Select Committee into Jobs for the Future in Regional Areas

University of Melbourne Response

September 2019

Overview

The University of Melbourne welcomes the opportunity to contribute to the Select Committee into Jobs for the Future in Regional Areas.

Technological advances in automation, robotics, artificial intelligence and other areas have caused concern about the future of work, and the impact that this can have on the availability and accessibility of jobs and their geographical spread. As the terms of reference note, regional communities are already experiencing changes in traditional industries and many communities have already experienced structural adjustments and industry transition.

The University is deeply engaged with these issues as a research institution focusing on some of the challenges and opportunities created by the future of work, as an educator of the current and future workforce and as a member of regional communities. The University of Melbourne has a strong presence in the Greater Shepparton and Goulburn Valley region in Victoria, for example, with a campus in Dookie and a Department of Rural Health based in Shepparton.

This submission draws on our experience to make some general comments about the future of work and outline some of the challenges specific to regional communities. The submission then offers recommendations regarding:

- the need for more research and data about the nature of future jobs;
- education across primary, secondary and tertiary levels;
- digital infrastructure to ensure that regional communities are well-placed to participate in new opportunities for work and education; and
- strategies for attracting and retaining workforce in growing industries.

We would welcome the opportunity to discuss these issues in more detail with the Select Committee or to otherwise assist in developing the Select Committee's final report.

Summary of recommendations

The University of Melbourne makes the following recommendations for the consideration of the Select Committee into Jobs for the Future in Regional Areas.

A sustainable regional and rural workforce

Further research is required to better understand jobs in regional areas, as are strategies that help expand education opportunities as this will assist in recruiting and retaining employees. Building a sustainable rural workforce will require a collaborative approach between stakeholders including communities, government and employers and educators. Initiatives could include:

- Better collection of jobs data in regional areas to accurately inform policy and workforce planning.

- Support for further research alongside regional employers to better capture trends and real time changes in regional jobs.

- Bespoke partnerships that expand educational offerings in regional, rural and remote communities. These could be between education providers or with other community stakeholders.

- Financial incentives to support students undertaking tertiary study in topics relevant to regions.

- Addressing the accessibility and availability of primary and secondary education in rural and regional areas to encourage families to move to and stay in these areas and to build aspiration for post-secondary education.

- Responsive regional training and education, including subsidised TAFE and university courses, flexible options for mature-age rural residents and regional-urban training rotations.

- Public transport to enable more efficient and timely connection between regional areas and metropolitan centres.

- Good governance and leadership in local government in rural and regional areas to better enable regional communities to identify their strengths and share in projects that encourage community and economic development.

Access to digital technology

Initiatives to ensure regional and rural communities are well placed to share in the opportunities created by new technology include:

- Digital infrastructure to enable more people, businesses and education providers in rural and regional communities to access reliable and fast internet access.

- School, university and vocational training programs to improve digital literacy in rural and regional communities.

The future of work and the University of Melbourne

A focus on the Goulburn Valley

The University of Melbourne's activities in the Greater Shepparton and Goulburn Valley region have a focus on education: agriculture through our Dookie campus; health workforce development through the Department of Rural Health; and partnerships with Indigenous organisations to explore innovative pathways for education and future workforce development, including the Diploma in General Studies pathway to post-secondary study.

The University employs 160 people in the region, has over 2,000 students who undertake training or an education program each year and engages with over 155 industry partners. With a strategic focus on working in and with the region in the coming decade to develop new opportunities and advance new learning, the University is developing its plan for engagement in the region that has a long-term outlook to support the diversification of work opportunities, supply chain and the local economy through education, research and partnerships.

As the Education Partner for the Munarra Centre for Regional Excellence, and together with the Rumbalara Football and Netball Club, the University will transition our Academy of Sport, Health and Education into the Munarra Academy, creating a unique Indigenous-led education model that seeks to address economic development opportunities in the region through new training, skills and capability building to contribute to the future workforce in the region and address economic parity.

Jobs focused research

The University is also deeply engaged in research about the future of work and is working with community, government and industry partners in supporting transition and structural adjustment. Highlighted below are two examples:

- The Centre for Workplace Leadership undertakes research on best practice leadership with a focus on improving the quality of leadership in Australian workplaces through partnerships with governments, businesses and entrepreneurs. Much of this research focuses on the future of work and how leaders can manage technological transformation, digital disruption and demographic change.

