TECHNOLOGY CHANGE, PANDEMICS, AND THE FUTURE OF WORK

NICHOLAS GREEN from the Productivity Commission wonders what the world or work might be like after COVID-19 and what it might mean for public servants.

Until very recently, a major concern haunting labour market policy minds was the prospect that large numbers of jobs might be replaced by technology, leaving many people without work and incomes. These fears have now been displaced by more immediate worries, such as how to restore employment and economic health as New Zealand brings the COVID-19 virus under control. But might the virus have a longer-term and more fundamental impact on work? And how should the public sector think about the impact of COVID-19 and similar shocks to work? This article draws on the Productivity Commission's recent inquiry into *Technological change and the future of work* in attempting to answer these questions.

Weren't the robots going to take our jobs anyway?

Before we get into the possible impacts of COVID-19, let's start with the question of technological change and its impact on work. Are emerging technologies such as artificial intelligence disrupting work and replacing human labour? The short answer is this: there's not much evidence of it. Across the developed world, all of the economic and labour market indicators you'd associate with rapid technological change – productivity growth, business start-up rates, occupational churn or turnover – are either flat or declining. Prior to the pandemic, the labour market also seemed pretty stable. People were staying in their jobs for longer periods, "gig work" was small and largely a short-term activity, and the overwhelming majority of workers were in traditional, permanent employment.

There are many possible explanations why we've not seen much technological disruption. One is that the current wave of technological change is actually much less significant or transformational than earlier eras. Another is that firms are still figuring out how to successfully implement new technologies, so we'll see larger changes in the future.

But a more significant insight from the commission's inquiry is that technology has many different impacts on the labour market. Some forms of technological change do replace jobs (for example, weavers were replaced by looms during the First Industrial Revolution; more recently, typing pools were replaced by desktop computers). However, others create new jobs (for example, digital technology has created web designers and app developers) or demands for more labour (for example, by making it cheaper to produce some goods and thereby freeing up consumer incomes to be spent on more or other products). Technology can also make existing jobs and workers more productive. More than one impact can occur at once, and it is difficult to predict the full effect of a particular technology on work in advance.

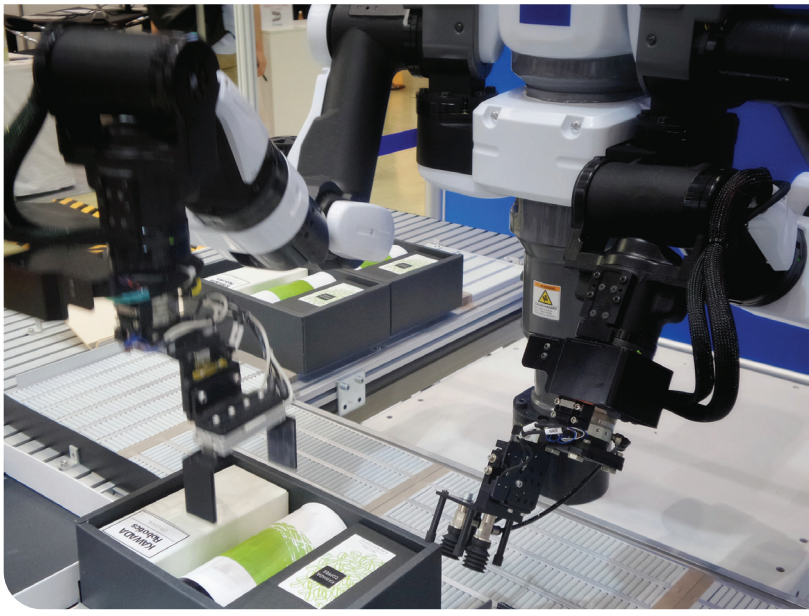
What might COVID-19 mean for the future of work?

Trying to predict the future in detail is a mug's game. The commission explored the many forecasts that people have made about the impacts that automation technologies would have on employment. The most famous study was carried out by Frey and Osborne in 2013 and concluded that over 40 percent of jobs in the United States were at "high risk" of being automated. Similar forecasts have been done for New Zealand. All of these exercises fall short on many counts, including inadequate data, questionable assumptions, and partial analysis.

> ANOTHER CHANGE THAT MIGHT AFFECT EMPLOYMENT IS A GREATER CONCERN FOR RESILIENCE IN THE FACE OF SHOCKS.

But we can certainly speculate about possible futures. Business models, jobs, and economies change as prices move, competition increases, technologies become available and cheaper, and social norms evolve. We could envisage one future where COVID-19 fundamentally shifts New Zealanders' preferences around proximity to other people and doing things online. In such an environment, there will be an increase in the demand for web design, logistics, freight and transport jobs and services but less demand for traditional retail jobs. Some forms of work and business that involve large numbers of people in close contact – such as gyms – may face increasing competition from fitness apps and other online substitutes. Humans are essentially social creatures, so this future may not seem very likely – but it can't be discounted.

