, as it makes no sense to assume that specialists would be prepared to impart their knowledge expertise for any less than the market rate for the commercial application of their ability. This dichotomy already exists in the building trades, for example, where bricklayers and plumbers can earn two or three times the typical salary paid for someone to teach these skills.

Finally, governments would be wise to think of giving adults the opportunity to engage in the equivalent of the extra-curricular activity that schoolchildren enjoy. Many already pursue in hobbies and leisure activities, but these probably don't provide much opportunity to interact with people of different backgrounds and experience. As the post-pandemic world becomes an ever-less distant prospect, there is an urgent need to harness the enhanced community spirit and solidarity that has germinated in many places around the world. Its continued growth relies on everyone being able to take part in further community involvement; I think it is worth considering statutory instruments to confer a contractual right in employment law for workers to spend perhaps two (unpaid) days a month on voluntary pursuits that contribute valuably to local civic life.

Social mobility - the promise of capitalism, the motor of democracy, and the macroeconomic link

Numerous empirical studies show that automation has a deleterious effect on social mobility, and the result is so-called “income persistence” across generations. This happens because labour-market opportunities diminish, leading to subsequent generations whose upbringing and opportunities become compromised by the socio-economic consequences that result from low and unstable incomes, from the community breakdown. These include relationship breakdown, drug and alcohol dependency, and even food scarcity. As Per Engzell writes: “The workplace is an arena for communal engagement, the destruction of which can have negative consequences for social capital and collective efficacy. Funding available to schools and other commons may diminish with the erosion of the local tax base, or as funds need to be diverted for remediation programs. Above all, the loss of industries can be a collective trauma that leaves local communities struggling to regain their sense of collective identity and purpose.”

Income struggles are now affecting the middle classes too. The OECD says that around a third of middle earners in industrialised nations are struggling to make ends meet. Jobs are becoming less secure, earnings are stagnating if not diminishing in real terms, and the price of assets means that home ownership is out of reach for many people, and especially young people. Now we find ourselves in a situation where the value of assets in developed economies is many times the size of GDP. Even though interest rates are currently very low, the option of borrowing is now already beyond increasing numbers of people; middle earners were giving up on the idea of owning their own home before the pandemic. In its aftermath, when a period of inflation is probably inevitable because of

the amount of liquidity governments have pumped into their economies, property ownership will be beyond the reach of even more people.

Besides the immediate misery of stalling social mobility, there is another far more worrying consequence, which is the disruption of democracy. I have already made reference to the Capitol Hill riots and other clear examples of disenfranchisement in action. When voters feel poorly served by the ballot process, many just give up on the whole idea of representative government. Some turn to more extreme political views and even the expression of force and violence. It will be very clear by now that the fault for the crumbling of democracy throughout the developed world (the wave of populism has washed Scandinavia too) lies squarely with governments.

Politicians of all persuasions have failed to a greater or lesser extent to redistribute income; they have allowed themselves to be bullied by lobbyists resisting the introduction of policies that would confer a reasonable standard of living on the majority of populations. In some instances, this political neglect extends to a concurrent withering of social and community services, mainly as a result of budget cuts following the financial crisis around a decade ago. Where poverty and boredom reign, social problems proliferate. In 2019, I was a candidate in that year's United Kingdom general election. My abiding memory of the campaign is canvassing the streets of a housing estate in what is generally thought to be an affluent town. Like all towns, it had its darker side; I saw children—probably not yet teenagers—smoking crack pipes in the doorways of boarded-up shops and, through the windows of one house I visited, a baby crawling between empty pizza boxes and beer bottles. Clearly, these images represent the extremes of destitution, but the experience was enough to inspire in me a Beveridge-like sense of social and political responsibility. (William Beveridge was the 20th century Liberal economist whose work is widely credited with establishing the post-War welfare state in the United Kingdom.)