- The Melbourne Sustainable Society Institute is an interdisciplinary institute with an emphasis on how social sciences can contribute to understanding and addressing sustainability and resilience challenges. In one project, researchers are partnering with the Latrobe Valley Authority to work with government, community, business, research and education partners in developing the Gippsland Smart Specialisation Strategy.[1] This project draws on the learnings of the European Union's approach to regional development through its Cohesion Policy to examine Gippsland's current strengths and capabilities with the aim of creating new networks and linkages to stimulate long term change and new ways of operating.

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[1] See: Gippsland's Smart Specialisation Strategy, available from: lva.vic.gov.au/gippslands-smart-specialisation-strategy/ Accessed 3 September 2019.

General comments on the future of work

Technological advances impacting work

Recent technological advances in automation, robotics and artificial intelligence have provoked concern about the future of work. Perspectives range from enticing futures full of leisure, to distressing visions of unemployment and divided societies. Almost daily, machines seem to acquire new capabilities that again prompt speculation about where the jobs of the future will come from, whether there will be enough of them and if they will be of decent quality, and how workers can best prepare to do them.

As an industrialised nation with strong international trading links, Australia's economy is shaped by global technological forces. But this does not mean those forces have identical or inevitable effects everywhere. Australia's distinctive geography, its industrial and workforce composition, institutions, and policies will all influence how global technological forces 'play out'.

Difficulty in predicting employment patterns

Predicting future employment patterns with any accuracy is profoundly difficult. The most reliable Australian projections point to a likelihood of future growth in industries such as health, professional, scientific and technical services, and education and training. In a broad sense, technological changes can affect two main aspects of work: its quantity and its distribution.

On the first of these two points, there is no convincing evidence that work is disappearing, despite many predictions that 'the end of work' is nigh. Predictions overemphasise the job-destroying effects of technology while ignoring its (equally important) role in job creation. Economic development is surprisingly effective at generating sufficient new jobs, in unexpected areas, to maintain high levels of aggregate employment in the longer term.

On the second point, however, there is compelling evidence that the *distribution* of work is changing – and will, in all likelihood, continue to change – as technological progress gathers speed. Machines are increasingly able to replace humans in basic (or 'routine') tasks while complementing us in doing more complex ('non-routine') tasks.

In Australia and other developed countries, one of the central economic stories of recent decades has been the surge in relative demand for workers to do abstract, cognitive tasks. This has occurred even as the supply of skilled workers (those with qualifications beyond high school level) has expanded rapidly. The OECD employment outlook reports on another economic story. The increasing pace of change, uptake in technology and globalisation are disproportionately affecting 'mid-skill/mid-pay workers', such as those in manufacturing.[2] These trends are contributing to jobs 'polarisation' and earnings inequality in Australia.[3]

There is also evidence that the automation of routine tasks will have a stronger impact on certain industries—including mining and agriculture—that have provided significant regional

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[2] Organisation for Economic Cooperation and Development (2017) Employment Outlook 2017, OECD Publishing, Paris https://doi.org/10.1787/empl_outlook-2017-en
[3] Coelli, M. and Borland, J. 2016, ' Job polarisation and earnings inequality in Australia', *Economic Record*, vol. 92, pp. 1 –27.

employment in the past.[4] A recent study by the Committee for Economic Development of Australia (CEDA) suggested that the looming threat of automation for regional jobs is generally higher than in the cities.[5] Unless offset by strong employment growth in new industries, automation-induced job losses on this scale would severely impair the economic viability of businesses and communities across large swathes of regional and rural Australia.

The need for upskilling

Competence in performing unstructured tasks, especially those of a cognitive variety, will continue to be workers' best protection against technological obsolescence. Jobs that involve doing such unstructured tasks often require a university or higher-level vocational qualification and it is encouraging to see the strong investments that have been made in recent decades to ensure that many more Australians possess skills at these higher levels.

However, as the recent National Regional Rural and Remote Tertiary Education Strategy highlights, regional and rural Australians are half as likely as those from metropolitan areas to gain a university qualification by the time they are 35.[6] Consequently, greater investments are needed to improve university access and attainment for people from rural and regional areas and for people from regional communities to access the same quality of tertiary education as their city counterparts. As far as possible, these investments must happen in an equitable way to avoid worsening technology's tendency to be 'polarising' in its effects. Investments in high-level technical skills must also be matched by a new commitment to ensuring workers have broader competencies – in communication, teamwork, and empathy - as these inherently 'human skills' will be important attributes required in jobs of the future.

