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REGIONAL JOBS



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THE FUTURE OF REGIONAL JOBS

2020 SYNTHESIS

REGIONAL RESEARCH CONNECTIONS



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Independent and informed by both research and ongoing dialogue with the community, the Regional Australia Institute develops policy and advocates for change to build a stronger economy and better quality of life in regional Australia – for the benefit of all Australians. The RAI was established with support from the Australian Government.

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1 Introduction

This report provides an overview of the Future of Regional Jobs program of research undertaken for the Regional Australia Institute. The overarching project aims to identify and explain the significance of jobs, work and employment in sub-national regions over time in Australia. The program:

1. Identifies the social and economic disruptions that may be taking place in regions which impact on jobs. It assesses and categorises the types of jobs and employment practices that are disappearing or emerging in regions.
2. Evaluates the consistency and focus of the delivery of education and training for jobs and employment in regions. This involves a consideration of how the education/training system can best support regions to develop their local labour force.

The summary report is based on analysis of census data, Department of Social Security data, literature and policy reviews and interviews with representatives from regional employment and training organisations. This data is included in the reports arising from the following work packages:

Regional implications of the uncertainties about jobs, work and employment – Fairbrother and Denham (2020)

Diversity and Growth in Regional Development – Toner and Douglas (2020)

Factors in Regional Mobility – Denham (2020)

Day-to-day insecurity of low-income regional households and labour markets – De Silva and Banks (2020)

Regional Skills Trends and Learning: Training in relation to the growth of Health and Community Services employment – Denham and Fairbrother (2020).

It also draws on previous studies undertaken as part of the broader research program:

Future Jobs and Regional Workforce Development: Foundations and Analysis - Fairbrother & Denham (2019)

Regions at work and in employment: A Preliminary Statistical Profile and Analysis Selected Regions and Australia, 2016 – Toner (2019)

Lock-in and learning – North West Tasmania – Barton, Denham and Fairbrother (2019)

Regional skill shortages and learning – Big Rivers, Northern Territory – Boyle, Denham and Fairbrother (2019)

Innovative practices: review of Victoria's LLENs activities and their outcomes – Vincent, Douglas, Fairbrother and Denham (2019)

The conceptual approach is a political economy of regional jobs, with a focus on the dynamics and interplay of population, industry, training and government with jobs, work and employment. The premise is that the jobs on offer and the quality of work and employment in regional areas are contingent upon factors specific to time and place. This approach allowed distinctions to be drawn regarding the specificities of regions, their proximity to metropolitan areas, the natural and social resources within the region, the histories that underpin the region, and the capacities that regional forms of governance may have to shape the region's future. In this regard it is not just the quantity of jobs on offer that matter, but also the quality of jobs, both for the individuals and in how incomes earned through jobs that underpin regional economies.

1.1 Objectives

The programme of work addresses the changes underway in regional jobs, work and employment. Hence, a starting point for the research was the distinction between jobs (occupations), work (tasks) and employment (arrangements), as outlined in Section 1.2.3. This elaboration underpinned the focus of the analysis in terms of the conceptual framework developed below.

The conceptual framework establishes the basis for insights into the changes that are taking place in the regions, for example the closure of traditional industries (e.g., manufacturing), the recomposition of industries (e.g. ownership patterns and technological innovations in food and fibre) and the expansion and pervasiveness of the service industries (e.g. health and social support). The sources and origins of these changes are diverse and multi-faceted, arising out of State policies, the restructuring of global value chains and the diverse patterns of work and employment that emerge and develop within the regions. In this respect, central to the report is an on-going interrogation of the relationships between jobs, work and employment and the ways they play out within specific regions.

The focus on these changes allowed for considering the capacities of regional residents to secure their work futures. A primary example of regional capacities is in education and training, and whether regional residents can obtain the required skills to access jobs in changing regional employment structures. Change also applies to workforce participation, as new types of jobs will be more suited to sections of the community that were not applicable or were excluded from employment previously. Government income support payments are also integral to the political economy of regional jobs, as they may facilitate the way individuals and households navigate changing labour markets.

Therefore, the objective of this research is to uncover the interplay between demographic changes, industry trends and practices, social security payments and training in the context of rapidly changing work, including a consideration of the possible impacts of digitisation and related forms of technological innovation. No single dimension within

these processes is determinate; rather it is the specificity of the interplay between these varied aspects that matter. In terms of the specificity of the work packages and the overall analysis provided by this report, we provide a way of addressing core policy questions in an evidenced based way. Specifically, we apply this conceptualisation to the six selected regions listed in Section 1.2.2 in comparison to Australia as a whole, to bring to light how the differences in these attributes affect jobs, work and employment, and provide insights into improving policy for regional labour markets.

1.2 Method and approach

Building on statistical data and case-study approaches, the research program focussed on the interplay between actors and structural complexity. This grounded and centre staged regional labour markets and locates analysis in relation to the social specificities of regional economies and societies.

A three-stage approach to developing the project has been used: conceptual framework; labour markets and economic trends; and regional studies skills and learning. The means of doing so is via conceptual elaboration, aggregate data analysis, and case studies. On the latter, the report draws attention to the specificities of the different regions covered, irrespective of the typology status. The purpose is to ensure that there is a robust base to the analysis and the recommendations that flow from it.

1.2.1 Work Packages

This report is informed by and based on four related work packages undertaken in 2019, and draws on the 2018 work packages, as listed in the introduction. These work packages have been devised to provide substantively informed understandings, drawing on a range of disciplinary skills and providing varied perspectives on the questions at hand. While the work packages provide the platform for an integrated report, they are also standalone analyses, providing a rich and comprehensive set of analyses about different aspects of the jobs, work and employment nexus. These work packages constitute a practical and achievable way to realise the research aims and objectives. Each work package enables an assessment of the report in relation to the logic, coherence and innovation in each work package. It also provides a plan for the implementation of the research programme (see Enspire 2019).

Such an approach is especially desirable when the research questions addresses problems from different theoretical and methodological positions. While a demanding process, work packages allow the specificity of a research challenge to be unpicked in manageable ways and then reconstituted so as to provide a holistic, comprehensive and richly substantiated report. Robust recommendations can then be formulated that respond to and synthesize the distinct perspectives provided by the work packages without resorting to hierarchies of knowledge or importance.

1.2.2 The Regions

The research program used six regions of Australia as the basis for the research: the Central Coast, Geelong, Latrobe-Gippsland, Toowoomba, West and Northwest Tasmania and Outback Northern Territory. These regions provided a cross-section of non-metropolitan Australia, and are founded on the typologies developed by the RAI to explain sub-national regions in Australia. They are:

- **Regional Cities** have populations of over 50,000 persons. They have diverse economies and the chance to use their size and diversity to shape their own future.
- **Connected Lifestyle Regions** do not have city population size but are close to major metropolitan regions. They will be influenced by their connection with these cities.
- **Industry and Service Hubs** are regional centres with between 15,000 – 50,000 residents, located further from major metropolitan areas. Their performance is linked to industry outcomes, but their population size means they could be resilient to change.
- **Heartland Regions** are smaller regional areas that are not close to other major metropolitan or Regional Cities. Industry trends and local ingenuity will shape their future (Regional Australia Institute 2014).

The relationships between the RAI typology and the six study regions are specified in Table 1, below.

Table 1: Study regions and typologies

Region	RAI Typology	Note
Central Coast	Regional City (Connected lifestyle area)	City region – active RDA and experimenting with S3; University presence
Geelong	Regional City	City-region – with close proximity to the State capital and university research precinct of international significance
Latrobe-Gippsland	Industry and Service Hub	'City-region' – extractive and primary industry, with university
Northwest Tasmania	Industry and Service Hub	Regional economic governance – Cradle Coast Authority - and university
NT Outback	Heartland	Remote with university
Toowoomba	Regional City	City region with university

Source: Categorisations from <http://www.regionalaustralia.org.au/home/regional-job-automation-pack/>

These typologies are not mutually exclusive. The Central Coast study area, for example, is categorised as a Regional City by the RAI, due to the population of the region, however it can also be considered a Connected Lifestyle Region, due to its close proximity and interactions with Sydney. The central settlements of the Latrobe Valley, Churchill, Morwell and Traralgon also meet the Regional City criteria since they are core to the single Latrobe City entity, along with other settlements in the region.

1.2.3 Definitions

Jobs, Work and Employment

Critical to the report is the distinction drawn between jobs, work and employment, drawing on standard definitions used in labour market research (e.g. Dubin 1958; Kaufman 2004), where:

Job refers to a position, a specific occupation, whereby a person undertakes a piece of work for an agreed price. It applies to any work in an organisation and comprises a set of functionally related tasks and implies a role in some sort of work environment.

Work refers to the tasks and activities to realise a goal, providing a service, making something, enabling an output. As defined by the ILO (2013, p. 2) ILO: '**Work** comprises any activity performed by persons of any sex and age to produce goods or to provide services for use by others or for own use'.

Employment refers to a relationship whereby a person is either an employer or an employee, defined by a wage relationship. These arrangements draw attention to hours of work, levels of payment and forms they may take, arrangements involving health care, occasionally housing. As defined by the ILO (n.d., p. 1): 'Employment comprises all persons of working age who during a specified brief period, such as one week or one day, were in the following categories: a) paid employment (whether at work or with a job but not at work); or b) self-employment (whether at work or with an enterprise but not at work)'.

The purpose of this set of distinctions is to make the subject matter of policy initiatives clear and unambiguous. By drawing this set of distinctions it becomes possible to identify and focus strategic interventions at a regional level. In terms of numbers employed, the jobs that are available and may be secured as well as the work that is undertaken. Each has its own specificity and implications for policy formulation and implementation.

Geographic Definitions

This report uses the Australian Statistical Geography Standard (ASGS), used by the Australian Bureau of Statistics (2018) for publishing census data since 2011. Two levels of detail are referred to in this report, SA2 and SA4, which are:

- Statistical Areas Level 2 (SA2s) are designed to reflect functional areas that represent a community that interacts together socially and economically. They consider Suburb and Locality boundaries to improve the geographic coding of data to these areas and in major urban areas SA2s often reflect one or more related suburbs.
- Statistical Areas Level 4 (SA4s) are specifically designed for the output of Labour Force Survey data and reflects labour markets within each State and Territory within the population limits imposed by the Labour Force Survey sample. Most SA4s have a population above 100,000 persons to provide sufficient sample size for Labour Force estimates. In regional areas, SA4s tend to have lower populations (100,000 to 300,000).

1.3 Four Work Packages

As noted in the introduction, this report is based on and informed by four work packages, each designed and focused to open up specific dimensions of the overall report. They each bring a disciplinary and subject expertise to bear on this report. Each also adds to the research report, *Future Jobs and Workforce Development* (Fairbrother & Denham 2019), which also underpins the current report.

1.3.1 Regional implications of the uncertainties about jobs, work and employment (Peter Fairbrother and Todd Denham, with Chris Warhurst)

This work package provides the conceptual focus for the report and the work packages. It considers the regional implications of current research on the inter-relationship between jobs, work and employment. This review includes the impact of digital disruption and transformation, intelligent manufacturing and how skills development and training needs to change.

The work package is informed by the debates about the future of work. It reviews the ways that the analyses of work futures can be recast to consider the impacts on regional labour markets. The analysis considers the way work is changing and the associated pressures on the construction and organization of labour markets, with specific reference to regions. It draws attention to employer capabilities, workforce capacities, and government policies. This report identifies the core dimensions of an analysis of work, jobs and employment in Australian regions.

1.3.2 Diversity and Growth in Regional Development (Phil Toner and Nigel Douglas)

The work package contributes to an understanding of how employment and residential mobility is changing the demography and workforce profiles of the selected regions. As well as addressing key regional training and employment issues, it provides essential

insights into the interaction of labour market, skills and qualifications and how this may affect regional economic performance.

The work package enables an understanding of some of the drivers of mobility, training and labour markets and economic performance in the selected regions. Consideration is given to changes in the composition of full time and part time work; differentials in pay rates for similar occupations and industries across regions and the extent to which the same educational attainment is linked to similar occupations and industry of work. The analysis also makes extensive use of the indicators of place of residence, as well as the differences between place of residence and place of work.

This work package considers the interactions between and changes in employment, training and mobility in regional areas, based on 2006 and 2016 census data. This is accompanied by work package 2a (Denham 2020a), a study of internal migration patterns as well as investigating the demographic and workforce implications of residential in-flows and out-flows from the 2016 census.

1.3.3 Day-to-day insecurity of low-income regional households and labour markets (Ashton De Silva and Marcus Banks)

This work package is a foundational program to investigate and describe the day-to-day financial experiences of households in the six regions (Central Coast, Geelong, Latrobe-Gippsland, Toowoomba, West and Northwest Tasmania, and the Northern Territory Outback). Using currently available literature and revising secondary data, this scoping study developed a profile of household engagements with labour and welfare markets. The work package provides a detailed study of the variations in social security payments within the Latrobe-Gippsland study region, to highlight the variations within regions.

The aim is to provide a nuanced, time-sensitive and relevant regional planning resource for industry and government. A greater understanding the work rhythms and spatial flows of a regional workforce would mitigate a key risk in developing policy responses to a transitioning economy. A fine-grained identification of a local labour force's employment practices assists regional-level understandings of the enabling/constraint factors for successful and unsuccessful outcomes.

1.3.4 Regional Skills, Trends and Learning (Todd Denham and Peter Fairbrother)

The objective of the work package is to develop an understanding of the salient factors for success and failure in addressing unemployment and skills shortages. The focus is on how training arrangements reflect industry and community changes, how program delivery responds to these changes, and the elements of training delivery that determine success.

This work package focuses on learning pathways into emerging employment opportunities in the Health and Community Services sector, to understand how training responds to evolving supply and demand issues in regional labour markets. Interviews

were undertaken with representatives from regional training providers in the Health and Community Services sector, to investigate responsiveness to change, connections with industry, the factors in successful programs, and the monitoring of outcomes.

1.4 Structure

The report is divided into seven chapters including this introduction. Chapter two presents the conceptual framework that underpins the report and outlines the methodological approach. The conceptual framework is informed by the debates taking place about the future of work and the uncertainties about these futures.

The third chapter provides summary snapshots of the six study regions and their labour markets, providing context for the subsequent analysis of the demographic, jobs, work and employment trends.

The fourth chapter provides analysis of the demographic trends within the six study regions and in comparison to Australia. This chapter predominantly draws on the analysis of Australian Bureau of Statistics' census data included in *Diversity and Growth in Regional Development* (Toner & Douglas 2020).

Chapter five is concerned with transitions in regional jobs, work and employment. The chapter begins with changes to the industry and occupational structures of regional jobs. This is followed by Chapter six, which provides detailed analysis of how these changes are reflected in the workforce and employment. It includes a section summarising the conclusions from *Regional Skills, Trends and Learning* (Denham & Fairbrother 2020) to highlight the importance of training in facilitating changes to jobs, work and employment.

Chapter seven extends the analysis by considering the polarisation of jobs as a result of the transitions discussed in Chapter five. This includes analysis of the polarisation of income and skills, as well as the geographic distribution of these patterns of polarisation. *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020) provides additional insights into the effects of these patterns, particularly in light of the increase in the use of government income support for part-time and temporary work.

Chapter eight concludes the report, providing the response to the research agenda informed by each of the four work packages, a summation of the key issues and themes, and the prospects for research and extensions in 2020.

2 Conceptual Approach

This section lays out the conceptual framework for the overarching study. This comprises an investigation of debates about the future of work and their applicability in relation to regions. While this report brings together work packages with a range of approaches and research objectives, the methods are constituent of a political economy approach to regional employment issues.

2.1 Conceptual Framework

The patterns of work, jobs and employment are changing, subject to extensive debate. These changes take place in the context of relatively stable sets of employment relations, with a distribution of jobs that reflect these arrangements. These changes to work, jobs and employment have spatial implications, as nodes of employment and prosperity shift with the fluctuations industry sectors and forms of employment. Thus, this framework constructs a basis for the analyses of regional jobs, work and employment to elucidate the effects on the study regions and more broadly the economic geography of Australia.

2.2 Regions' Jobs, Work and Employment

2.2.1 A Political Economy Approach

A political economy perspective on regional capacities to address jobs, work and employment focuses on the constellation of local employer capabilities to address downturns and boom times; how policy makers respond to these features of a regional economy; as well as the ways in which different stakeholder groups within a region pursue and promote specific policies and practices across a region (cf. Martin 2011). The argument is that region's prosperity and resilience, as well as capacity to recover is influenced and shaped by:

- Economic structure, competitiveness and innovative capabilities of firms, and the relational linkages that define value chains across and beyond a region.
- Workforce skills and entrepreneurial capacities.
- Regions governance arrangements and capacities for locally focused policy bodies to deploy resources and develop effective measures in relation to a regional economy (Martin 2011).

It is not always clear what is meant by 'region'; hence, definition is critical for analysis (see Allen & Cochrane 2007; Amin 2004). There are two considerations here. First, institutional arrangements and the policy discourse in relation to 'region' matter. In Australia, for example, there is a discourse about urban and region, whereas more accurately there could be a policy discourse about rural and urban (metropolitan) with a

consideration about the institutional arrangements that may apply (for one of the few reflections on this dilemma, see Beer et al. 2003). More generally, there are also definitional matters in relation to national, provincial and local government arrangements. Second, both territorial and relational arrangements figure in debates about the 'region' (Goodwin 2013). While territory refers to space and spatiality, the relational dimension addresses themes of connectivity (Goodwin 2013, p. 1182). This distinction and the focus on connectivity addresses the boundary problem of networks and connections (for a caution, see Massey 2004, p. 3).

These matters are the subject of long-standing debates about the region, its definition, constituent features and parameters. These debates have been distilled into questions relating to the multidimensionality of a region (Jessop et al. 2008). Recent contributions, moreover, identify questions relating to territoriality, scalarity and network-connectedness (Macleod & Jones, 2007; see also Goodwin, 2012 and Morgan, 2014). In the argument presented here, the focus is firstly on the ways in which territorial and topological perspectives can be deployed to analyse internal relations within a 'region' (*cf.*, Macleod & Jones, 2007, p.1185 where they point to the importance of trans-territoriality and connectivity) and secondly on the relational processes of scalar structuration (Macleod & Jones, 2007: 1186). And, there are other dimensions to consider, not least the '*provisional* nature of political power' (Macleod & Jones, 2007, p.1187), and this aspect is alluded to in this analysis, via an exploration of the place of labour in regional labour markets.