Previous sections of this paper have looked at some of the institutional and financial measures that would help to revive social mobility, and the danger of failing to wind down legacy industries in favour of ambitious investment in, and promotion of, future growth industries. Assuming these were put into action, there would still be work to do to rebuild and reinvigorate community services, and to restore faith in the potential of democracy. In fact, such services have been in decline for a decade or more in many countries. I know the situation in the United Kingdom better than any other. Here, public libraries have become a rarity anywhere other than city centres. When I was at school, there was a youth music programme subsidized by the local authority; it gave hundreds of young people the chance to learn an instrument, and play with others. In the decade since, this funding has dried up. Now, it is only those with parents who can afford to pay for tuition who have the chance to explore the musical world. Subsidies for other arts and culture institutions have also been cut; theatre, for example, is increasingly difficult to sustain commercially outside of big cities. The same fate has befallen sporting institutions, which are increasingly run on a shoestring and rely on the goodwill of parents and others.

Little is more essential for ensuring community cohesion than the provision of opportunities for people of all ages to engage and learn together. While a basic income would go some way towards opening up cultural and sporting opportunities for all, as many more people would have the

disposable income to be able to pay membership fees, my feeling is that governments should not look to balance expenditure on communities. There must be a preparedness to invest in facilities, and the employment of professionals to run and contribute to their successful operation. We have long known that GDP is a woefully inadequate measure of the health of a nation; it is not even a good measure of relative wealth. That's why leaders like Jacinda Ardern, recently elected to a second term in office in New Zealand, are pledging to factor in other measures of welfare and happiness to their policymaking efforts. At long last, the primacy of GDP is on the way out. She and others will create jobs that are specifically aimed at restoring the structure of society, whether it is by building libraries, youth clubs or community centers, or by commissioning work that provides spiritual nourishment to society. There is a precedent for this. Under the New Deal, artists were hired to paint murals, create sculptures, teach arts and crafts, and produce theatre. FDR's goal was to show Americans the potential for "a rich life".

Another priority for policymakers should be to incentivise the flourishing of the "slow economy". This is really a macroeconomic policy initiative, but it's worth considering here because of its potential to achieve many other social and community benefits that, in turn, feed into the participatory requirements of successful social mobility. The slow economy is all about bringing groups of people together as they consume products and services. Think bookshops instead of Amazon; internet-free cafés where the idea is to sit down and talk, rather than rush in to collect your pre-ordered coffee to be drunk from a paper cup; boutique clothing and homeware shops where there are employees who actually know about interior design, and are interested in helping you create an individual style for yourself and your house. Yes, the slow economy costs more. But it needn't cost much more with the right incentives to control overheads, such as rents (an excellent example from Belgium is the empty-premises levy, where a landlord is essentially fined for not having a tenant). Other imperatives include requiring e-commerce firms to pay tax on sales made in a given jurisdiction, rather than in a European tax haven like Ireland; and realistic pricing of the negative externalities that e-commerce generates, such as additional pollution from delivery vans and packaging. Other macroeconomic trends will make the slow economy yet more affordable for many people, like carbon pricing, which will act to make far-away manufacturing and shipping less desirable. The corollary of this is that more products will be made where there are consumed. Another is additive micro-manufacturing, which already allows production in rich countries that is cost-competitive with Asian economies.

Lastly, I'd like to make mention of some measures that might restore widespread faith in government. These fall broadly into two categories: ensuring the integrity of politics and politicians, and consultative democracy. Within multinational associations like the European Union, it should be easy enough to insist that all political activity be state-funded. This would immediately emasculate the power of lobbyists, whose words often speak louder than those of the general public; it would also act as a brake on such ills as cronyism in jurisdictions like the United Kingdom where political parties pander to the commercial interests of their donors. The pandemic has been a case in point; a stream of judicial review cases are currently being considered in the courts as activist legal organisations, such as the Good Law Project, seek to expose how and why it could be that the majority of covid-related contracts have been awarded to companies owned and run by close friends and associates of the current government's ministers.

When it comes to greater direct involvement in democracy, I think citizens' assemblies present a great opportunity not only to inform policymaking, but also to prevent the dithering that often blights the political process. In Ireland, a citizens' assembly decided recently on the nature and scope of abortion rights in the country. In my own political campaign in 2019, I opted to refer policy on transgender rights to a similar assembly. The issue attracts such extremes of opinion that it is a toxic realm for any politician to enter. Better, then, to allow a representative sample of the citizenry to decide for a country how such sensitive topics become regulated. Accountability is another benefit of citizens' assemblies. Elections every four or five years mean a politically fallow period for all but the most engaged members of society, who even then have very little influence as individuals on the political process. Giving voters the chance to participate in key policy formulation would keep interest levels and a sense of political relevance alive throughout the duration of a parliamentary term.