Innovative pathways to post-secondary study may be necessary to increase participation among regional and rural students. For example, the University of Melbourne's Diploma of General Studies is a one-year qualification delivered full time at our campus in Dookie. The Diploma provides a pathway for students to gain entry into University of Melbourne bachelor degrees in agriculture, science, design, commerce and biomedicine. The majority of students live on campus at Dookie, enabling them to be part of a supportive community while completing their studies. Students gain valuable skills with which to enter the workforce and a strong foundation for further tertiary study.

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[4] Finkel, A. (2015). Reflecting on the future of work in Australia: Pessimism, optimism and opportunities. *Journal and Proceedings of the Royal Society of New South Wales* (457/458), 125.

[5] Durrant-Whyte, H., McCalman, L., O'Callaghan, S., Reid, A. and Steinberg, D. (2015). *The impact of computerisation and automation on future employment*. Melbourne: Committee for the Economic Development of Australia.

[6] Department of Education (2019), The National Regional, Rural and Remote Tertiary Education Strategy. Australian Government, Canberra
https://docs.education.gov.au/system/files/doc/other/national_regional_rural_and_remote_tertiary_education_strategy.pdf , p8.

A sustainable regional and rural workforce

Regional areas face additional vulnerabilities when it comes to changes in jobs. The regional workforce makes up a relatively small proportion of the total workforce in Australia, which can translate to less influence to change policy and priorities.

Jobs and building sustainable regional communities

Bringing skilled people to the regions, including young people, requires more than just the availability of high-tech jobs in new or evolving industries. Building progressive workplaces and career opportunities within regional business and industry will be important, as will ensuring that regional communities have the infrastructure available to make them attractive places to live and work. Growing the future workforce locally will secure a strong and sustainable workforce.

Changes in the make-up of the workforce may also impact on the ability of regional communities looking to build sustainable populations and community cohesion. Future workforces may include more diversity in employees including temporary, casual and permanent roles, as well as migrant workers, youth workers and older workers.

Agriculture, Food and Beverage

Much of the $44 billion of Australia's current food export income is generated from rural and regional areas, and the food industry is considered integral to Australia's economic and social prosperity.[7] Currently, close to half a million people work in farming and food and beverage processing and services, with 82 per cent living in rural and regional areas.[8] However, volatile agricultural markets, climate variability and changing consumer food preferences can have an impact on the jobs available in regional areas and people's interest in those jobs, which has flow-on effects for rural and regional community life. Assisting farm businesses to understand how digital tools and services can be integrated into their service delivery for improved farm decision making would result in more efficient farming and creates new jobs.

The need for a clearer picture of regional jobs

While there is information available about jobs in regional areas, there is a need for more detailed data in order to understand trends and to inform policy and workforce planning. It can be difficult to disaggregate data about jobs from Census and Australian Bureau of Statistics sources, and often regional business surveys may exclude Small to Medium Enterprises because of relatively low numbers of employees in businesses. Some sectors, including food and farming, also vary in demand for workforce at different times and therefore data requires regular updating in order to be used. The Government can play a role in coordinating better data collection to build capacity and enable workforce planning through facilitating connections with local industries and employers and sharing information

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[7] Department of Agriculture, 2019. 'Food' Available from: http://www.agriculture.gov.au/ag-farm-food/food
[8] Binks, B, Stenekes, N, Kruger, H & Kancans, R 2018, Snapshot of Australia's Agricultural Workforce, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0.
https://doi.org/10.25814/5c09cefb3fec5

with industry and community regarding trends. This data then needs to be translated to support interventions and activities that address emerging issues.

Bringing research alongside regional employers

The nature of 'future jobs' is dynamic and evolving. 'Future jobs' do not just appear at scale in regional areas - support for sectoral and regional research focused on future jobs is required. Individual employers in regions will invest in new technology or change roles and jobs in response to their business strategy and their local experiences.[9]

Capturing trends and developing a comprehensive understanding of the business context requires real-time research with employers. Researchers at the University of Melbourne have developed tools and methods to follow employers in the agricultural sector as they respond to these dynamic situations. This enables reporting at a regional scale and assists industry in informing education and training needs and regional workforce development.[10] Research similar to this could be rolled out more broadly, with a focus on improvement in work practices and foreseeing workforce change at a business level.