These debates provide a focus for the analysis. Territory refers to spatiality, while the relational dimension addresses their connectivity (Goodwin, 2012, p.1182). Interaction between the territorial and relational dimensions produces regions whose spatial boundaries may be unclear (Massey, 2004, p.3). Hence, the first task is to explain both 'the scalar and territorial dimensions of particular political practices' (Goodwin, 2012, p.1189). While regional governance often appears institutionally bounded (Morgan 2007, 2014), labour markets can be porous and impermanent. It is this instability that allows diverse actors to contribute to strategic regional economic and social agenda (MacKinnon 2011). As a result, the scalar politics that surround the establishment of regional institutions and policies may involve social and material interests that are both wide-ranging and fluid. The second task is to explore who is involved in these processes and who is not, and why. Thus, the under-determined institutional location of regions and their politics in countries such as Australia can mask the precise nature of political relations (Morgan, 2014). These themes will be explored by considering the ways regional labour markets arrangements can favour select sets of actors.

In Australia, the dominant regional policy agenda involves state intervention to support market-based ends (Thomas et al. 2008). One aspect of this approach is that the maturation of neoliberal policies (foregrounding market relations with state support) involves government, together with local political and economic actors in decision-making

and policy formulation (Jacobs 2007). Nevertheless, compared with other countries, particularly those in the EU, the scale of state intervention by Australian governments (with the exception of the Whitlam period, 1972-1975) is limited (Collits 2014). Hence, when employers leave an area or reduce their operations, it has largely been left to those in the region to somehow determine future economic directions. A notable exception is large scale industry closures, such as automotive manufacturing in Geelong or electricity supply in the Latrobe Valley. In these cases structural adjustment packages and economic development agencies have been instituted to assist in workforce transitions (see, Beer 2015 and Fairbrother 2017).

The focus on connectivity indicates how in the process of exercising state power, governments 'are able to "reach" into the politics of regions' (Goodwin 2013, p. 1183). In this respect, the institutional arrangements that define regional governance (local councils, regional agencies, governmental organisation) allow actors to focus their activities in relation to economic and social matters of relevance to the region (eg. Amin 2004). These considerations lead to questions about political power, the porosity of relations within and beyond regions, and the bases of inclusionary politics. Regional governance often remains institutionally bounded in some respects and porous in others (Morgan 2007, 2014).

The form and emphasis of regional development is influenced by the ways in which the state acts to shape these processes. First, steps have been taken to limit the formal capacities for state intervention within regional economies (Dereli 2011; see also Brown, 2005). Second, the state takes on the appearance of promoting engagement, involving a range of actors who may not have been engaged previously in regional governance, or the equivalent. In this respect, steps are taken to give 'compensatory' content to the organisation and operation of market arrangements (Jessop 2002; Larner 2005).

The other aspect of state policy and practice is the question of place-based leadership (Beer & Clower 2014). It can be argued that the relationship between place-based leadership and economic development rests on the mobilisation of leadership locally to promote social change (Beer & Clower 2014, p. 18). This may involve a range of 'actors, politicians, professionals, and state and non-state actors in different settings' (Ayres 2014, p. 2). The question, however, is how and under what conditions might policy be developed, by whom and in what capacity? One dimension that bears examination is the ways actors may deploy their resources to present understandings of change; actors via such narratives frame opportunities and challenges in specific and often targeted ways (for an elaboration of the ways that unions as collective organisations may frame their concerns, see Lévesque and Murray, 2013). This aspect draws attention to policy networks, and critically the ways that such networks are managed (Klijn & Koppenjan 2012, p. 591 see also Garud et al., 2007). Of note is the question of democratic legitimacy, examining who is involved and why. Such procedures can be presented as technocratic, instrumental and incremental rather than genuinely deliberative, thereby

obviating the importance of debate and reflection (Klijn & Koppenjan 2012; Morgan 2014). In the process, some actors may be able to promote and extend repertoires of action via debate and deliberation, while others limit and restrict the repertoires of action, often to include the privileged few, such as regional political and economic elites.

2.2.2 The Fuzzy Geography of the Region

The debates about regions also draw attention to the geographic foundations and reference for regional policy. Further, this focus has implications for regional development and responses to rural issues (Dymitrow & Stenseke 2016; Woods 2009). This fuzziness in conceptualisation can be seen in the recent report by the House of Representatives Select Committee on Regional Development and Decentralisation (2018, pp. 21,22), which defines regional Australia as “all the towns, cities, and areas outside Australia’s largest capital cities; Sydney, Melbourne, Brisbane, Adelaide, Perth and Canberra”. This classification is then absent in the government’s response to recommendations for the relocation of public servants as the latter includes establishment of the Australian Space Agency in Adelaide, and highlights departmental relocations “outside Canberra, inner Sydney and inner Melbourne” (Australian Government 2019, p. 9) as regional development. In terms of the Australian regional-urban dichotomy, the implication is that anything that is not Canberra, inner Sydney or inner Melbourne is the regional ‘other’ and a possible location for the implementation of regional policy.

The ‘fuzziness’ of regions is not just the distinctions between metropolitan and regional, but also as to how regions are geographically defined. From a statistical point of view, the borders and scale of analysis chosen affects the results (Yang 2005), and that a likely indicator of regional trajectories and circumstances is what is occurring next door (Getis 2007). It is also likely that analysis of social and economic data within any set of boundaries fails to capture important relationships with external areas. First, it is necessary to consider the ways that regional production is part of complex data flows, goods transfer and links between local and global (Reich 1991). Second, these features of production and knowledge exchange are complemented by population mobility and extensive commuting (Wilkins et al. 2019). The outcome is that there is a porosity and openness to regions that must be taken into account in the analysis of the relationship between jobs, work and employment. In brief, regional analyses are important as people still live in a ‘place’ and may work there as well, or in a different ‘place’. Their governance structures are still limited by clear spatial delineations.

To some extent these observations reflect the way that space is always being made, it is “an open and ongoing production” (Massey 2005, p. 55). Our understanding of regions should be seen as a result of both internal and external interactions and relations. In the context of regional jobs, work and employment, this suggests that regional boundaries are imposed upon a set of relationships between people, industry and institutions that can never be fully captured and are set at the time of the investigation. The paradox is that regions are fuzzy in definition, temporally and spatially.

Hence, an understanding of space as both place and a set of relations is integral to this study. The analysis of regional employment markets is based on administrative or statistical boundaries, but are formed informed by external influences and relationships that may extend globally. This includes the competition for skilled labour as well as mobile capital, and the increasing interconnectedness of systems of production as a result of the 4th industrial revolution (Fairbrother and Denham 2020).

2.3 Trends in Work and Employment

Jobs, work and employment have changed in recent years, with specialisation, increased frequency of job and career changes and the rise of the 'gig economy' and precarious forms of employment most prominent (Fairbrother and Denham 2020). Digitisation is strongly linked to these changes, with the increasing integration of data collection and analysis in workplaces and the use of platforms to connect people with work.

2.3.1 Digitisation, Routinisation and Polarisation

A central aspect of the impact of digitisation is the polarisation of the workforce. Computing is seen as a replacement for manual tasks and a complement for cognitive work. Therefore, as the costs of computing and digitisation decrease, it is expected that employment will be polarised with a reduction in middle-skill employment, due to replacement by ICT, and an increase in higher-skill employment. Low skill employment, personal and household services such as cleaning and caring are expected to at least be maintained as they are not readily replaced by IT care. The end result is referred to as polarisation, as the higher and lower ends of the skill spectrum increase as the middle declines (Autor 2010, 2014; Autor et al. 2003).

2.3.2 Precarious Employment

As reported by Toner and Douglas (2020), there has been an increase in part-time work in the six study regions, a trend associated with the growth of the service economy and the decline in industries such as manufacturing. This aligns with the evidence of increased underemployment within the Australian workforce (Vandenbroek 2018), as well as the rise of what has been termed the 'gig economy'.

To expand, the health and community services sector is associated with higher levels of part-time and casual work, and has been responsible for a major share of jobs growth in recent years, as discussed in Section 5.2. On the other hand, jobs in manufacturing has been declining and in contrast has been associated with long-term as full-time employment (Fairbrother and Denham 2020).

2.4 Summary

The suggestion made here is that a consideration of trends in jobs, work and employment within sub-national regions requires an examination of the core features of this relationship. In this case this includes the drivers for jobs and the increase in the number of available jobs for regional residents; the ways that as transition occurs career structures are reconstituted and elaborated; the changing employment patterns and in this context the on-going, and extensive, expansion nationally of part-time, temporary and insecure employment; and finally the consequences that such development have for job and social security. It then may be possible to present informed arguments for decent work and a regional transition as regional labour markets are reorganised and reconstituted.

Regions are constantly in the process of being remade due to both internal and external relationships (Massey 2005). As such research into regional jobs, work and employment must contend with dynamic labour markets and the regional responses to wider trends in society and the global economy.

3 Regions: Labour Markets and Prospects

The 2018 and 2019 RAI research program addressed six regions: the Central Coast, Geelong, Latrobe-Gippsland, Toowoomba, West & Northwest Tasmania, and the NT Outback. This chapter provides a review of the factors that may be contributing to the population and employment growth differences between the regions, based on the report *Future Jobs and Regional Workforce Development* and the four 2019 work packages.

3.1 Central Coast

The Central Coast has the largest population of the six study regions at 297,942 people, and it grew by 10 per cent between 2006 and 2016. The report *Regions at work and in employment* (Toner 2019) noted that the Central Coast is recognised as a dormitory region primarily for the Sydney labour market, and almost 1 in every 4 workers are employed outside the region, with large outflows of Managers, Professionals and Technicians and Trades Workers.

In addition to acting as a dormitory region for Sydney workers, the region has an ageing population. *Factors in Regional Mobility* (Denham 2020a) indicates that it is a destination for retirement-related in-migration, with approximately 20 per cent of people aged between 60 and 64 having moved into the Central Coast between 2011 and 2016. As reported in *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020), the highest numbers of Age Pensioners were living in the Central Coast, at 49,272, approximately a sixth of the Central Coast population.

The importance of the proximity to Sydney and the associated commuting population for the Central Coast is underscored by its relatively small agricultural sector. Of the six regions, it had the lowest number of workers in agriculture, both in absolute and proportional terms (see Toner 2019), a result of its location between the ocean and large tracts of National Parks, as shown below in Figure 1.

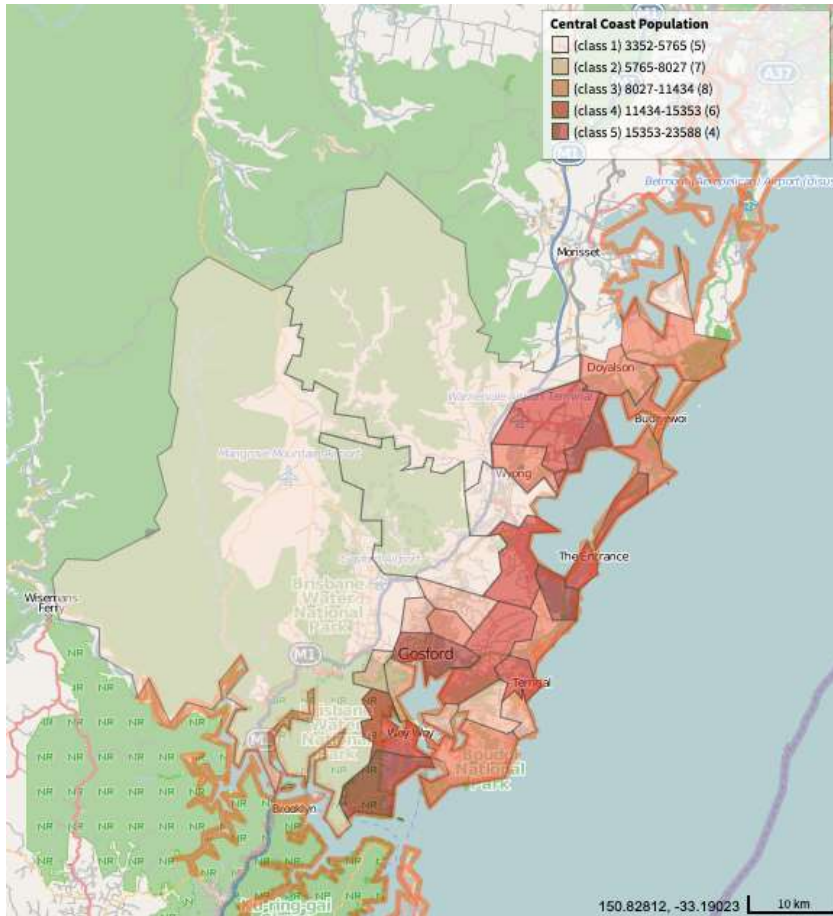


Figure 1: Central Coast population by SA2, 2016

Source: Australian Bureau of Statistics (2016). © OpenStreetMap contributors, accessed from AURIN Portal, aurin.org.au

This region is the archetypal *Connected lifestyle area* in the RAI typology, as it is different to a regional service hub, as it is a series of medium-sized settlements located between larger cities: Sydney and Newcastle.

3.2 Geelong

Of the six study regions, between 2006 and 2016 Geelong had the greatest population increase at 21 per cent, full-time employment increase at 16 per cent and part time employment increase at 38 per cent. This feature is somewhat remarkable, as the city has been subject to a series of manufacturing employment providers closing in recent years, most prominent the end of Ford motor car production in 2016. While the region has been pro-active in responding to the decline in manufacturing (Correia & Denham 2016), a substantial proportion of the employment growth has been in health and community services employment (Toner and Douglas 2020).

It is likely that Geelong has benefited from metropolitan proximity and the coastal appeal of the city as well as the surrounding Surf Coast and Bellarine Peninsula, which have also undergone rapid population growth in recent years. A distinct aspect of the demographic trends in Geelong is that there is significant net in-migration of people aged from 15 to 34 years of age. As noted in *Factors in Regional Mobility* (Denham 2020a), this is associated with the attraction and retention of population in this age group who are undertaking tertiary studies. This aspect underscores the importance of regional universities for regional growth and prosperity.

The employment data for Geelong shows growth in household services, construction, public administration and declines in manufacturing and to a lesser extent wholesale trade. This shift suggests that the region has transferred from its industrial history to a combination of a metro-connected regional city and a regional service hub.

Geelong also had the lowest percentage of its work-aged population receiving Newstart Allowance in 2016, with increasing male and female workforce participation over the past five years (De Silva & Banks 2020). Low unemployment and increasing participation rates indicate that the region has a robust labour market. While the polarisation analysis shows strong increases in Skill level 1 and Skill level 4 occupations in the Geelong resident workforce, *Regions at work and in employment* (Toner 2019) reported outflows of Managers, Professionals and Technicians and Trades Workers, similar to the Central Coast. The implication is that a significant proportion of the workforce in higher level occupations are commuting to Melbourne for work.

3.3 Latrobe-Gippsland

The Latrobe-Gippsland study region has diverse and discrete social and economic units within its boundaries. The analysis of the Latrobe-Gippsland population growth patterns (Section 4.2.2) and Newstart Allowances at SA2 geography indicates the diversity within this region. Latrobe-Gippsland comprises three sub-regions:

- The western section is strongly influenced by the population growth due to the expansion of Melbourne.
- Central Gippsland is experiencing issues similar to those in West and Northwest Tasmania outlined in the report *Lock-in and Learning* (Barton *et al*, 2019), due to recent closures and the uncertain future of the region's brown coal and electricity generation industries.
- Eastern Gippsland is predominantly agricultural and also remote. Unemployment is high in this region and the population of the Orbost SA2 decreased by 251 people between 2006 and 2016.

While in land-area terms, the majority of the Latrobe-Gippsland region could be seen as a *Heartland Region* under the RAI typologies, the west could be better described as

Connected Lifestyle Regions and the central Latrobe Valley region as an *Industry and Service Hub*. The region has also been a focus of a number of studies and government initiatives to assist in the transition out of mining, electricity generation and sawmilling, and particularly to support the growth of agriculture in the region (CPOW 2017; Fairbrother *et al.* 2018; KPMG 2016; LVA 2018). Latrobe-Gippsland is a variegated and complex region, indicating that future research may benefit from analysis at SA2 level, as recommended in *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020).

3.4 Toowoomba

Toowoomba is the regional service centre for the Darling Downs region of southeast Queensland. The area has a strong agricultural sector, although currently experiencing a devastating drought. The city also is located approximately 50 kilometres from the New Acland coal mine, which is currently negotiating with the Queensland Government to extend its operations. While these industries are emblematic in the region, it should be noted that agriculture employs only 4.5 per cent of resident workers and mining 1.5 per cent. The city has a high proportion of workers in Health Care and Social Assistance, with 15.1 per cent, and Education and Training with 11.5 per cent.

Toowoomba population growth between 2006 and 2016 at 14.5 per cent was the third highest of the six regions. Similarly, it had the third largest percentage increase for total employed persons over the same period, as reported in *Diversity and Growth in Regional Development* (Toner & Douglas 2020). At the same time, *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020) indicates that this region is near average for the population receiving payments from the Department of Social Services. The city is 130 kilometres from the centre of Brisbane, therefore it may benefit from metropolitan proximity although it had a lower percentage of people commuting out of the region for work than Geelong or the Central Coast (Toner 2019).

Employment growth in Toowoomba has predominantly been in the *Professionals* and *Community and Personal Service Worker* occupations and in the health and education industries. As part of this trend, there has been a disproportionate increase in female than male employment in the region. These transitions also indicate the importance of the TAFE and the local university, with the strength of the university in particular indicated by the comparatively high proportion of 20 to 29 year olds undertaking university education that had remained in the region, as reported in *Factors in Regional Mobility* (Denham 2020a). In summary, Toowoomba can be seen as a primary example of the transitions that the 2018 and 2019 research programs uncovered.

3.5 West and Northwest Tasmania

West and Northwest Tasmania is a region working through the consequences of the closure of a number of major employment-providing industries as outlined in the 2018 report *Lock-in and Learning* (Barton *et al.* 2019). Employment and population did grow marginally in West and Northwest Tasmania between 2006 and 2016. Nonetheless, while total employment increased by 1.2 per cent, full-time employment decreased by more than 6 per cent and part-time employment increased by 19.4 per cent (see Figure 20). Approximately 28 per cent of the region's population was aged over 60 in 2016, and there was net out-migration of residents aged between 14 and 24 in 2016, with 28 per cent of those enrolled in tertiary educations (Denham 2020). The region also has the second highest rate of Newstart Allowance recipients, behind the NT Outback.