Different preferences could also lead to the reorganisation of some workplaces, even where the firm's core business hasn't fundamentally changed. For example, the recent shifts towards open-plan offices, hot-desking, and reducing the amount of space per employee may stop or reverse as workers and managers decide to build in more protections and options against the spread of disease.



Another change that might affect employment is a greater concern for resilience in the face of shocks such as epidemics. This could have many manifestations.

- For individuals, it may lead to more precautionary saving as a way of insuring themselves against losses of work and income during shocks. More saving implies less spending on, and less demand for, other goods and services (and for the jobs that produce them).
- For firms, it might imply greater investment in the technology and processes that allow staff to work remotely and in ensuring that supply chains can provide continuity in the face of shocks. This might see some jobs and activities that were off-shored come back to New Zealand or closer (for example, Australia). Similar concerns for resilience in Australia could create new economic and employment opportunities here.

GREATER USE OF TECHNOLOGY IN PUBLIC SERVICES COULD PROVIDE MORE SECURITY AND IMPROVE THEIR REACH AND EFFECTIVENESS.

- For the economy as a whole, it might mean establishing new processes to help workers who are displaced and to ensure essential goods and services continue to be delivered. In Australia, for example, Qantas and Woolworths have been working together to find jobs for people laid off during the grounding of the airline industry. These sorts of responses were taken on an ad-hoc basis. In future, they may need to be more planned and systematic.
- It may also see the government take a closer look at, and take a larger role in, industries that sustain wellbeing in the event of shocks. The Minister of Finance has indicated that the government will be giving these matters close consideration. Similar "defining events" for earlier generations, such as the Great Depression of the 1930s and stagflation in the 1970s, led to fundamental changes in the goals governments pursued and the ways they operated. A more active government could have implications for the types and amounts of labour demanded.

How should the public sector think about these issues?

The full impact of COVID-19 is yet to be seen. In the meantime, however, there are at least four questions that public sector agencies can ask themselves.

NOW IS A GOOD MOMENT TO REVIEW WHETHER CURRENT POLICY AND REGULATORY SETTINGS SUPPORT EMPLOYMENT GROWTH.

First, how sound are your agency's systems in the face of disruption? How many of your staff were able to work from home during the lockdown? What tasks could not be done during this period? What changes and investments would you need to make to safely maintain the delivery of core services under a similar event?

Second, are there opportunities in your portfolios to use technology both to improve resilience and service productivity? The need to limit physical contact and protect essential workers during the pandemic has led to new approaches to delivering some services, such as the roll-out of online consultations at GPs and the delivery of online education by tertiary providers. However, government funding models assume traditional delivery models – for example, payments for physical consultations by health providers or funding tertiary providers based on "bums on seats". Innovations in service delivery can improve flexibility, accessibility, and efficiency but may be held back by government funding rules or regulatory barriers. Measuring public service productivity is tricky, but the available information suggests that New Zealand's recent performance has been disappointing (see NZPC, 2019). Greater use of technology in public services could provide more security and improve their reach and effectiveness.

Third, how well do the policies, regulations, and laws you administer support resilience, flexibility by firms and workers, and the ability to rapidly and safely restore full employment? We know that extended periods of unemployment have large and deleterious effects on wellbeing and can limit people's ongoing opportunities to work and earn. Limited future career options are particularly costly for the young. So enabling people to get back into work – within the bounds set to prevent the resurgence of COVID-19 – will be critical. Now is a good moment to review whether current policy and regulatory settings support employment growth. For example, in our final inquiry report, the commission pointed to the need to make the training system more responsive by lifting policy and regulatory constraints on the delivery of and enrolment in short courses. Such courses could help people reskill and gain entry to new work. There will be many similarly beneficial opportunities to improve policy and regulatory settings elsewhere in the public sector.

SOME PREVIOUS CRISES IN HISTORY HAVE LED TO BIG SHIFTS IN BUSINESS AND ECONOMIC BEHAVIOUR.

It would also be timely to consider whether planned new policies or regulations will help or hinder employment. New Zealand's flexible labour market has done a good job over the past 20 years of dealing with economic and technological change. It supported high employment levels over that period and created a range of employment opportunities to meet the diverse needs and preferences of different individuals. We should be cautious of undermining this model.

Finally, how well are our government agencies able to monitor evolving trends so that they can understand what the post-COVID-19 world will look like and advise the government how it can best respond? Returning to the issue of technology and work, one of the big reasons why New Zealand's productivity and income growth has been so disappointing is that we haven't invested in technology at the rate we should. Some previous crises in history have led to big shifts in business and economic behaviour – with appropriate support and prods from governments. Could COVID-19 be the shock that sees New Zealand finally lift its game in technology adoption?