Conclusion

Recent history alone provides countless examples of governments failing to enact policy to avert the worst impacts of technological progress; instead of anticipating the arrival of new modes and methods of production, the trend has been to wait for their adoption, then fudge a policy response. With the notable exception of Scandinavia, most of the rich world is seeing more and more evidence of the result of this passivity. Ordinary people, albeit a minority, are adopting extreme political views, and indicators of prosperity across a broadening demographic show worrying trends. These have been on the ascendant for the past three decades, but have become particularly evident over the past ten years or so. Poverty is a basic example: while it continues to decrease from a global perspective, it is increasing in many wealthy countries (as the covid-19 pandemic has made shockingly clear). But this paper shows that wellbeing is about more than just survival. It requires a level of societal intervention and individual wealth that goes way beyond the aversion of hunger and the provision of basic education.

In this paper, I have attempted to present some policy perspectives on how things might be different. The key instrument is basic income, which would simplify welfare administration in jurisdictions where the provision of welfare service is already good. In others, where there may be shortfalls, basic income would represent the single biggest opportunity to eliminate poverty, provided that regulatory measures on widespread consumer costs like rents were also introduced to prevent the neutralising encroachment of inflation. Funding a basic income scheme would require tax adjustments that many politicians would find unnerving to implement, but this need not be so. Actually, even a cursory exploration of the ideologies of the common political spectrum shows that the idea of basic income is compatible with any political persuasion, and would confer benefits on businesses as well as individuals. It would represent a cushion to allow people to change jobs more frequently, and to embark on new courses of education at any point in adult life as interests and industries changed.

Another key benefit of basic income is permitting widespread engagement in community and other social activities that threaten to become the preserve of the wealthy without ensuring a minimum level of disposable income available to the majority of people. This, in turn, is essential

for supporting the development throughout society of emotional intelligence and practical ability, quite apart from what I term the “slow economy”. This includes businesses and services that are perhaps less efficient and therefore more costly than mass-production and automation allow, but which provide additional opportunities for social engagement and community-building.

Unions in some countries have done a good job of supporting the introduction of new technologies, but in every jurisdiction they must now advance the cause of continuous education and training for workforces. They must also resist the temptation to prolong the life of legacy industries; that way lie outcomes almost guaranteed to damage individual life chances, let alone to delay the proper macroeconomic evolution of a country. Unions should increasingly observe the development of the gig economy; indeed, in the USA in particular, it is this fundamental shift that is giving labour organisations a new lease of life, and so they should advocate the cause of universal rights for workers regardless of contractual status. As the potential grows for working life in many sectors to become increasingly remote, there is a pressing need for unions to present the case for measures that mitigate against the isolating effect of the home office. Businesses, in any case, should realise that it is counterproductive to deny employees the opportunity to spark off each other; therein lies the inspiration that drives innovation and creativity.

The liberal theory of education has long assumed that relevant learning is enough in itself to safeguard social mobility. The problem here is twofold: education has arguably never been very successful at imparting the skills people need to be able to navigate adult life, which include resourcefulness and the ability to learn new skills. Still more, ever-expanding bodies of research show that people need more than relevant education to succeed: they also require social and community services, and the chance always to learn new skills to embark on new careers in future-growth sectors. But education and work are only part of the story of social mobility. The rest is to do with the proper functioning of representative government in a country. For the welling of populism ranging from the laughable to the extreme to be suppressed, and for the trend of disenfranchisement to be reversed, ordinary people need to see that their voice matters. New approaches to consultative democracy, such as citizens’ assemblies, should contribute at least partially to addressing these issues.

The future of work always has been difficult to predict. The speed of technological change in the 21st century makes this task even harder. But governments should be prepared for what lies ahead by ensuring that, whatever happens, everyone has the potential to enjoy a dignified standard of living. The best thing an individual can do is pursue a constant path of self-development. With the social and financial structures outlined in this paper in place, individual resourcefulness and responsibility make up much of the rest of what a person needs to enjoy a fruitful working life.

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