The indication is that the transitions in the region's economy have meant full-time work in industries such as manufacturing with part-time work in household services, as discussed in Fairbrother and Denham (2020). Employment has only grown substantially in low-pay and low-skill occupations. There has also been an overall population decline and net out-migration of people aged between 15 and 19, and 20 and 24 years of age in 2016. It is of note that 28 per cent of the out-movers aged between 20 and 29 were undertaking university studies, compared to 6 per cent of non-movers, and 14 per cent of in-movers were unemployed, higher than the percentage of non-movers (see Denham 2020a). As discussed in *Lock-in and Learning* (Barton *et al.* 2019), West and Northwest Tasmania is dealing with the closure of a range of industries that were major providers of employment in the region. These disruptions includes manufacturing in Burnie to the north and mine closure at Queenstown in the region's south.

Barton *et al.* (2019) also indicated that elements of the West and Northwest Tasmania community were ill-equipped to make the transition to more high-skilled work. When considering the low levels of educational attainment in the region, it was noted:

There are socio-cultural reasons, such as the impact of poverty and unemployment on family priorities which affects educational aspirations, education is afforded a low priority, some families view education beyond year 10 as being of little value and that staying on beyond year 10 is seen as the exception rather than the norm, but changing employment opportunities and some level of deindustrialisation means that education is valued more highly than in the past. There are structural reasons as well, such as the isolation of some students from colleges and schools, and mixed transitions from high school to college (Barton *et al.* 2019: 65).

In this regard, the conclusions of the *Regional Skills Trends and Learning* work package underwrite the importance of work experience programs in promoting regional training and employment opportunities (Denham & Fairbrother 2020). The high levels of unemployment in the region, particularly for those aged in their 20s who have migrated into the region, indicates the need for further investigations into the relationships between

employment and Newstart Allowances, particularly given the low levels of workforce participation reported in *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020) and *Diversity and Growth in Regional Development* (Toner & Douglas 2020).

3.6 NT Outback

The NT Outback is a study region that is set apart from the others, in more aspects than just geography. It is a complex region, including remote communities, and a high proportion of indigenous population collocating with well-paid workers in the defence and mining industries. The report on the Big Rivers Region suggests that these two aspects of the region are not well connected, as there is not a strong uptake of employment opportunities within the local communities (Boyle *et al*, 2019). Further evidence of the disconnect is provided in *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020) and *Diversity and Growth in Regional Development* (Toner & Douglas 2020), as there are high levels of unemployment in the region as well as premium wages paid to specialist workers. The ways in which the NT Outback stands distinct from other study regions within the analysis undertaken include:

- The only region with a greater male than female population.
- A proportion of the population aged over 60 years approximately half that of other regions.
- High rates of unemployed people aged between 20 and 29 who have remained in the region.
- Employment in the *Public Administration and Safety* sector that was 11 per cent greater than the study region average, and lower percentages of *Construction, Manufacturing* and *Retail Trade* workers. It was also the only region to decline in employment in the *Public Administration and Safety* sector between 2011 and 2016.
- The highest dependency ratio, with 1.57 residents for every employed person.
- A decline in part-time employment, with every other region recording greater part-time employment growth than full-time employment growth between 2006 and 2016.

There is a specificity to this region that makes comparison with the other regions difficult.

3.7 Summary

The research program has brought to light some questions regarding regional typologies and trajectories. The three regions that have grown the most in terms of employment over the 2006 to 2016 period are the Central Coast, Geelong and Toowoomba. These three regions are the largest, but also have their population centres closer to their respective State capitals than the other regions. Therefore, it cannot be determined from the analysis to date as to the relative importance of these two factors in determining regional growth. Also, Latrobe-Gippsland had a greater population growth rate than the Central Coast between 2006 and 2016, but lower employment growth. A further issue is that the distinct conditions and factors within the NT Outback means that it is a region that faces very specific challenges and opportunities, which must be dealt with in their own right.

4 Regions: Demographic Patterns and Profiles

The starting point for addressing regional jobs, work and employment is an examination of regional demographic trends. This step provides the benchmark for identifying the defining patterns and profiles of the different region types in relation to jobs, work and employment. An initial and frequent reference in such analysis is to compare regions; nevertheless, it may be the case that there are significant patterns within as well as between regions. Only with such understandings does it become possible to set out the prospects for regions as places of employment in a rapidly changing socio-economic world.

Hence, this chapter provides a summary of regional demographic trends in Australia and the six selected regions. It draws on the report *Regions at work and in employment* (Toner 2019) and *Diversity and Growth in Regional Development* (Toner & Douglas 2020).

4.1 Population Trends

Between 2006 and 2016, population growth in the study regions was 13 per cent, 5 per cent lower than for Australia as a whole, as shown in Figure 2. Such a trend is not surprising given the current prominence of the discussions regarding the concentration of population growth in the major cities of Australia. In this context, it is of note that the population growth data in Figure 2 indicates that there is a positive relationship between metropolitan proximity and population growth. The proposition is that regional population growth is underpinned by the retention of strong connections to metropolitan areas, for example, via commuting and social connections, and this proposition is analytically referred to as spillover counterurbanisation (Champion 1989). It also reflects the consideration of regions in terms of external relations, as discussed in Section 1.2.2.

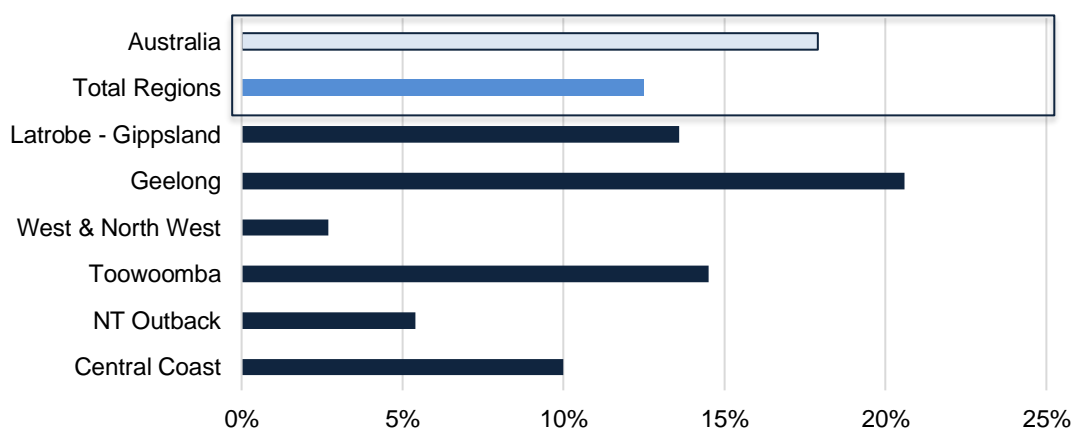


Figure 2: Study region population growth 2006-2016

Source: Toner & Douglas 2020

A second feature of regional Australia is that regions are home to more women than men, with females comprising 51.2 per cent of the study region population compared to 50.7 per cent for the Australian population. Five of the six regions had a greater proportion of female residents than Australia, with the notable exception of the NT Outback, where there were more males than females residing in the area in 2016, at 50.6 per cent of the population. This discrepancy may be a result of the types of work on offer in the region, mining for example where the practice is to employ males only or predominantly.

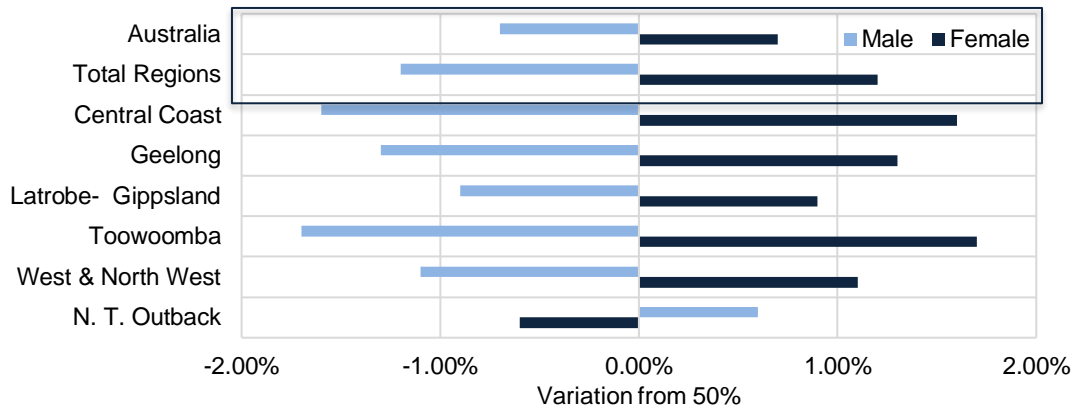


Figure 3: Gender balance, study regions and Australia

Source: Toner 2019

Such patterns have important implications for the character and patterns of employment across a region, particularly as the national workforce increasingly shifts towards gender-balance.

The broad age distribution in the six study regions is similar to that of Australia as a whole, as shown in Figure 4. The proportions of study region residents aged 19 and under and between 40 and 59 are equivalent to the national total, but the proportion of those aged over 60 is 4 per cent greater in the study regions, and the proportion of those aged between 20 and 39 is 4 per cent less.

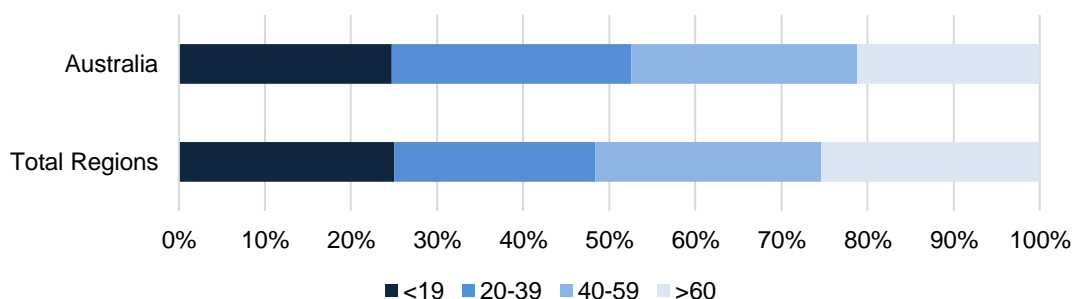


Figure 4: Age profiles: regions in relation to Australia

Source: Toner 2019

It is likely that the distribution of the regional populations in terms of age also impacts on employment patterns across these regions, as presented in *Diversity and Growth in Regional Development* (Toner & Douglas 2020) in relation to the increase in aged care work.

While there was a similarity between the nation-wide and total study region data, the 2016 census reported variation in the demographic structure between the regions, as shown in Figure 5.

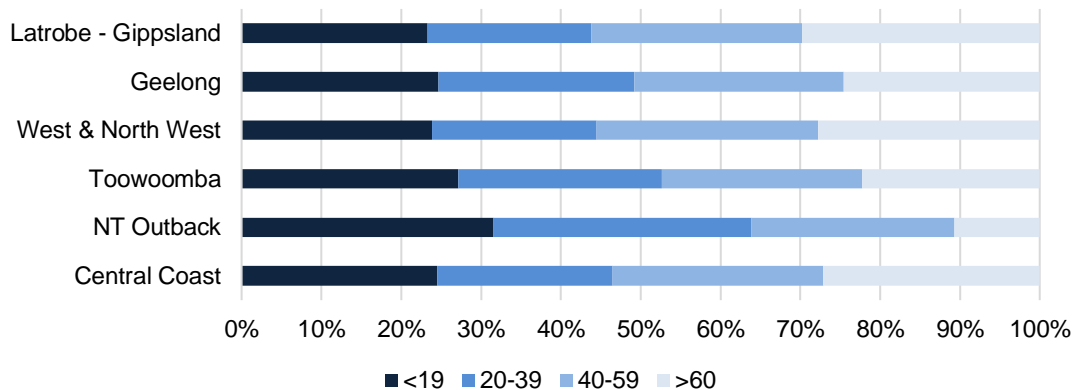


Figure 5: Age profiles: six Demographic structures - six study regions 2016

Source: Toner 2019

Most noticeable is the lower percentage of people aged over 60 in the NT Outback region, which can be attributed to the lower life expectancy and higher birth rate in remote regions of Australia (Australian Institute of Health and Welfare 2019). For the other five regions, Latrobe-Gippsland has the largest proportion of those aged over 60 at almost 30 per cent of the population, and Toowoomba and Geelong have approximately 50 per cent of their populations aged between 20 and 59, the prime employment years. In relation to the comparison in Figure 4, there is a more consistent proportion of people aged between 40 and 59, ranging from 25.1 per cent in Toowoomba to 27.7 per cent in West and Northwest Tasmania.

Thus, there is specificity to the distribution of regional populations in relation to sex and age, with a difference in relation to growth patterns. To place these dimensions in context, it is important to consider the patterns of population mobility across the study regions.

4.1.1 Population Mobility

The demographic patterns draw attention to the ways that population profiles can change over life cycles, referred to here as population mobility. As indicated above the demographic patterns are fluid over time, clearly brought out in relation to age patterns. Hence, residential relocation primarily occurs at two stages of life, during people's late teens and early twenties, and post-retirement. As a caution, it should be noted that migration implies a substantive move, associated with changing employment, community

and social engagements as well as residence, while residential mobility does not take into account the distance or cross-border nature of the relocation, it is a change of address as defined in *Factors in Regional Mobility* (Denham 2020a).

Three of the regions attracted retirement-age in-migration, Geelong, the Central Coast and Latrobe-Gippsland, which are located close to metropolitan areas as well as the sea, indicating access and amenity appeal. Geelong had the greatest in-migration of people in their 20s, while there was net out-migration in Latrobe-Gippsland and West and Northwest Tasmania. In comparison to the other two study regions, Geelong has experienced strong employment growth, via industry relocation to Geelong (Worksafe Australia and Department of Human Services in 2018), increased commuting to Melbourne (Denham 2017), which with the inward pull of its university and TAFE institutions, partly explain these migration patterns.

One notable feature of regional population mobility is the patterns evident among the young, the 20 to 29 year olds, as indicated in Table 2. One explanation of this pattern focuses on regional educational opportunities. Those study regions that have a strong university or are within proximity to one are likely to have a greater number of 20 to 29 year olds remaining within the region than those without. Thus, the difference in in-movers, out-movers and non-movers for University/Tertiary education highlights the importance of strong regional universities (discussed further in Section 6.4). Although more opaque, it also may be the case that job opportunities for young residents are more limited in regions that metropolitan areas, a feature for other research (Abbott-Chapman 2001; Abbott-Chapman & Kilpatrick 2001).

Table 2: Migration summary data, 20 to 29 year olds 2016

		Unemployment Rate	TAFE	University/ Tertiary
Central Coast	Non- Movers	9%	7%	16%
	Out- Movers	7%	5%	22%
	In-Movers	10%	6%	10%
Geelong	Non- Movers	7%	6%	17%
	Out- Movers	7%	4%	28%
	In-Movers	11%	5%	26%
Latrobe- Gippsland	Non- Movers	9%	6%	9%
	Out- Movers	9%	6%	30%
	In-Movers	11%	4%	8%
Toowoomba	Non- Movers	8%	5%	16%
	Out- Movers	9%	5%	25%
	In-Movers	12%	5%	19%
West and Northwest Tasmania	Non- Movers	10%	6%	6%
	Out- Movers	9%	5%	28%
	In-Movers	14%	3%	6%
Outback NT	Non- Movers	28%	2%	2%
	Out- Movers	13%	7%	21%
	In-Movers	3%	2%	5%

Source: Denham 2020a. Australian Bureau of Statistics (2016), Study Area SA4s, UAI5P Usual Address Five Years Ago Indicator, Labour Force Status and Type of Educational Institution Attending.

Such features of population movement open up debates about the possibilities and ways of promoting the retention of young people within a region or conversely the prospect of attracting older more experienced people into a region. Both aspects open up questions relating to regional population growth or decline.

4.2 Regional Population Growth/Decline

The roots and implications of population growth within a region are complex, drawing attention to both supply and demand in relation to regional employment (Muth 1971; Partridge & Rickman 2003; Trendle 2009). This complexity is illustrated by the relocation of metropolitan populations to regional areas often being seen as both a boon for regional economies and a mitigation for metropolitan infrastructure shortfalls and overcrowding (Archer et al. 2019; McCormack & McVeigh 2018). Yet, it may be the case that employment benefits may be restricted to household services and lower-order employment (Lavesson 2016). As O'Connor (2002: 115) observed, referring to members of the regional workforce, including commuters:

... some of the movement of people to non-metropolitan locations includes the movement of persons outside the workforce – such persons add to the population, but do not change the geography of employment or economic activity all that much.

These insights highlight the importance of considering the quality of regional jobs in analyses population relocation to the regions. The link with job quality is not clear whether metropolitan proximity and the attendant increased commuting from and to regional areas (Denham 2020b).

4.2.1 Regional Populations

The debates about population decline and growth in regional areas identify a range of factors that should be considered in relation to the six study regions. A comparison of the six study regions' population in 2006 and their percentage growth between 2006 and 2016 indicates that those regions already with relatively large populations were more likely to attract people into the region, as shown in Figure 6.

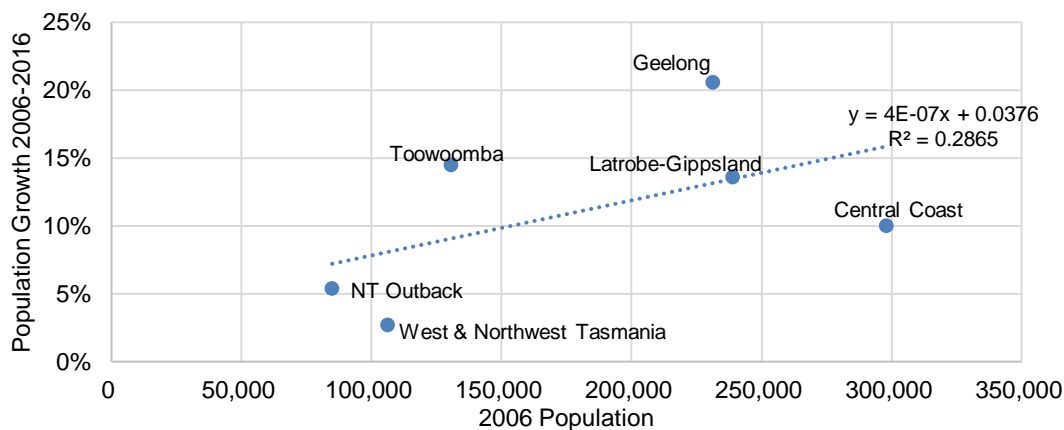


Figure 6: Population and population growth, 2006-2016

Source: Adapted from WP2: Diversity in Regional Growth and Development

The proposition that there is a relationship between population size and growth, is indicated by the R-squared value of 0.2865. This correlation is important, as the implication is that non-metropolitan regions are diverging as a group, with smaller population areas declining in comparison to the larger regional centres as well as metropolitan regions. As noted below in Chapter 5, the growth in employment in regional areas increasingly appears to be connected to industries that provide services to the population, health, education, accommodation and food service. Therefore the differential growth rates also suggest increasing economic disparity between regional cities and less populous areas, such as West and Northwest Tasmania and NT Outback.

