

Getting ahead of the Future of Work: Focus on the Systems, not the Skills

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What will the future of work look like? If we can understand the ways in which technology, demographic and economic trends will reshape labor markets, we will have a better understanding of what we should be emphasizing in our educational and training systems to be as well-prepared as possible for tomorrow's world. Rapid advances in artificial intelligence and robotics have, in particular, created a new momentum to understand exactly how widespread the impacts of technology will be on jobs. Recent reports from the OECD, World Bank, McKinsey, Nesta and others have attempted to ascertain which types of occupations are most at risk of automation, and also which skills and occupations are likely to be most immune to obsolescence.¹

But, what if this focus is misplaced? The inherent unpredictability of technological progress means that even within the literature on automation, there are projected ranges for developed countries from 5% of jobs to 50% of jobs being at risk of automation, with figures

even higher than this for developing countries. The timeframes for these impacts are similarly broad, cases ranging from 10-20 years, to 50 years in other estimates. Layered onto the direct uncertainty around depth of impacts and timescale are unanswerable questions around the social norms and preferences which may influence how quickly, if at all, technological solutions replace humans.

Then there is the question of technologies that are still at nascent stages, or that will only emerge in the coming years. Will emerging technologies such as blockchain make intermediaries like Airbnb and Uber less relevant in 2 years, or 10 years? How quickly will autonomous vehicles eliminate the jobs of drivers around the world? Uncertainty makes policy responses to specific potential outcomes challenging and makes the need for non-path dependent responses critical. These challenges are exacerbated by the cross-cutting nature of the future of work policy issue, touching as it does on economic, social, regulatory and technological issues.

A forthcoming report from the Mowat Centre at the University of Toronto argues that policymakers should focus their attention on upgrading the systems that support workers and young people, and ensuring those systems are prepared to thrive in a world of increased uncertainty, volatility and disruption. Whether the primary and secondary education systems, unemployment

¹ See, for example: Arntz, M., T. Gregory and U. Zierahn (2016), "The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis", OECD Social, Employment and Migration Working Papers, No. 189, OECD Publishing, Paris; World Bank (2016), World Development Report 2016: Digital Dividends. Washington, DC: World Bank; McKinsey Global Institute (2017), "A Future that works: Automation, Employment and Productivity" New York; Bakhshi, H., Downing, J., Osborne, M. and Schneider, P. (2017). The Future of Skills: Employment in 2030. London: Pearson and Nesta.



and training schemes or housing, health and social supports, existing policy and service delivery frameworks in many countries were designed for the industrial age and do not take advantage of, nor reflect, the digital age in which we live today.

For instance, unemployment schemes in both Canada and America are straining to meet the needs of labor markets characterized by more part-time, temporary and contract workers. Both countries are at record-low rates of coverage for income supports for the unemployed. Fewer than one in three unemployed Americans now receive benefits and for those who qualify, benefits replace a smaller percentage of wages than before.² Similarly, only 39 percent of unemployed Canadians receive regular benefits, down from over 80 percent in 1978.³

As more workers are engaged in non-standard forms of employment, fewer workers are completing enough hours to pass eligibility thresholds. Those who do qualify often do not receive payments for very long.

Developing unemployment programs that provide more targeted, outcomes-based and personalized supports is

only going to become more pressing in a future where we can expect more workers in the contingent, on-demand workforce. Reforms that focus on developing systems that are resilient and responsive are more likely to have relevance than re-orienting programs around predictions about what types of occupations are likely to be in demand 10 or 20 years from now.

A clear example of the risks of future-casting skills and occupations presents itself in the area of computer programming. Governments from New York to England to Singapore have decided that coding will be a growth area in the economy and that they should begin to train young children to acquire these skills. While there may well be value in training more young people to be comfortable with computers and how they work, and skills such as problem solving and logic can be enhanced through such efforts, there is an open question about whether coding will actually be an area where humans will have much of a role in the future.

As American software entrepreneur Mark Cuban has observed, coding could well be automated within five years and a better focus for skills-development could be creative thinking.⁴ Which brings us back to the original

2 Executive Office of the President of the United States (2016) "Artificial intelligence, automation, and the economy." Washington.

3 Johal, S. and Thirgood, J. (2016) Working Without a Net: Rethinking Canada's Social Policy in the New Age of Work." Toronto: Mowat Centre.

4 Wile, R. (2017, February 20) "Mark Cuban says this will be the number 1 job skill in 10 years." Time. Retrieved from: <http://time.com/money/4676298/mark-cuban-best-job-skill/>



conundrum - future-casting skills is hugely challenging, and future-casting skills overlaid against occupations likely to be in demand is even more difficult. The significant time and effort involved in reorienting educational systems from the primary to tertiary levels means that policymakers who get their projections wrong could have an entire generation with skills that are not particularly useful.

For policymakers facing an uncertain future, the best course is to redesign the systems that will support workers and young people engaged in the workforce or preparing to enter it. Many of the changes that are required across policy and service delivery frameworks will have the added benefit of not just laying the groundwork for the future, but also addressing the real and pressing needs of those who are ill-served today by schemes that were designed for a different time. What particular characteristics should inform the design of social and employment supports? Successful programs and systems in the future will be:

- Delivered digitally to increase efficiency and reduce transactional costs for citizens and governments
- Clearly focused on outcomes that require policy action (e.g., increasing availability of timely, impactful skills training to unemployed workers)
- Evaluated for effectiveness and impact, and continually refreshed to adjust to emerging social and economic conditions
- Customized and flexibly designed to accommodate the varied needs of citizens
- Integrated with other service and programs offered by government and delivery partners

Two promising examples of new interventions that align with these criteria are Singapore's SkillsFuture program and France's Personal Activity Accounts. Both programs are designed to provide citizens with easier access to services that they need, when they need them. Singapore's program provides a digital platform for citizens to access lifelong learning resources, including information about education and training opportunities, integrated training supports and an individualized credit of \$500 that is periodically topped up by the government for skills development. The French model provides customized training supports and credits for people facing different life situations, including the employed, education system drop-outs, and those who engage in voluntary and charitable work.

The ability of governments to pivot programs towards these types of models, delivering targeted programs quickly, adjusting them on the fly based on rigorous evaluation and partnering with other societal actors should be the primary focus of reform in the short to medium-term. Anticipating specific competencies and hard skills which will be in demand in the future and re-aligning training and educational systems towards them should be undertaken with extreme caution.

In the longer term, exploring the effectiveness of more transformative approaches such as a guaranteed annual income may be required. But, adjusting existing supports to better reflect today's world of work, will go significantly towards addressing concerns about the future of work currently bedeviling policymakers around the world. The more those supports are customized, digital, integrated, focused on outcomes and rigorously evaluated, the more likely it is they will meet the challenges of an uncertain, ever-evolving future.