Partnerships in education

As jobs change, demand for tertiary level education can also increase to better prepare the future workforce for the types of jobs they may be doing. Partnerships between universities and regional communities as well as partnerships between educational providers that expand educational offerings in regional, rural and remote areas should be nurtured and supported.

For example, the University of Melbourne is a participant in the Murray Darling Medical School Network, which is supported by the Australian Government. Collaborating with La Trobe University, the University of Melbourne will expand its Doctor of Medicine (Rural) in Shepparton by 30 places, with half of the new places allocated for biomedical graduates from La Trobe University's regional campuses in Bendigo and Wodonga. The initiative will deliver end-to-end medical training in north-eastern Victoria and incoming students are selected for their commitment to rural Australia. This collaboration between universities will enable high-achieving and committed graduates from rural secondary schools to train as rural doctors without moving away from regional communities.

As well as utilising regional campuses, partnerships with city-based universities with expertise in areas such as advanced engineering, food science and technology will be of value. For example, in the University's Bachelor of Agriculture and Master of Agriculture, specific programs have been established to enable students to undertake placements in regional areas. Our digital agriculture internships and placements have been welcomed by regional communities and businesses who can benefit from the different insights our students bring. Financial support for students wanting to complete placements and small

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[9] Ayre, M., Mc Collum, V., Waters, W., Samson, P., Curro, A., Nettle, R., Paschen, J.A., King, B. and Reichelt, N., 2019. Supporting and practising digital innovation with advisers in smart farming. NJAS-Wageningen Journal of Life Sciences:https://www.sciencedirect.com/science/article/pii/S1573521418302355?via%3Dihub and see https://rirg.fvas.unimelb.edu.au/publications for a range of relevant research publications.

[10] Nettle, R., Oliver, D. Brightling, P. Williamson, J. Buchanan, J. 2008, From "Workforce Planning" to "Collective Action": Developments in the Australian dairy farm sector. *Employment Relations Record Vol 8, No 1, 17-34.*

research projects on regions may also encourage uptake of these types of subjects and courses.

Recruitment and retention of employees

While a focus on industry transition and the nature of future jobs is important, so too is a focus on addressing recruiting and retaining employees in current industries and professions. Creating a sustainable rural workforce requires addressing the complex needs of employees and an understanding of the professional and non-professional drivers of recruitment and retention in rural areas is essential.

As an employer in a regional community, the University has experienced first-hand some of the challenges of recruiting and retaining staff. The University Department of Rural Health is located across rural Victoria with campuses in Wangaratta, Shepparton, Bendigo and Ballarat. Our researchers at the Department of Rural Health are also engaged with these issues in relation to educating the future health and medical workforce and have developed an understanding of some of the factors that influence newly trained health and medical professionals in deciding to work in a regional rural or remote area. These include:

- **Family:** Recruitment from outside the region is often made more difficult by the need for meaningful employment for the partner of the potential employee: the more senior the position, the more difficult the task. Additionally, the quality of local primary and secondary schools often impacts the decision to live and work regionally.[11]

- **Professional satisfaction:** Professional development, promotion opportunities and remuneration play an important role in employee retention.[12]

- **Community engagement:** Positive community experiences in the rural setting, including in the workplace, are important for employee retention.[13]

- **Education and training:** Cost and availability of education and training plays a vital role in recruitment to rural areas. In Victoria, recent changes to TAFE fees have seen an increase in student enrolments in the courses offered at no cost. This provides increased educational opportunities in regional areas and opens opportunities for new careers and transition to university.[14]

- **Life stage**: Younger people are more difficult to retain for longer periods as they are more mobile and seek out diverse employment experiences.

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[11] Terry, DR; Baker, E; Schmitz, DF, Community assets and capabilities to recruit and retain GPs: the Community Apgar Questionnaire in rural Victoria, Rural & Remote, 2016, 16 (4) (Online)

[12] Cosgrave C, Maple M, Hussain R. An explanation of turnover intention among early-career nursing and allied health professionals working in rural and remote Australia – findings from a grounded theory study. *Rural and Remote Health* 2018; 18: 4511. https://doi.org/10.22605/RRH4511

[13] Cosgrave, C., Malatzky, C., Gillespie, J. (2019) Social determinants of rural health workforce retention: A scoping review. *International Journal of Environmental Research and Public Health* 16: 314 (online).