Density

Population density refers to the measurement of the number of people in an area, in this case a region. It is possible that urban density may be a factor in regional employment growth, reflecting theories of agglomeration economies and increasing returns to scale (Scott 2006; Toner 1999). One feature that may be helpful to explain the varied patterns of population growth is whether there is a major city located within the region under study. As indicated in Figure 6, the two regions that increased in population by the greatest percentage – Geelong and Toowoomba – each had a distinct central city; while the Latrobe-Gippsland has a more dispersed city focus, comprising four major urban centres, and the Central Coast region can be considered a collection of small to medium sized settlements. These latter two regions each had larger populations than Toowoomba, and in the case of Latrobe -Gippsland a similar growth rate.

Nonetheless, it also should be noted that the comparison of densities between cities and regions is complex and easily distorted. As Mees (2009, p. 3) noted in a detailed critique of research linking population density and transport usage:

... the importance of ensuring that density comparisons are made on a consistent and rigorous basis. Failure to do so will produce results that are at best meaningless, and at worst downright misleading.

The problems arise as some regions will include large, relatively unpopulated hinterlands and national parks, while others will be predominantly urban in nature. Hence, while the densities within the urban centres, or employment hubs may be similar, there may be variation in wider measures of density depending on the geographic standards used (eg., spatial measures such as SA4 or Local Government Area).

4.2.2 Metropolitan Proximity

There is Australian and international evidence that people relocating from metropolitan areas are more likely to relocate to metropolitan-proximate locations, associated with commuting to metropolitan employment (Beilin et al. 2014; Brown et al. 2015; Gurrán 2008; Hugo 1989; Keller 2001; Mitchell 2004; Nelson & Dueker 1990; O'Connor 2004; Stimson et al. 2009; Veneri & Ruiz 2016). This feature gives rise to the concept of

Borrowed size, which provides a theoretical basis for growth associated with metropolitan proximity (Alonso 1971). Smaller cities and settlements can experience growth patterns via metropolitan proximity because businesses and public bodies are more likely to locate in metro-proximate locations rather than remote ones. At this stage, preliminary relationships can be outlined as a more detailed account requires further research (e.g. Lagendijk & Lorentzen 2007); nonetheless, some of the features about such spatial and organizational relationships can be considered.

Of the six study regions, Geelong and Central Coast are within commuting distance of metropolitan areas: Geelong is approximately 75 kilometres from central Melbourne, and the Central Coast is included within the Greater Sydney region as defined by the ABS. The western boundary of Latrobe-Gippsland buttresses the south-east metropolitan sub-region of Melbourne. Toowoomba is approximately 130 kilometres from Brisbane, and thus is less likely to be influenced by metropolitan interactions as Geelong, the Central Coast, and the western section of Latrobe-Gippsland. On the other hand, the two low-growth regions, West and Northwest Tasmania and the NT Outback, are also the most remote. Burnie in Northwest Tasmania is more than 300 kilometres from Hobart and the NT Outback covers most of the State, although it excludes Darwin. The comparison of the population growth rates with respect to metropolitan proximity indicates that being near metropolitan areas is a factor in population increases. To provide context and detail of these trends, analysis of the Latrobe-Gippsland study region at SA2 level is provided in the next section, given its disparate circumstances and degrees of remoteness.

4.2.3 Latrobe-Gippsland Population Growth in Focus

The Latrobe-Gippsland study region SA4 extends from approximately 50 kilometres from the outskirts of Melbourne to more than 450 kilometres to the East at Mallacoota, and includes what can be seen as an 'Industry and Service Hub' of around 61,000, comprising four regional centres, designated as 'Latrobe City'. An analysis of population trends at SA2 level provides insights into a range of factors, including further evidence of the importance of metropolitan proximity. As *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020) illustrates, the sub-regions within Latrobe-Gippsland are not homogenous in terms of their social and economic profiles.

Figure 2 shows that between 2006 and 2016 Latrobe-Gippsland had the third fastest population growth of the six study regions, at 14 per cent. The population growth data mapped in Figure 7 indicates that proximity is an important factor in regional growth, as SA2 areas to the west grew more rapidly between 2011 and 2016 than those to the east. The largest population centre in the region, Traralgon, grew by 1,087 people in the intercensal period, to a population of 26,788 in 2016. SA2 areas on the western border of the SA4 increased more: Drouin by 2,990 to 16,210 people, Wonthaggi-Inverloch by 2,193 to 22,228 people, and Warragul by 2,038 to 18,761 people.

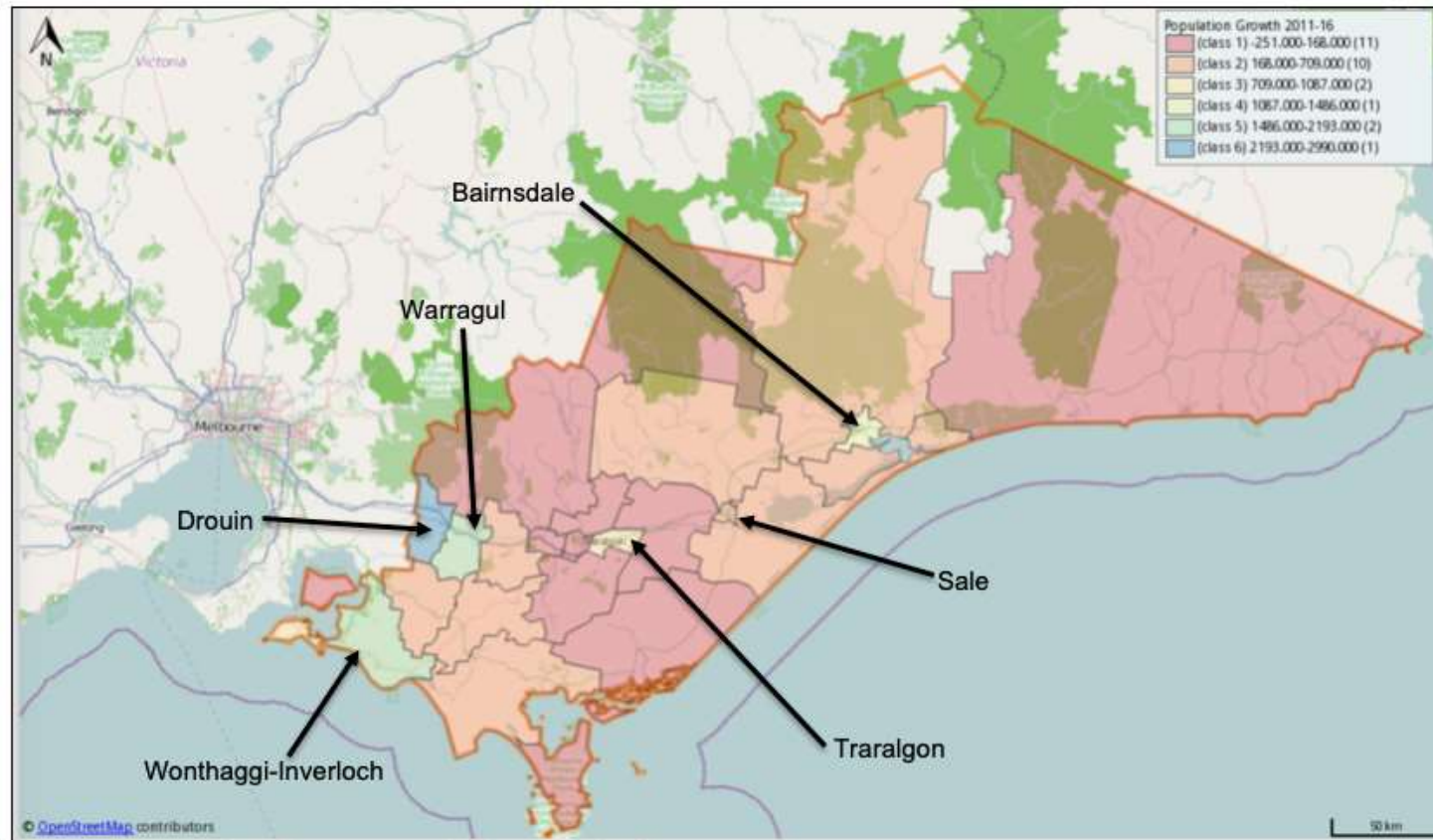


Figure 7: Population growth by SA2, Latrobe-Gippsland 2011-2016

Source: Australian Bureau of Statistics (2011), Australian Bureau of Statistics (2016), study region place of usual residence by SA2. © OpenStreetMap contributors, accessed from AURIN Portal, aurin.org.au

The growth of Traralgon while the surrounding SA2 areas either declined (Moe-Newborough and Morwell) or grew marginally (Churchill) indicates that there are complex factors in the population distributions and trajectories within the Latrobe-Gippsland SA4, as reported in *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva and Banks 2020).

Table 3: Traralgon SA2 migration analysis: 2011-2016

	In-movers	Out-movers
Traralgon total	3414	3428
Churchill	429	392
Moe - Newborough	196	118
Morwell	529	345
Yallourn North - Glengarry	261	297
Total Latrobe Valley	1415	1152
%Latrobe Valley	41%	34%
Greater Melbourne	798	1,251
%Greater Melbourne	23%	36%

Source: Australian Bureau of Statistics (2016), place of usual residence by SA2, PUR5P.

At first glance, the growth of Traralgon may be seen to be a result of the hinterland population moving into the central service city (see Salt 2004), however these processes are typically more complex (Alexander & Mercer 2007; Argent et al. 2008). This is illustrated by the migration data for the Traralgon SA2 in **Error! Reference source not found.**, which shows the In-movers and Out-movers between 2011 and 2016. More than half of the in-movers to Traralgon came from further afield, as only 41 per cent of people who moved into Traralgon lived in the surrounding SA2s in 2011, while a further 23 per cent came from the Greater Melbourne area. Those who left Traralgon were more likely to move to Greater Melbourne than to the surrounding region.

Different rates of natural increases and decreases may also play a part in the variation in population growth within the SA2s, as shown in Figure 8.

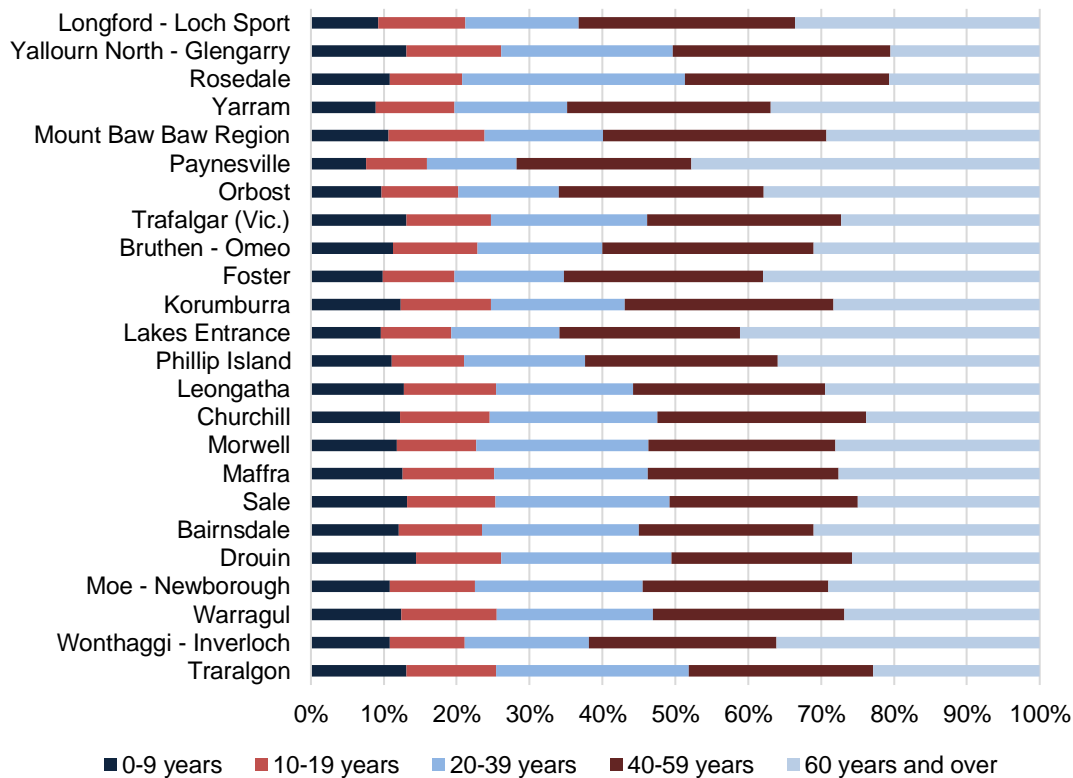


Figure 8: Age distributions, Latrobe-Gippsland SA2s, 2016

Source: Australian Bureau of Statistics (2016), place of usual residence by SA2

Traralgon has a comparatively low proportion of people aged over 60, and high proportions of people between 20 and 39, indicating higher rates of childbirth. In comparison, almost half the residents of Paynesville are aged over 60 and fewer than 35 per cent of the residents of Orbost are aged under 40.

Hence, the analytic caution is that the ways in which city-regions are defined and explained requires detail that enables robust and focused policy initiatives. There are various forces of concentration and dispersion that act on population distributions within regions. These pressures can be masked by analyses of agglomerated data. Moreover, when considering these features, it is necessary to note that the level and scale of geographic detail used in the analysis matters (Paasi & Metzger 2017). In this context, a pertinent insight is that population growth at one detail of geography is redistribution at another (Alonso 1973).

4.3 Summary

The insights into the demography and demographic changes in the six study regions, and in comparison to Australia, provides a foundation for responding to this report's research

agenda, drawing on *Diversity and Growth in Regional Development* (Toner & Douglas 2020).

Overall, the six regions grew at a slower rate than overall population growth in Australia between 2006 and 2016. Geelong was the only one of the six to increase its population at a greater rate than Australia over this period; it is both a large population centre and close to the Victorian state capital, Melbourne. Analysis of population growth in the study regions indicates that the population in 2006 and metropolitan proximity were indicators of regional population growth to 2016. Also, regions such as Geelong and Toowoomba that had greater population concentrations in a single settlement grew faster than the populous regions with a distributed population: Central Coast, Latrobe-Gippsland and West and Northwest Tasmania. Detailed analysis of population growth trends within Latrobe-Gippsland by SA2 provides further support for the contention that population growth is occurring in areas of greater population, as well as in places located proximate to metropolitan areas. The population growth patterns within Latrobe-Gippsland also indicate that patterns in population migration, growth and decline within regions are the result of both internal and external influences.

The six regions were home to an older demographic distribution than Australia, with a greater proportion of residents aged over 60, and fewer aged between 20 and 39. Within the six study regions, the NT Outback had a distinct age distribution, with the low proportion of the population aged over 60 indicative of the lower life expectancy of residents of remote Australia and indigenous people. Latrobe-Gippsland also had a comparatively higher percentage of people aged over 60.

Residential mobility is an important factor in the demographic distributions of the regions. There is a high propensity for retirement aged and post-secondary students to migrate. The data presented in *Factors in Regional Mobility* (Denham 2020a) indicates that regional universities play an important role in attracting and retaining post-secondary aged populations and is a finding that could be elaborated on with comparative studies with a wider set of regions. For retirees, there is an apparent attraction to amenity locations, which has been noted in other studies (Gurran et al. 2016).

This analysis provides the basis for further analysis of the regional workforce. An obvious outcome of these demographic insights is that when considering regional jobs, work and employment, there is a need to give attention to changing demographic patterns and profiles. As will be shown below, an increasing female and mature-age workforce participation, as reported in *Diversity and Growth in Regional Development* (Toner & Douglas 2020), has diverse implications for patterns of employment and associated considerations in terms of jobs and the work undertaken, for example in aged care employment in the regions, where there has been a marked increase in jobs.

To explore these complexities, the next section focuses on job patterns and profiles across regional Australia.

5 Regional Industry and the Workforce

Regional jobs and the associated employment relations matter because the opportunities and the challenges are for the future of work in the regions (Fairbrother & Denham 2020; Haughton 2019). Moreover, it is argued elsewhere that the ways that regions approach questions relating to employment growth requires specific strategies and approaches:

Regions that specialise are better able to demonstrate the capability to be competitive in global supply chains and are where it is most important to be prepared for opportunities and/or changes. This means that there are some regional economies where these industries really matter in terms of jobs (Achurch 2019, p. 8).

Hence, when considering regional futures in relation to jobs, work and employment, it is necessary to consider what is happening with jobs, the types of jobs available, the employment relations that define these jobs and what types of work might be involved.

This chapter thus focuses on industry changes across regions, indicating the impacts on workforce numbers and positions. The major change is a shift towards services, reflected in one sector, health and social support and complemented in other sectors, where professional occupations are located.

5.1 Jobs in the Six Regions

For four of the six regions in total, job growth rates exceeded that of Australia between 2011 and 2016, as shown in Figure 9. The expansion in jobs varied between the six study regions, from a 5 per cent reduction in the NT Outback through to 15 per cent increase in Geelong. North and Northwest Tasmania was the only other of the six regions where the number of jobs increased at a lower rate than Australia over the five year intercensal period.

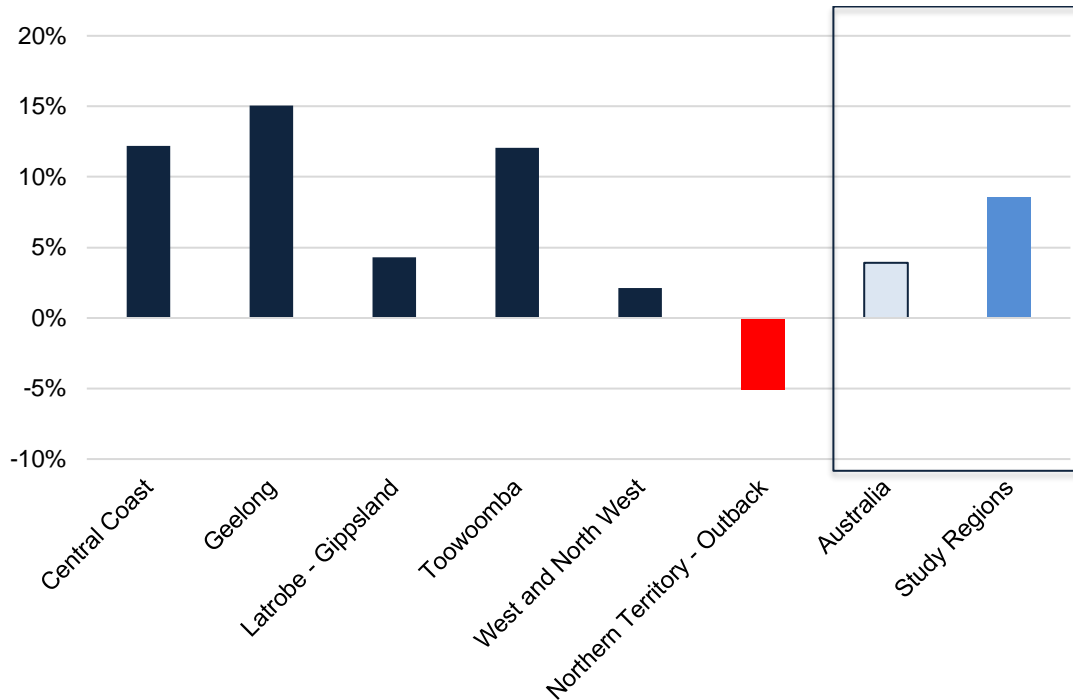


Figure 9: Job growth, study regions and Australia, 2011-2016

Source: Australian Bureau of Statistics (2011), Australian Bureau of Statistics (2016), study region place of employment by SA4.

The question is where is the expansion and decline in jobs occurring? The proposition is that specific sectors are in a state of transition, taking place for a range of reasons. These transitions may result from the recomposition of value chains locally, nationally and internationally, and the impacts of the ways in which technological innovations are implemented often involving disruptions as employers, public and private, pursue their varied interests. The first step is to examine the underlying trends in job numbers, the associated employment arrangements, and hence the ways in which the regional labour forces are shaped in relation to regional employment. This analysis includes a consideration of changes to job numbers and employment by industry and occupation, and how the regional labour force has altered in accordance with the regional economic transitions that may be under way.

5.2 Changes to Industry and Occupation

The most notable change in the regional workforce has been in the industry sectors and occupations that provide employment for the regional workforce. The key theme of the report is that the increasing employment in *Health and Community Services* and other sectors connected to population services has resulted in changes to the demographic and skills bases of regional employment. This section details these transitions, providing the foundation for the analyses presented in the subsequent sections of this report.

5.2.1 Industry structure

Across Australia, additional employment has predominantly been in the Household and Business Services sector, as shown in the Reserve Bank of Australia chart reproduced in Figure 10.

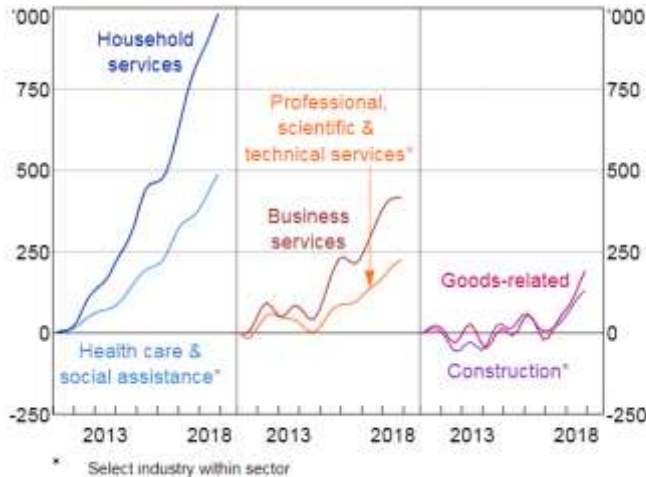


Figure 10: Jobs by sector, cumulative growth since 2011

Source: Reserve Bank of Australia (2019)

Of particular note is that the increase in employment in Health Care and Social Assistance, part of Household services, has been greater than the total employment in Business services.

Earlier analysis of census data by the Bureau of Infrastructure, Transport and Regional Economics adds geographic classifications to the transitions in the Australian economy between 2006 and 2011, as shown in Table 4.

Table 4: Principal industry contributors to regional workforce change, 2006 to 2011

Regional Classification	Key contributors to job growth (with persons in brackets)		Key contributors to job decline (with persons in brackets)
	Top industry	2 nd top industry	
Capital city	Health Care (+134,800)	Professional (+103,800)	Manufacturing (-38,400)
Coastal city	Health Care (+39,400)	Education (+16,600)	Agriculture (-2,000)
Inland regional city	Health Care (+9,900)	Public Administration (+4,100)	Manufacturing (-2,700)
Coastal country	Health Care (+15,000)	Construction (+7,600)	Agriculture (-7,200)
Inland country	Health Care (+11,500)	Mining (+7,600)	Agriculture (-14,700)
Remote	Mining (+12,000)	Construction (+5,700)	Agriculture (-3,700)
Australia	Health Care (+211,400)	Professional (+127,800)	Manufacturing (-48,900)

Source: Bureau of Infrastructure Transport and Regional Economics (2015, p. 57) analysis of ABS census data, based on SA4 Place of Usual Residence.

While Health Care grew the most in all typologies except Remote, there was notable variation in the 2nd top industry. The concentration of Professional employment growth in the capital cities is astounding – 81 per cent of the Australian total growth in Professionals occurred in the capitals. For inland regional cities, the second largest employment growth was in Public Administration, while Education also features prominently (discussed further in Section 7.2).

These trends are also evident in Figure 11. The figure includes sectors with more than 5 per cent employment in the study regions, with the addition of *Agriculture, Forestry and Fishing* given its prominence in considerations of regional Australia.

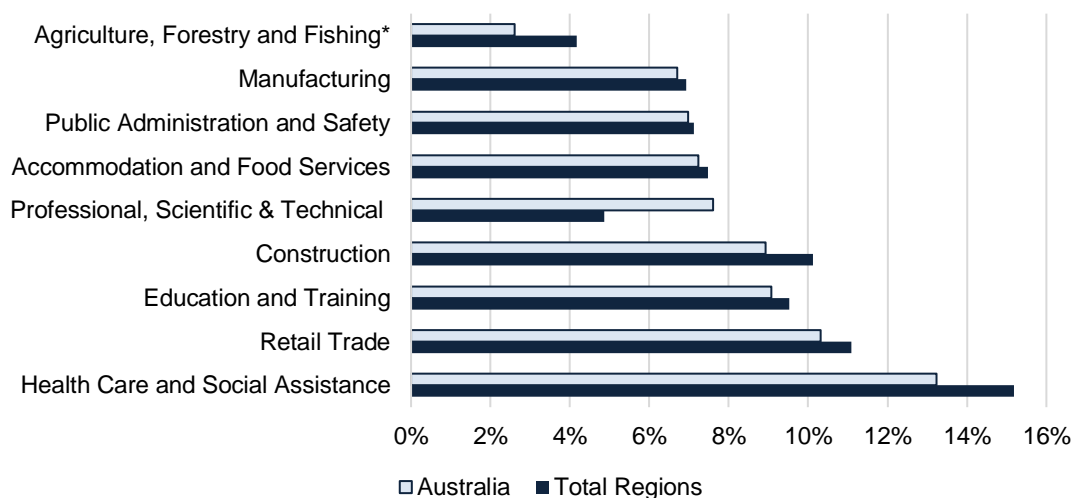


Figure 11: Industry of employment, study regions and Australia, 2016

Source: Toner (2019)

Of the nine industry sectors included in Figure 11, *Professional, Scientific & Technical Services* is the only sector that employs a greater proportion of workers in Australia in comparison to the study regions, at 8 per cent compared to 5 per cent. The second point of note is that 15 per cent of study region workers are employed in the *Health Care and Social Assistance* sector, a feature of all regions, as presented in Table 5.

Table 5: Variance in industry by employment, six study regions 2016

Occupation	Difference from Average						Total Regions Average
	Central Coast	NT Outback	Toowoomba	W&NW Tas	Geelong	Latrobe -Gipp.	
Health Care & Social Assistance	0.85%	0.51%	0.56%	-1.49%	0.30%	-1.30%	15.18%
Retail Trade	0.49%	-3.72%	-0.84%	0.48%	0.79%	-0.17%	11.09%
Education & Training	-1.51%	3.46%	2.34%	-1.08%	0.78%	-0.91%	9.53%
Construction	1.66%	-4.06%	-1.16%	-2.39%	0.40%	0.23%	10.12%
Prof, Sci & Tech	0.75%	-1.47%	-0.05%	-1.74%	0.93%	-0.87%	4.87%
Accom & Food Services	0.44%	-0.05%	-0.91%	-0.01%	0.16%	-0.18%	7.47%
Public Admin & Safety	-0.61%	11.09%	-0.20%	-1.89%	-0.63%	-0.68%	7.12%
Manufacturing	-0.38%	-5.64%	-0.19%	2.96%	0.66%	0.21%	6.93%
Ag, Forestry & Fishing	-3.35%	0.12%	0.47%	4.56%	-2.34%	4.73%	4.17%

Source: Toner 2019

Analysis of recent Australian GDP trends highlight the importance of public service provision in sustaining this country's economic growth. As an announcement of the data by the Australian Bureau of Statistics (2019) stated "Government spending was the main contributor to growth in domestic final demand, reflecting ongoing delivery of services in disability, health and aged care". While this has been noted in commentary regarding the state of the Australian economy (Commins 2019; Jericho 2019b; Mitchell 2019), the data presented in Section 5.2.1 indicates that the study regions are increasingly dependent on public sector spending for employment growth, due to the prominence of *Health Care and Social Assistance* and *Education and Training* in the regional labour market. As discussed in *Diversity and Growth in Regional Development* (Toner 2019), increased outsourcing of services in the health care system may mask a greater reliance on government expenditure than the public-private sector indicator recorded in the census. When *Education and Training* and *Public Administration and Safety* are also taken into consideration, the ways in which public services are part of a major refocusing of regional industry structures becomes apparent.

5.2.2 Industry sectors, services and employment trends

Total jobs (and employment) in the six study regions increased by 34,277 to 435,069 between 2011 and 2016, an increase of 9 per cent. In comparison, employment in Australia increased by 4 per cent. Figure 12 indicates the contribution to the growth by each of the ANZSIC 1 industry sectors for Australia compared to the six study regions.

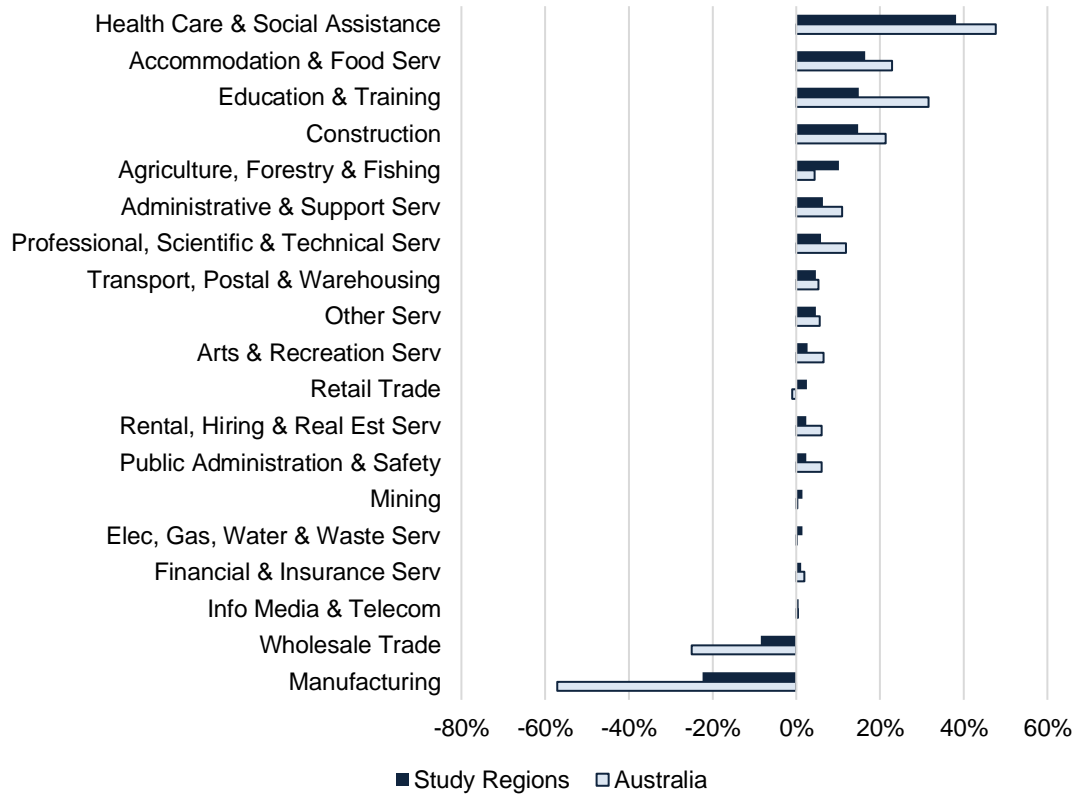


Figure 12: Contribution to employment growth by industry sector, 2011 to 2016

Source: Australian Bureau of Statistics (2011), Australian Bureau of Statistics (2016), study region place of employment by SA4.

This figure provides the percentage of the total growth that occurred within each of the sectors, and therefore the contribution to the change in employment in regions, rather than the growth rate of the individual sectors. In both Australia and the study regions, the transition from *Manufacturing* to what the RBA refers to as household services and care employment is clearly evident (see Reserve Bank of Australia 2019). The decline in *Wholesale Trade* employment may also be associated with consolidation into fewer and larger facilities, as well as a possible outcome of automation and the development of logistics networks. The increase in household services employment is in *Health Care and Social Assistance*, *Accommodation and Food Services*, and *Education and Training*, with *Construction* the fourth largest contributor to job growth. It is of note that this transition is evident in the total study regions, although it has not occurred to the same extent across the whole of Australia. The greater increase in Australian employment in the household

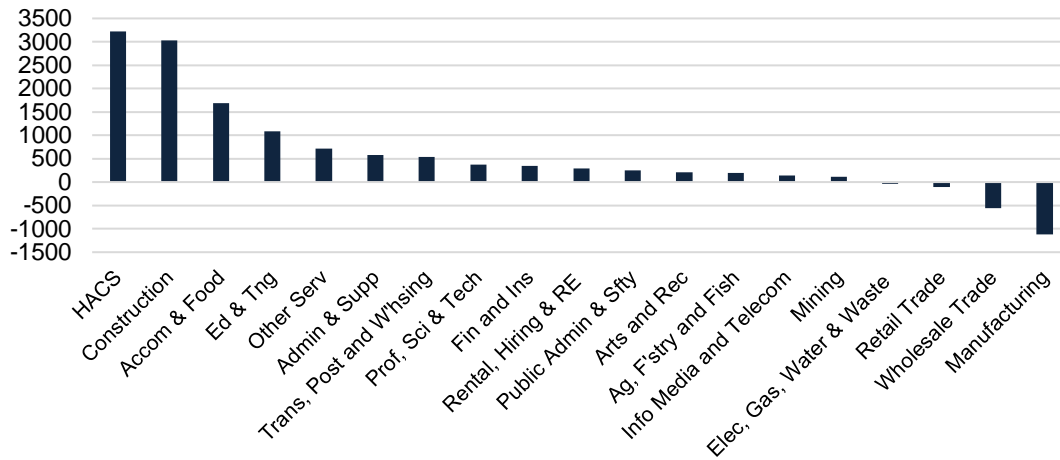
services and construction sectors would appear to be a consequence of the greater population growth in metropolitan areas.

The six charts on the following pages provide the absolute job changes by industry sector for the six study regions.

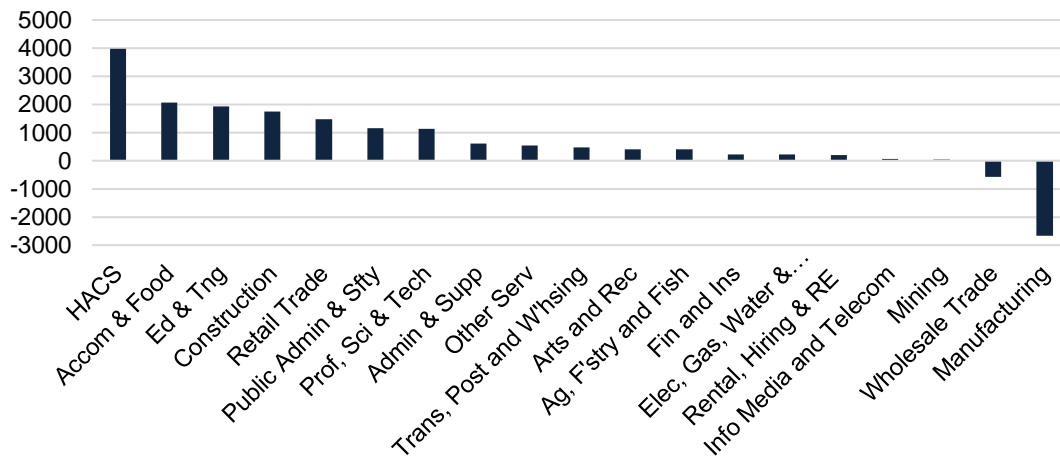
In each of the six regions, *Health and Community Services* provided the greatest increase in employment between 2011 and 2016, as shown in the charts in Figure 13. With the exception of NT Outback, the greatest decline in each of the regions was in *Manufacturing* employment. However, there was greater variation in other sectors in each of the regions. For the Central Coast, *Construction* employment increased by 3,027, compared to 3,222 for *Health and Community Services*. In Latrobe-Gippsland and West and Northwest Tasmania, the second largest industry sector employment growth was in *Agriculture, Forestry and Fishing*, indicating the importance of that sector to those regional economies. *Education and Training* growth was prominent in Toowoomba and Geelong, along with *Accommodation and Food Services* in Geelong and *Construction* in Toowoomba.

The major decline in *Public Administration and Safety* employment in the NT Outback is due to a reduction in Local Government employment (based on analysis of ANZSIC level 3 industry code data for 2011 and 2016). It should be noted that these trends do not reflect the production and profitability of these industry sectors, only the numbers of people employed. As Moretti (2012, p. 36) observed for the US, even though recent political discourse has focused on the decline of American manufacturing jobs, “American factories produce the same output as China, more than double that of Japan, and several times that of Germany and Korea”. Hence, the conclusion is that there is no necessary direct relation between manufacturing productivity and the maintenance of employment levels.