[14] Greenhill, J.A., Walker, J., Playford, D. (2015) Outcomes of Australian rural clinical schools: A decade of success building the rural medical workforce through the education and training continuum. *Rural and Remote Health* 15:2991 (online)

Initiatives to enhance community infrastructure, create cohesive communities and strengthen education are important mechanisms which may help to address some of these challenges of workforce recruitment and retention. Local government also has an important leadership role to play in creating regional jobs, developing local economies and building regional communities that are attractive places to live. Developing leadership and governance is one way to strengthen this capacity in regional communities.

Recommendations

The University recommends that the Select Committee considers:

- Improving the collection of jobs data in regional areas to better inform policy and workforce planning.

- Support for further research alongside regional employers to better capture trends and real time changes in regional jobs.

- Bespoke partnerships that expand educational offerings in regional, rural and remote communities. These could be between education providers or with other community stakeholders.

- Financial incentives to support students undertaking tertiary study in topics relevant to regions.

- Addressing the accessibility and availability of primary and secondary education in rural and regional areas to encourage families to move to and stay in these areas.

- Responsive regional training and education, including subsidised TAFE and university courses, flexible options for mature-age rural residents and regional-urban training rotations.

- Public transport to enable more efficient and timely connection between regional areas and metropolitan centres.

- Good governance and leadership in local government in rural and regional areas to better enable regional communities to identify their strengths and share in projects that encourage community and economic development.

Access to digital technology

Technological progress is both an opportunity and a challenge for Australia's regional areas. The opportunities stem from increased potential for connectivity, productivity and competitiveness of businesses and workers outside the cities.[15] In one study of businesses in regional Queensland, for instance, participants reported better connectivity as an

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[15] Regional Australia Institute (2015). 'The Future of Regional Australia: Change on Our Terms.' Regional Australia Institute Discussion Paper, November 2015.

opportunity for workers to interact remotely and for businesses to access resources and markets outside of their immediate local areas.[16]

Availability of digital infrastructure

While technological changes undoubtedly present opportunities for regional communities, there are hurdles to overcome before these prospects can be realised. Access to fast, reliable and affordable digital infrastructure remains a problem in the regions, hindering economic opportunities. A recent study found that almost half of respondents in rural and regional Australia considered their internet access to be either 'very poor' or 'inadequate'.[17] Poor internet access also limits tertiary education access and completion, and can force individuals to relocate to undertake study. [18]

Importance of digital literacy

Another challenge concerns digital literacy in rural and regional areas. Workers will need digital skills "to successfully engage in the workforce and maximise productivity in most industries, including traditional regional industries."[19] However, as the Regional Australia Institute notes, digital literacy in parts of rural and regional Australia is significantly lower than in the cities, meaning that workers and businesses in these areas may be less equipped to seize the opportunities presented by some new and emerging technologies.[20] Programs that enable regional communities to improve their digital literacy are an important step in addressing this challenge to enable the regions to share in the opportunities created by digital technology.

Recommendations

The University recommends that the Select Committee considers:

- Digital infrastructure to enable more people, businesses and education providers in rural and regional communities to access reliable and fast internet access.

- School, university and vocational training programs to improve digital literacy in rural and regional communities.

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[16] Smidt, M., Becker, K., & Bradley, L. (2015). Forces shaping the future of work in a changing regional economy. *Australasian Journal of Regional Studies*, (3), 349.

[17] Vidot, A. (2016) 'Almost half of regional Australians report internet is 'very poor', 'inadequate': University of Canberra survey.' *ABC News,* 21 June. Available at: ab.co/2fxivNL

[18] Department of Education (2019), The National Regional, Rural and Remote Tertiary Education Strategy. Australian Government, Canberra
https://docs.education.gov.au/system/files/doc/other/national_regional_rural_and_remote_tertiary_education_strategy.pdf p19,26

[19] Ibid, p 15

[20] Regional Australia Institute (2016). 'The Future of Work: Setting Our Kids Up for Success.' Regional Australia Institute: Report, November 2016.

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