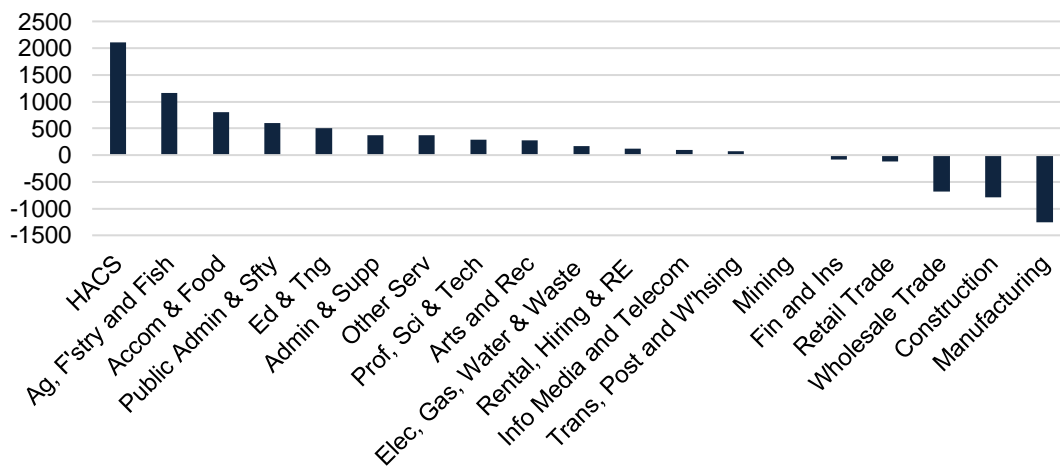
Central Coast



Geelong



Latrobe-Gippsland



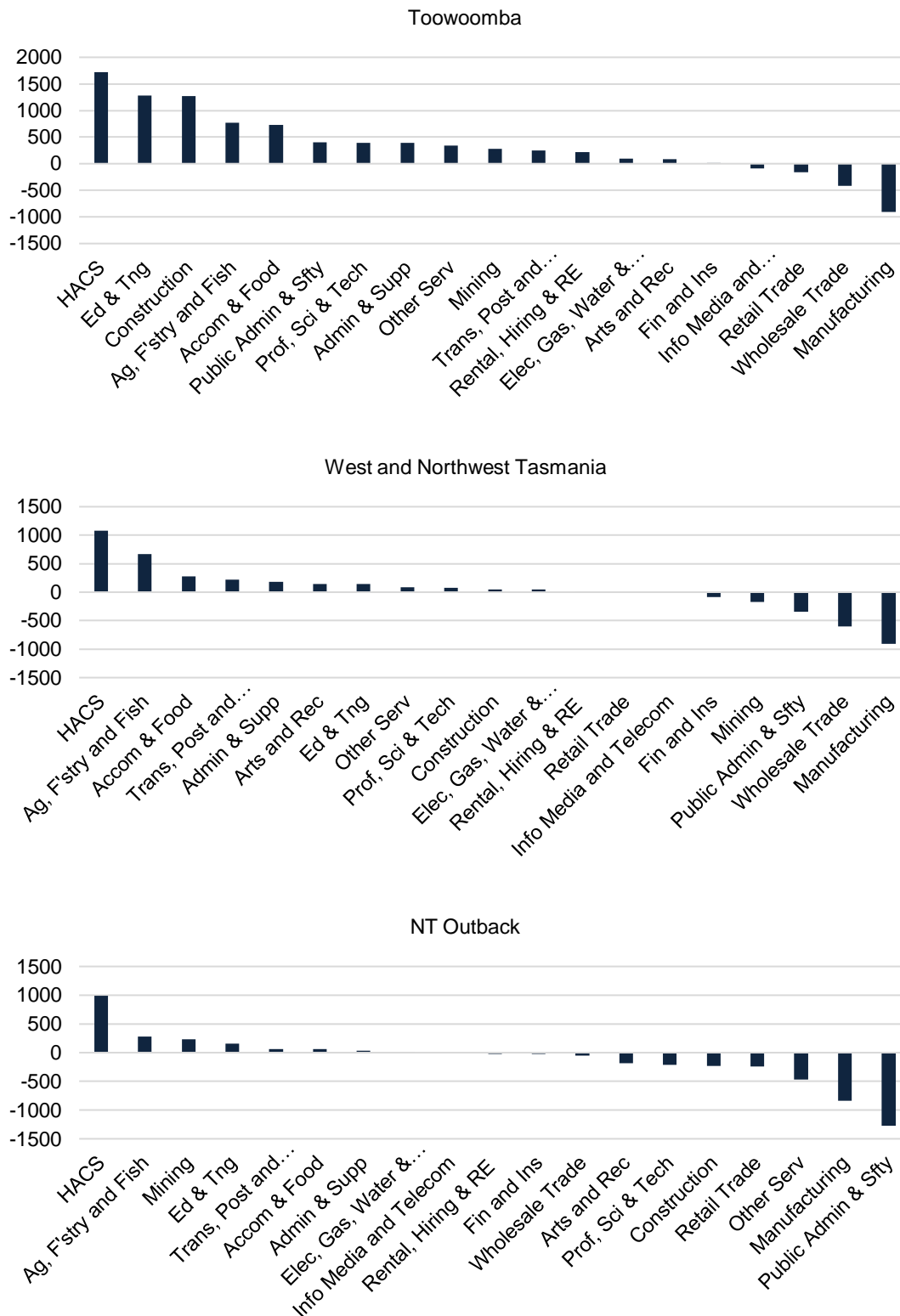


Figure 13: Contributions to employment growth, study regions 2011-2016

Source: Australian Bureau of Statistics (2011), Australian Bureau of Statistics (2016), study region place of employment by SA4.

An underlying trend is that regional areas are becoming more dependent on government funded services as a source of employment, as sectors such as *Health and Community Services* and *Education and Training* are primarily public sector industries, or private sector providers subsidised by the public sector. As the 2016 census was undertaken only two months after the commencement of the NDIS roll-out in July of that year, it can be expected that regional employment in as *Health and Community Services* will continue to increase. The reliance on government funding for economic growth is occurring across substantial parts of Australia, particularly New South Wales, Queensland and Tasmania (Jericho 2019a).

Also, as elements of government services have been outsourced, increased employment in sectors such as *Accommodation and Food Services* and *Construction* may be to some extent a result of outsourcing rather than changes to and growth in the regional economy. This is also an outcome of the decline in employment in predominantly private sector industries, particularly *Manufacturing* but also *Wholesale Trade*.

5.2.3 Job Changes: Occupations

These changes to the industry structure of regional employment are also evident in the census data for occupations. The occupational structure in the total six study regions is different to that of Australia in total, as shown in Figure 14.

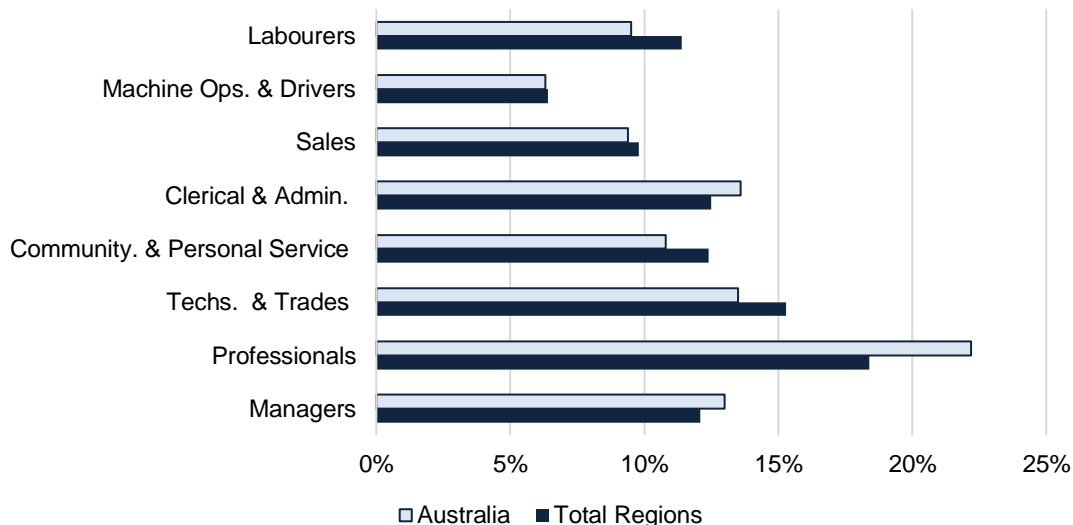


Figure 14: Occupational structure, total regions 2016

Source: Australian Bureau of Statistics (2011), Australian Bureau of Statistics (2016), study region place of employment by SA4.

One feature of this occupational shift is that a re-division of the national labour is emerging. It would appear that the sub-national regions are seeing relative increases in labourers, machine operators and drivers, technicians and trades, and sales employees.

The significance of such a pattern of employment is unclear, but is worthy of further research.

As a step towards such an analysis, we consider the proportion of occupations by region. Overall, there is a greater proportion of *Professionals*, *Managers* and *Clerical and Administrative* workers in Australia than in the total of the six study regions, as expected due to the predominance of metropolitan regions in the geography of Australian employment distribution, as indicated in Table 6.

Table 6: Variance in occupations, six study regions 2016

Occupation	Difference from Regions Average						Total Regions Average
	Central Coast	NT Outback	Toow'ba	W&NW Tas	Geelong	Latrobe -Gipp.	
Managers	-0.90%	-0.20%	-1.20%	0.20%	-0.50%	2.30%	12.10%
Professionals	0.20%	3.70%	1.20%	-4.70%	2.70%	-3.10%	18.40%
Techs. & Trades	0.20%	-3.20%	-0.20%	-0.30%	-0.20%	1.10%	15.30%
Community. & Personal Service	0.00%	4.70%	-1.00%	-0.40%	0.20%	-0.80%	12.40%
Clerical & Admin.	1.20%	-0.60%	1.20%	-1.30%	-0.40%	-1.10%	12.50%
Sales	0.80%	-4.00%	-0.30%	0.30%	0.40%	-0.20%	9.80%
Machine Ops. & Drivers	-0.40%	-1.30%	0.10%	2.20%	-0.60%	0.50%	6.40%
Labourers	-1.00%	-0.90%	0.70%	3.70%	-1.40%	1.30%	11.40%

Source: Adapted from WP2: Diversity in Regional Growth and Development

For the six study regions, there was a greater percentage of *Labourers*, *Community and Personal Service Workers*, and *Technicians and Trade Workers*. Nonetheless, within regions there is considerable variance in the occupational profiles, presumably reflecting the industrial profile of each and the employment patterns that then emerge.

The variation in occupation for each of the six study regions presents the differences in occupational structures with differences of plus or minus 2 per cent highlighted. The high

proportion of *Professionals* and *Community and Personal Service Workers* in the NT Outback is a reflection of the distinct industry structure of the region, with the high proportion of *Public Administration and Safety* and *Education and Training* in the region. Other distinct traits in the data are the low proportion of *Professionals* in West and Northwest Tasmania and Latrobe-Gippsland, and the higher proportion of *Machine Operators and Drivers* and *Labourers* in West and Northwest Tasmania.

Across Australia and in the six study regions, the major contributions to occupational growth between 2006 and 2016 were *Community and Personal Service Workers* and *Professionals* as evident in Figure 15.

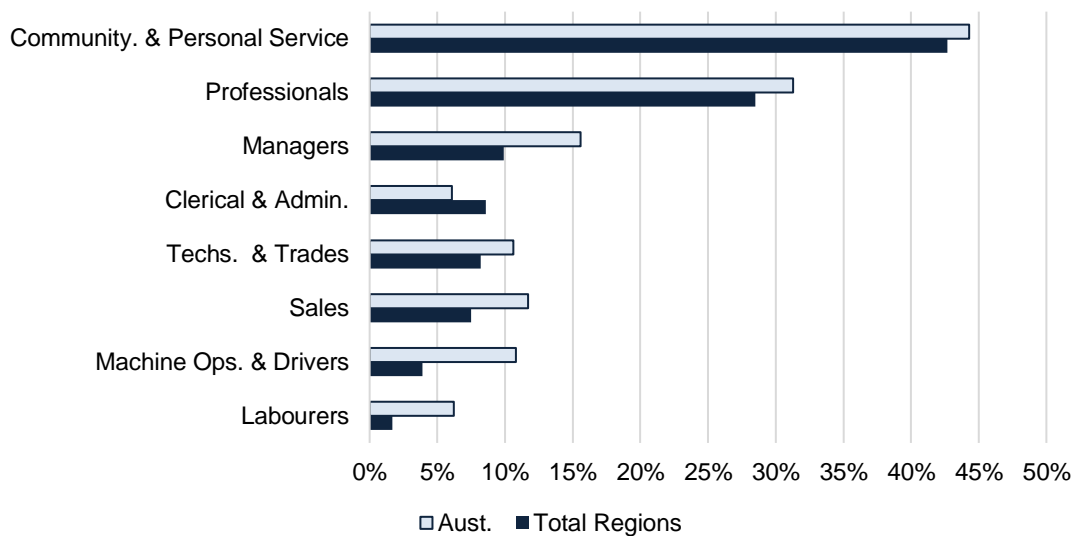


Figure 15: Employment growth by occupation, 2006 to 2016

Source: WP2: Diversity in Regional Growth and Development

The growth of *Community and Personal Service Workers* is a reflection of the significant expansion that has taken place in the *Health and Community Services* sector. Also of note is the greater contribution to Australian employment of *Professional* and *Managers* occupations, as there is a strong capital metropolitan bias for these types of employment, as “Sydney and Melbourne have the largest number of specialist producer service firms, and the only critical mass in the country for some of them, this naturally attracts others to take advantage from the economies of scales available” (Beer et al. 2003, p. 123).

As employment in Australia increased by 17.4 per cent compared to 14 per cent for the study regions, the increases in Australian employment by occupation are generally greater than for the study regions. For the 78,689 additional jobs created in the six study regions between 2006 and 2016, Figure 16 provides the level of growth by each occupation.

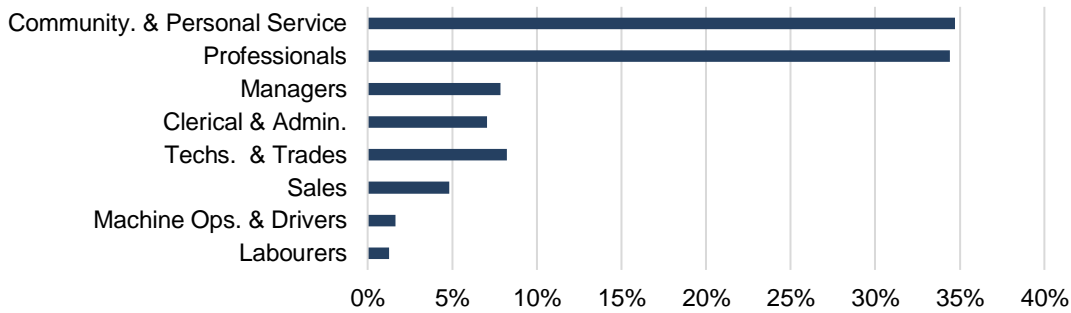


Figure 16: Contribution to employment growth - study regions, 2006-2016

Source: Adapted from WP2: Diversity in Regional Growth and Development

Approximately 70 per cent of the additional jobs in the region were in two occupations, *Community & Personal Service Workers* and *Professionals*. This pattern reflects the types of industrial changes that are underway in regional Australia.

5.2.4 Regional Populations and Job Growth

Given the growth of industry sectors in the broad household services category, it is to be expected that there is a strong correlation between population growth and employment, or more accurately job growth. As shown in Figure 17, a 10 per cent increase in population between 2006 and 2016 is associated with a 5.71 per cent increase in employment growth.

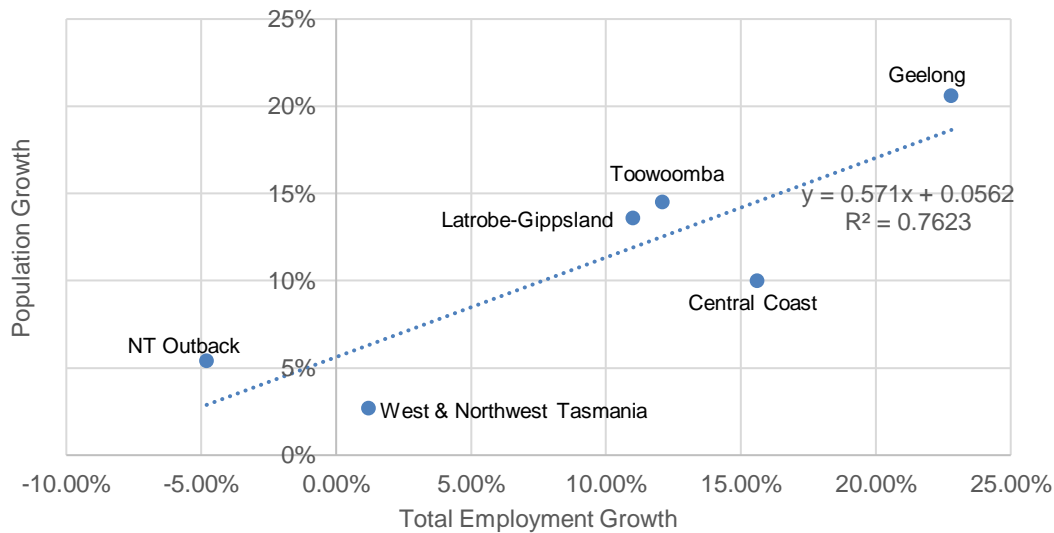


Figure 17: Population and employment growth, study regions 2006-2016

Source: Adapted from WP2: Diversity in Regional Growth and Development.

There would appear to be a fairly strong correlation between population and employment growth, as indicated by the R-squared value of 0.76. This further suggests that the overall patterns of industrial restructuring, with the increased significance of public services in the regions is complicated by the variation in population density within the regions.

Whether jobs follow people or people follow jobs in regional migration is a recurring theme for investigation in regional studies, and described as a ‘chicken and egg problem’ (Muth 1971; Partridge & Rickman 2003). Trendle (2009, p. 306) provides a similar conclusion of simultaneous growth of population and employment based on analysis of employment and migration patterns in Queensland, but also notes that “the results are much stronger for the explanation that employment change drives population change i.e., that people follow jobs”.

5.3 The Future of Regional Work

The changes that have resulted from the increasing prevalence of digitised work and how we negotiate employment are expected to continue. This includes the use of ‘platforms’ to connect people to tasks, such as Uber and Airtasker, and the increasing opportunity for work to occur in locations removed from the site of production (Fairbrother & Denham 2020).

An important outcome for regions is the ease of collecting and transmitting data is that the costs of trade and production systems across locations are reduced. The result can be interpreted as an increase in competition between locations due to these reduced costs. This can be seen in ‘Amazon effect’ of the closure of book stores (see Millar 2019 for Australian context), as well as the rise of globally distributed production systems in recent decades (WTO 2014).

The use of automation and remote control in the Pilbara iron ore mines is provided as an example by Fairbrother & Denham (2020). Large mining equipment and trains in the north of Western Australia are now controlled from Perth, more than 1,000 kilometres away, indicating the separation of jobs from production. An important insight provided by this example is that improvements to telecommunications can have concentrative effects, leading to employment clustering in the major cities. While there is an expectation that more people will work remotely as a result of increased digitisation, it is still likely that they will require access to metropolitan areas and the associated infrastructure (Hall & Pain 2012), indicating a possibility of an expanded metropolitan labour market rather than improved regional employment outcomes.

The outcome of such developments is that regions face futures that provide both opportunities and challenges. On the one hand, the broad patterns of change indicate that there are pressures toward jobs in the larger urban and the metropolitan centres. On the other hand, the very shifts in the ways that work is done opens up possibilities for a

recomposition of labour markets in the regions. These cross-cutting pressures are likely to play out in the ways that labour markets in the regions are composed and reorganized.

5.4 Summary

This chapter brings to light changes in the industrial and occupational employment structures in regional areas in recent years. The data indicates a major transition in employment by industry sector, with declines in *Manufacturing* and *Wholesale Trade*, and growth in sectors focused on household services: *Health Care and Social Services*, *Education and Training*, and *Accommodation and Food Services*. This transition is evident in each of the six study regions, as well as across Australia, and is also supported by the correlation between population and employment growth within the study regions.

A major implication of the shift from *Manufacturing* and *Wholesale Trade* to services is that it indicates an increasing dependence on public funding directly or indirectly to support regional employment, in particular for employment in the *Health Care and Social Services* and *Education and Training* sectors, where many private providers are supported by government subsidies.

These transitions are also evident in the changes in occupations in the study regions, with growth in *Community and Personal Service Workers* and *Professionals* as occupations of employment, which are associated with the growing industry sectors. While in most regions there has been growth in occupations strongly associated with *Manufacturing* employment, such as *Technical and Trades Workers*, *Machinery Operators and Drivers*, and *Labourers*, these three occupations provided 32 per cent of employment in the six study regions but only 25 per cent of the job growth between 2011 and 2016. In comparison, *Community and Personal Service Workers* and *Professionals* comprised 32 per cent of jobs in 2016, and a substantial 48 per cent of the growth in the study region occupations between 2011 and 2016.

The expectation is that the jobs, employment and work in regional Australia will continue to evolve, particularly as a result of digitisation. A likely result is that the jobs will become more competitive at a range of scales: more individuals will compete for employment through peer supply applications, and regional industries will vie with providers in other locations as cheaper and more efficient data and communications transfers reduce the costs of trading over distances.

6 The Evolving Regional Workforce

Changes have occurred to the regional workforce as a result of the industrial and occupational transitions laid out in the previous chapter. Such changes draw attention to the evolving demographic composition of the workforce, their employment conditions and implications in relation to levels of educational attainment. The task here is to lay the foundation for an explanation of how these different dimensions of the relationship between jobs, work and employment fit together and thus the prospects for regional workforces. We begin with a consideration of the overarching trends in these headline employment measures reflected in the participation rates in these regions. This, secondly, provides a foundation for detailed investigations into the changing profile of these workforces. Thirdly, we consider how these trends play out in relation to educational and qualification trends in each region. Finally, training arrangements are reviewed in the light of these changing workforces.

6.1 Participation and Dependency

The first step is to present a picture of the overarching employment trends across the regions. One of the ways in which the changes that are taking place in relation to workforce employment is in terms of participation trends and the dependency ratio. The participation rate is the number of people with jobs as a proportion of the resident adult population, whereas dependency is the ratio between employed people and total population. Participation rates differ from unemployment rates, as unemployment measures only take into account people who are participating in the labour market, that is they are employed or are looking for work.

None of the study regions had a labour force participation rate as high as the 64.6 per cent recorded for Australia as a whole, although Toowoomba was marginally lower at 64.4 per cent, as shown in Figure 18.

A further implication of this data, as discussed in *Regions at work and in employment* (Toner 2019), is that there appears to be a ‘discouraged worker’ effect. That is, there is low variation across the unemployment rates in the regions, but the comparison with the rest of Australia in employment to population ratios and dependency ratios indicates that fewer people are participating in the workforce. *Diversity and Growth in Regional Development* (Toner & Douglas 2020) also notes that labour force participation rates in the regions were lower than Australia as a whole in both 2006 and 2016, due to a higher proportion of people aged over 60 years, higher unemployment, more residents with poorer health as reported by the Australian Institute of Health and Welfare (2019), and also lower levels of educational attainment.

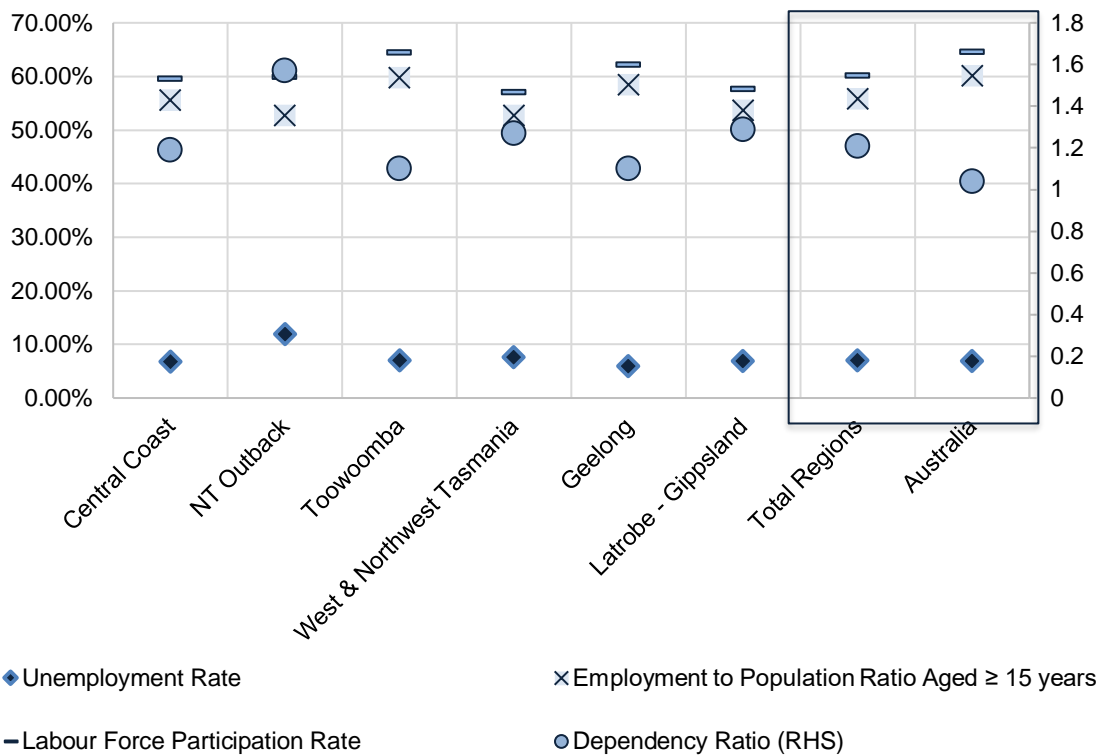


Figure 18: Labour force participation and dependency rates

Source: Toner 2019

The labour force participation and the dependency ratios to some extent reflect the age distributions discussed in Section 4.1, due to the proportion of population of non-working age. An exception is the NT Outback, where there is a low percentage of people aged over 60 as well as high dependency rates and a low employment to population ratio.

In comparison to Australia, the six study regions had a marginally higher unemployment rate in 2016, 7.0 per cent compared to 6.9 per cent. Within the study regions, the notable variations in unemployment were:

- Geelong, lower than Australia and the other regions at 6.0 per cent;
- West and Northwest Tasmania, higher at 7.7 per cent; and,
- NT Outback, significantly higher at 11.9 per cent.

The increase in the unemployment rate in the study regions between 2006 and 2016 was lower than for Australia, as shown in Figure 19.

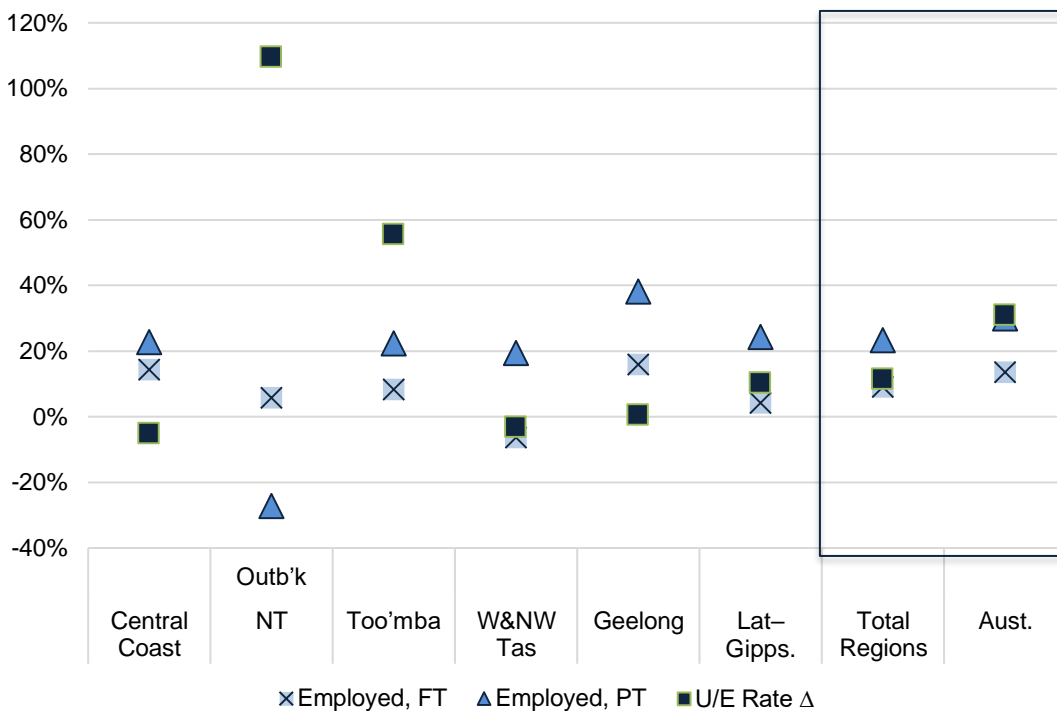


Figure 19: Employment growth by study region, 2006-2016

Source: De Silva & Banks (2020), Toner & Douglas (2020).

There is a significant variation between the regions, with a more than doubling of unemployment in the NT Outback, through to a reduction in unemployment in the Central Coast and West and Northwest Tasmania regions.

It is also instructive to consider the changes in unemployment rates with the changes in full- and part-time employment rates over the same 10-year period. For Geelong, the increased full- and part-time employment is not associated with a decline in unemployment, indicating that there has been a greater increase in the workforce than in employment, it is possible that this is also a reflection of the closure of major employers in the manufacturing sector over this period, as discussed further in Section 5.2.1. In comparison, the Central Coast increased in full- and part-time employment between 2006 and 2016, with a subsequent decline in unemployment. While there are large, and most likely growing, number of Central Coast residents who commute to other areas for work, the indication is that access to employment is increasing in line with population profiles. Part-time employment increased at a greater rate than part-time employment in each of the study regions, except for NT Outback (explored further in Section 6.2.2).

A further implication of this data, as discussed in the report *Regions at work and in employment* (Toner 2019), is that there appears to be a 'discouraged worker' effect. That is, there is low variation across the unemployment rates in the regions, but the comparison with the rest of Australia in employment to population ratios and dependency ratios indicates that fewer people are participating in the workforce. *Diversity and Growth*

in *Regional Development* (Toner & Douglas 2020) also notes that labour force participation rates in the regions were lower than Australia as a whole in both 2006 and 2016, due to a higher proportion of people aged over 60 years, higher unemployment, more residents with poorer health as reported by the Australian Institute of Health and Welfare (2019), and also lower levels of educational attainment.

6.2 Social Security and Changing Employment

The increase in casual and part-time work in Australia indicates a greater propensity for people to be unemployed or underemployed for parts of their working life. Therefore, it is important that the Australian social security system has also adjusted along with the increase in casualisation and part-time employment. It has become:

... a system that recognises that part-time work and other non-standard arrangements exist and may be either a stepping stone to full-time work or sufficient in and of itself to meet participation requirements (Whiteford & Heron 2018, p. 65).

Thus, the contemporary social security system is a support for low- to medium-income workers as much as payment for those without work (Deeming & Smyth 2015). It should be noted that a wide range of business, community and political organisations have argued for an increase in the Newstart Allowance, as it is seen as substandard and increasingly a barrier to people finding employment (for example ACOSS 2018; BCA 2019).

For regional areas, support from social security payments, including Newstart Allowance, can be seen as enabling workers to remain in place by supporting them through periods of limited work opportunities: regular off-seasons and less-regular adverse climate conditions such as drought for example (De Silva & Banks 2020).

6.3 The Changing Composition of Workforces

A central conclusion of *Diversity and Growth in Regional Development* (Toner & Douglas 2020) is that there have been shifts in the composition of regional workforces. In particular, there has been an increase in female employees and also of employees aged over 60, a trend across Australia as well as in the regions (Debelle 2019).

6.3.1 An Ageing Workforce

Toner and Douglas (2020) also reported an increase in employees aged 60 years and over, as shown in Table 7. Both male and female employees aged over 60 increased by approximately 5 per cent in the 10 year period.

Table 7: Share of Total Employment Comprised of Persons ≥ 60, study regions 2006 and 2016.

	Female	Male	Total Persons
2006	5.4%	8.2%	6.9%
2016	10.7%	13.0%	11.9%

Source: Toner & Douglas (2020)

Reasons cited for this increase are:

- People are living longer, and also maintaining better health into later years.
- Increased part-time employment, which may be more suited to older workers.
- Higher levels of education than previous generations of older workers.
- Demand for higher standards of living than in previous generations.
- Increasing proportions of renters in the cohort of people aged over 60 years, which may mean continued work out of necessity.
- In general, work has become less physically demanding over time.
- The ageing population means that it is more likely that those aged over 60 continue to work, a result of the proportion of people in the cohort.
- Wealth losses in the 2008 Global Financial Crisis has meant people have delayed retirement.
- Increasing numbers of female workers.

A second workforce feature is the increasing numbers of unemployed people aged under 19 years, as shown in Table 8. As cited in *Diversity and Growth in Regional Development* (Toner & Douglas 2020), the issue is due to:

The heightened sensitivity of younger workers to demand conditions may reflect a ‘last in, first out’ practice. Employers are also generally more reluctant to hire or even retain younger workers during periods of cyclical weakness because they tend to have less experience and lower skills. Furthermore, younger workers tend to be disproportionately concentrated in industries where the nature of work is quite cyclical (Dhillon & Cassidy 2018).

Therefore, due to these regions youth unemployment increases at faster rates than other sections of the workforce.

Table 8: Unemployment rate of persons ≤19 years, study regions 2006 and 2016

	Female	Male	Total Persons
2006	14.2%	14.9%	14.6%
2016	17.0%	20.0%	18.5%

Source: Toner & Douglas 2020.

Regional Skills Trends and Learning (Denham & Fairbrother 2020) also provides support for the underlying transitions in industry and the workforce in the regions, as interviewees noted the reduced numbers of apprenticeships in trade and manufacturing related industries and that they were working closely with regional health and social assistance providers to align training with regional employment demands. Moreover, it is necessary to note that older people were more likely to undergo training for health and community services employment, and industry preferred mature workers.

6.3.2 Gender, Full-time and Part-time Work

The 2016 census found that there were more females working in the study regions than males, as shown in Table 9. Rafferty and Yu (2010) show that growth in non-standard forms of employment—where the average working week consists of over 35 hours of work that attracts standard paid-leave benefits—is outstripping standard full-time employment growth. The proportion of working females was also higher than for the whole of Australia, indicating a distinct regional workforce composition.

There was also a greater proportion of part-time work within the six study regions, which raises the question as to whether there are more females in the workforce due to more part-time employment opportunities, or whether the causality runs in the other direction. As reported in *Diversity and Growth in Regional Development* (Toner & Douglas 2020) there has been an increase in the proportion of part-time employment across the study regions, with the exception of NT Outback.

Table 9: Labour force status by gender, Australia and study regions, 2016

	Labour Force Status	Australia		Study Regions	
Male	Worked full-time	4,176,931	41%	159,959	38%
	Worked part-time	1,163,658	12%	48,411	11%
	Total	5,340,589	53%	208,370	49%
Female	Worked full-time	2,446,133	24%	98,820	23%
	Worked part-time	2,327,844	23%	118,280	28%
	Total	4,773,977	47%	217,100	51%
Total	Worked full-time	6,623,064	65%	258,779	61%
	Worked part-time	3,491,502	35%	166,691	39%
	Total	10,114,566		425,470	

Source: Australian Bureau of Statistics (2016), study region place of employment by SA4.

Figure 19 provides the change in employment within the six study areas between 2011 and 2016, indicating wide variations.

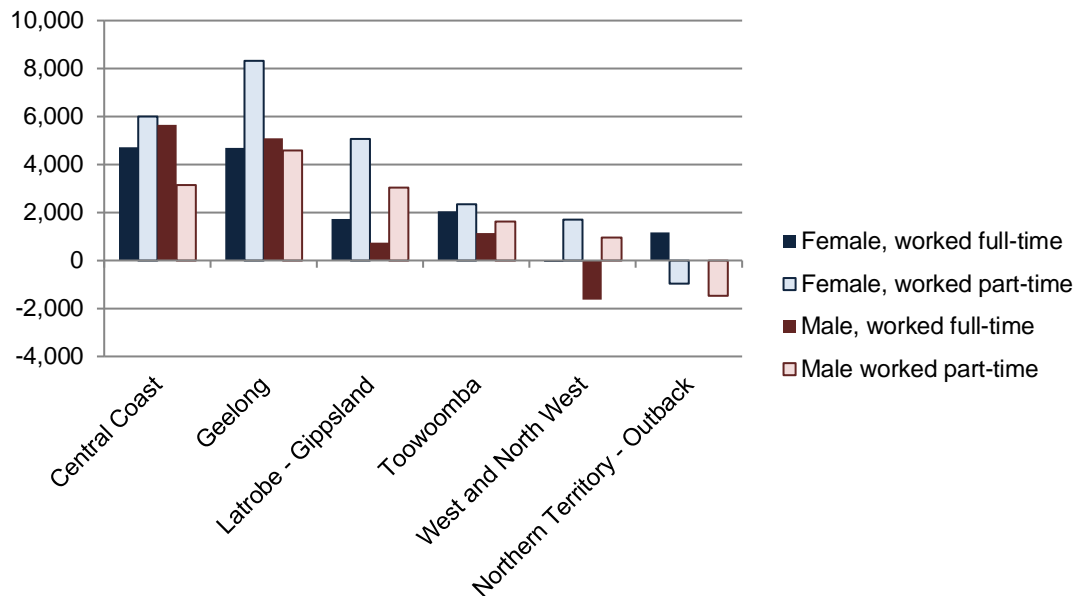


Figure 20: Change in employment by six regions, 2006-2016

Source: Adapted from Toner & Douglas (2020).

In general, the main growth in the workforce has been females in part-time work. Part-time work has been the primary source of increase in West and Northwest Tasmania and Latrobe-Gippsland, particularly for females. In Geelong, there was strong growth in all four categories, but the increase in part-time female work was greater than the other categories by approximately two thirds. In West and Northwest Tasmania, there has been a decline in full-time employment and an increase in part-time employment, while the opposite is the case for NT Outback.

Regardless, as shown in Table 9 that while there are more females employed in the study region, it is as a result of part-time employment in the regions as males are employed in 61 per cent of the full-time jobs, but only 29 per cent of the part-time jobs.

6.3.3 Gendered Occupations

There are distinct differences in the occupations that have increased for males and females between 2006 and 2016. As Table 10 indicates, female employment has mainly increased in occupations associated with health and education, particularly *Carers and Aides*. The fourth largest increase was in *Specialist Managers*, which includes people who manage education, health and welfare services within its categorisation.

Table 10: Occupations contributing ≥ 4 per cent to net regional female employment growth 2006-2016

Sports and Personal Service Workers	4.1%
Inquiry Clerks and Receptionists	4.8%
Health and Welfare Support Workers	4.9%
Office Managers and Program Administrators	5.3%
Hospitality Workers	5.4%
Business, Human Resource and Marketing Professionals	5.4%
Legal, Social and Welfare Professionals	5.4%
Specialist Managers	6.3%
Education Professionals	8.0%
Health Professionals	14.1%
Carers and Aides	18.9%

Source: Toner & Douglas (2020).

The same data for males employed within the study region is considerably different, with the most growth in *Specialist Managers*, and notably there has been an increase in male *Carers and Aides*.

Table 11: Occupations contributing ≥ 4 per cent to net regional male employment growth 2006-2016

Business, Human Resource and Marketing Professionals	4.0%
Skilled Animal and Horticultural Workers	4.1%
Protective Service Workers	4.1%
Design, Engineering, Science and Transport Professionals	4.5%
Construction and Mining Labourers	5.1%
Engineering, ICT and Science Technicians	5.1%
Food Preparation Assistants	6.1%
Road and Rail Drivers	6.3%
Health Professionals	7.6%
Carers and Aides	7.8%
Sales Assistants and Salespersons	8.2%
Construction Trades Workers	9.9%
Specialist Managers	14.5%

Source: Toner & Douglas (2020).

The increase in occupations have largely been in public service related employment. Nonetheless, the pattern of increase in *Specialist Managers* suggests that the long established gender hierarchies in public service employment remain in place.

6.3.4 Implications

Regional workforces are changing, thus this section provides further evidence of the transitions in the regional workforce that have occurred alongside the industrial transitions discussed in Section 5.2. The main conclusions are that the increase in jobs in the study regions has been predominantly for part-time work mainly undertaken by women, in industry sectors such as *Health Care and Social Assistance* and *Accommodation and Food Services*. The third main growth sector, *Education and Training*, has a higher proportion of female workers, but is more likely to comprise full-time employment. A further trend is that regional workforces are ageing, with increased participation by people aged over 60; concurrently, there is evidence of limited employment opportunities for

those aged under 20. Such changes can be attributed to the conclusions of Section 5.2, as the increasing household services sectors have greater proportions of female workers than the declining *Manufacturing* sector.

There was variation in job trends between the regions, with strong full-time as well as part-time employment growth in the regions with larger populations – Geelong, Central Coast and Toowoomba. As discussed in Section 4.2.2, the main clusters of populations in these regions are also closer to their respective State capitals than is the case with the other three study regions. This pattern suggests that population proximity to metropolitan centres is a factor in job growth, given that there is also greater growth in *Construction* employment in these regions, as shown in Figure 13. Even though there was growth in full-time male employment in these three regions, and it was marginally greater than part-time female employment in Toowoomba and the Central Coast, the main trend evident in the regions is the increase in female part-time jobs, resulted in the somewhat surprising finding that as of 2016 there were more females employed in the study regions than males.

6.4 Education, Qualifications and Work

When presenting the emerging workforce profiles across these regions, it is also necessary to consider what this might mean in relation to educational requirements because this in turn means that we can begin to identify training arrangements and outcomes. Previous studies have indicated that there is a connection between productivity, incomes and increased educational attainment (Moretti 2004a, 2004b, 2012). Of note, there has been a considerable increase in post-school qualifications in Australia and the study regions, as reported in *Diversity and Growth in Regional Development* (Toner & Douglas 2020) and shown in Figure 21. While Toner & Douglas (2020) question these connections, due to credentialism, worker supply rather than employer demand effects, and measurement mismatches between qualifications and work, analysis of qualifications levels provides additional insights into shifts in regional workforces.

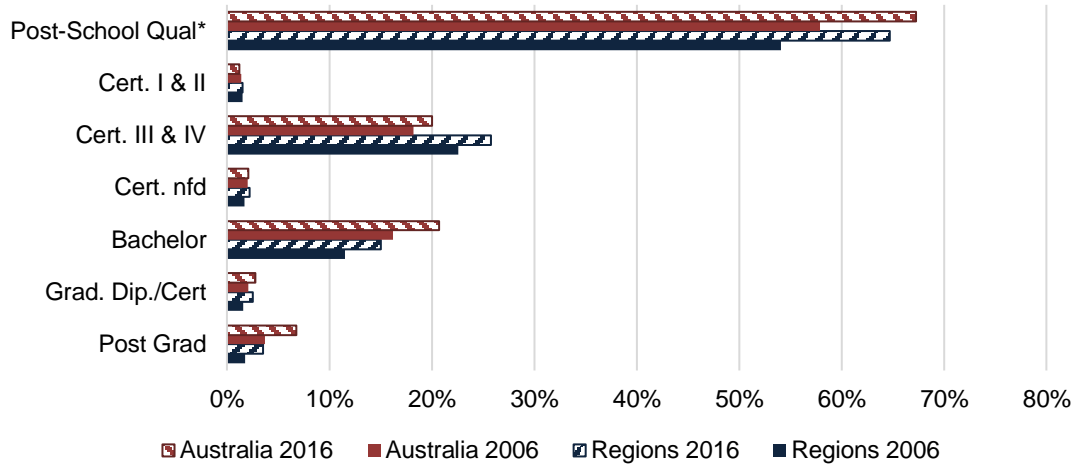


Figure 21: Post school qualifications, total regions and Australia, 2006-2016

Source: Toner & Douglas 2020.

Overall, these regions have greater proportions of Certificate III and IV qualified workers, and less than Australia in total for Bachelor and Post Graduate degrees. For the study regions, post-school qualifications increased by more than 10 per cent, to 64.7 per cent of the workforce. While the increases were distributed across the qualification levels, *Diversity and Growth in Regional Development* (Toner & Douglas 2020) found that the fastest rate of increase occurred in higher level qualifications. The proportion of employed persons with a Bachelor degree increased by 30 per cent and post-graduate qualifications by 94 per cent, off a small base. Also, the rate of growth of persons with a post-school qualification in the regions as a whole increased at 20 per cent, a faster rate than for Australia at 16 per cent.

As shown in Figure 22, within the TAFE sector the increases have occurred in those with Advanced Diplomas and Diplomas, and Certificate III and IV qualifications, while the apprenticeship level Certificate I and II qualifications comprise a minor proportion of the workforce.

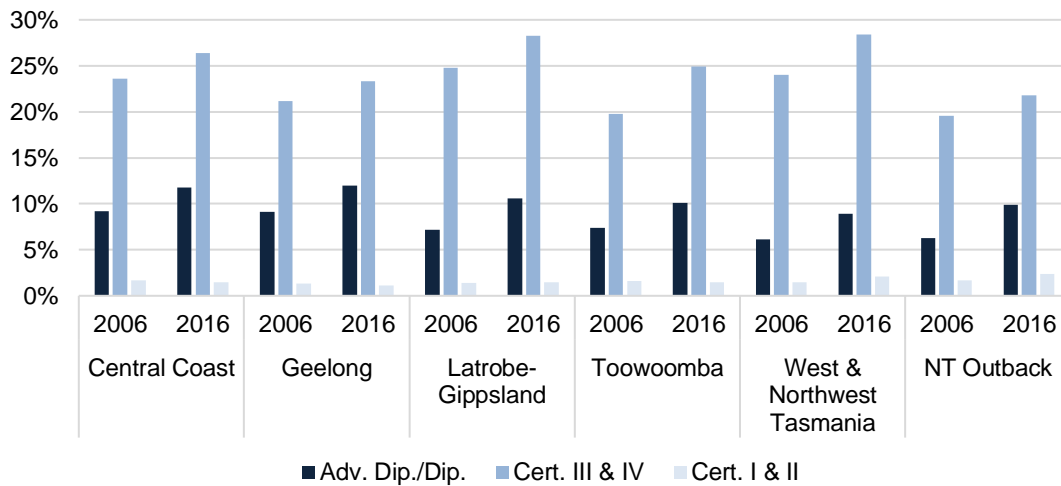


Figure 22: TAFE qualifications, study regions, 2006-2016

Source: Toner & Douglas 2020.

While Certificate III and IV remains the most common highest level of educational attainment in the study regions, if current trends continue it will be surpassed by Bachelors' degrees in the near future. As shown in Figure 23, there have been increases in the three Higher Education levels of attainment, with substantial increases in Bachelors' degrees.

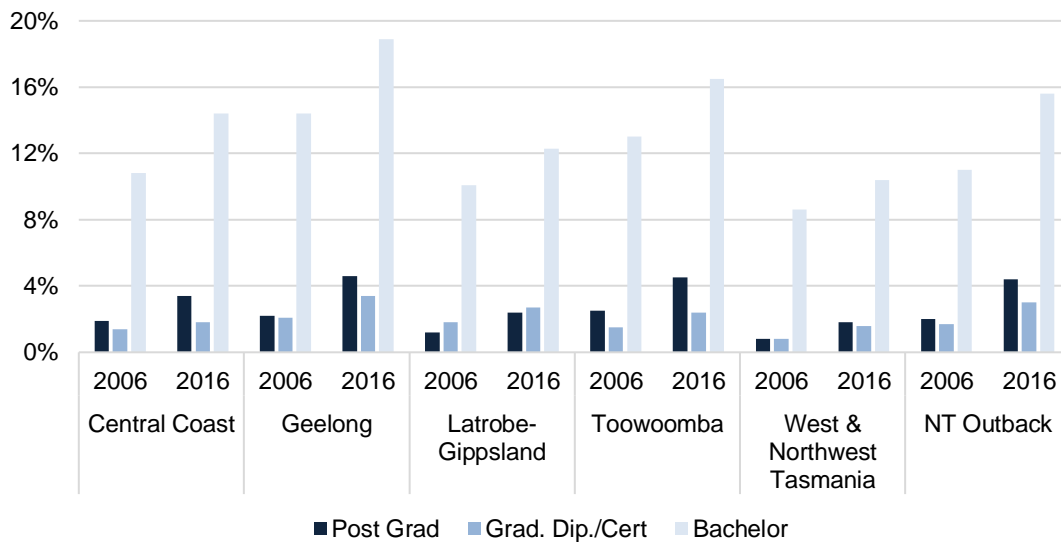


Figure 23: Higher Education qualifications, study regions, 2006-2016

Source: Toner & Douglas 2020.

As summarised by Toner (2011), the explanations for and outcomes from the increase in workforce qualifications are complex, and may result from factors such as increased demands as roles change, employees using education as a signal for worker capacity and members of the workforce gaining qualifications to differentiate themselves in the marketplace. Also, the increase in *Health and Community Services* and *Education Training* as providers of regional employment will also have contributed to the higher qualification levels in the regional workforce, as many roles in these sectors have mandated qualification requirements.

6.5 Training

Regional training providers matter because it is through these bodies that resident populations can secure qualifications and develop the skills for labour markets that are in transition. *Regional Skills, Trends and Learning* (Denham & Fairbrother 2020) provides insights into the responses of regional training organisations to the changes to regional employment discussed in Section 5.2. The focus there is on the *Health and Community Services* sector, as it provided approximately 38 per cent of the increase in employment in the six study regions between 2011 and 2016. Moreover, as *Diversity and Growth in Regional Development* (Toner & Douglas 2020) reports much of this growth was in occupations associated with certificate level qualifications. The focus of the report was the role that training plays in connecting people to emerging employment in regional areas. The research provides insights into how the complex system of people, employment and training is reshaped as a result of industry transitions. In this way, this report introduces the mechanisms driving the changes in employment identified in *Diversity and Growth in Regional Development* (Toner & Douglas 2020), and also extends the understandings of regional training provision discussed in Section 6.4. Given the rapid growth of employment in the sector, it provides insights into how training adapts to the changing labour market supply and demands that would be less apparent if the research had a wider scope.

While it is not possible to directly assess whether people employed in manufacturing or wholesaling have transferred into employment within the Health and Community Services sector, the data suggests that it is more likely that this is not the case. The demographic data for the declining industries, which have been predominantly male and of prime working age, is different to the female and older demographic skew in employment growth occupations and industries (Toner and Douglas 2020). Further support for this was provided by the training providers interviewed, who noted that those undertaking training for employment in the health and community services sector were predominantly female and older people, with limited opportunities for school leavers in the sector.

Denham and Fairbrother (2020) concentrate on a prominent growth sector in regional employment, illustrating how TAFE responds to economic transitions and helps solve the

'learning puzzle' for regional residents was elucidated in the report. That is, training providers identified the need to work closely with communities, other education providers and industry to connect people with employment opportunities. While it was acknowledged that more could be done to increase awareness of the opportunities in health and community services, particularly in secondary schools, an important role of TAFE is connecting regional people to a range of employment opportunities and further education. Also, the location of TAFE within regional communities enabled the training providers to respond to local issues as well as to align training provision directly to the needs of local industry, as also reported in *Innovative practices: review of Victoria's LLENs activities and their outcomes* (Vincent *et al.* 2019).

The importance of TAFE in improving regional employment outcomes from the perspective of both employees and the communities they serve indicates the need for government support. This importance was underscored by Halsey (2018, p. 53; see also Napthine 2019), who noted:

... it is also important to recognise that high quality VET, where it is available, is playing a crucial role in helping young people develop the skills and knowledge they require to gain employment, build careers, start their own businesses and much more.

While the issues associated with contestable student funding and private providers are being addressed and access to free TAFE has seen increases in enrolments in some States, there are still barriers to increasing training provision. The two main barriers reported in *Regional Skills, Trends and Learning* (Denham & Fairbrother 2020) are:

- The requirement for TAFE teachers to have a Certificate IV Training and Assessment was seen as a major impediment, a year-long qualification is required regardless of other employment experiences or qualifications a prospective TAFE trainer may have.
- The difficulty in sourcing work placements for TAFE students, which is a requirement for course completion in health and community services training.

It is of note that the TAFE providers were aware of the economic and employment transitions underway within their regions. They had responded by building networks to regional industry and employers in ways that reinforced their role in connecting regional people to employment. *Regional Skills, Trends and Learning* (Denham & Fairbrother 2020) not only provides affirmation that the employment transitions that are the central theme of this chapter are apparent within the regions, it suggests that TAFE has a pivotal role in facilitating the restructure of the workforce to meet new employment demands.

6.6 Summary

This chapter has outlined how the transitions in jobs reported in Chapter 5 are associated with a change in the composition of the regional workforce. First, the industries that have grown in employment are those that have traditionally employed more females – health, education, hospitality – while those in decline have predominantly employed males, particularly manufacturing. This transition has seen the number of females employed in the study region overtake the number of males at some time between 2006 and 2016, with females making up 51 per cent of the total workforce in 2016. However, more males than females were employed in full-time jobs in 2016, which may be a result of preferences as well as the underemployment associated with part-time jobs (Lowe 2019). As *Diversity and Growth in Regional Development* (Toner & Douglas 2020) also reports, there is an increase in older workers in part-time work in particular, and similar to the female employment growth.

The changes to regional workforces over the decade to 2016 have been recognised and responded to by regional training providers. The *Regional Skills, Trends and Learning* (Denham & Fairbrother 2020) research focus on training in the Health and Community Services sector provides insights into how industry networks have influenced training providers and provide direct employment outcomes for regional residents.

Overall, the rapid transitions in the industry sectors and occupations that comprise regional employment mean that regional workforces are being recomposed with major sectoral consequences, in terms of job expansion or decline. As noted, these trends have implications in relation to the terms and conditions of employment as well as the work undertaken. This matrix of relations underpins this analysis into the future of work in regional contexts, the training requirements in transitioning economies and the experiences of those receiving government support payments as they navigate changing regional labour markets. The outcomes are stark, as indicated in the following chapter.

7 Divergent and Fragmented Regions

The analysis presented in the preceding chapters indicates that prosperity in regions is divergent and fragmented. It indicates that the study regions diverge from the overall patterns across Australia as a whole, particularly the large metropolitan areas. Specifically, the regions are lagging behind Australia overall in relation to population and economic patterns. Of equal note, the six selected regions reveal stark differences, with Geelong, Toowoomba and Central Coast exhibiting notable growth over the decade to 2016, while there was an apparent stagnation in West and Northwest Tasmania and the Northern Territory Outback. Moreover, our detailed analysis of population growth at SA2 scale in the Latrobe-Gippsland study region, as well as *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020), also indicates that these regions also may be fragmented, with concentrations of relative advantage and disadvantage.

Divergent and fragmented fortunes have been explored in the literature of polarisation, which argues that there has been a decline in middle-skilled employment in recent years, relative to high- and low-skill employment (Autor 2010; Denny 2019; Esposto 2011; Keating 2003; Wooden 2000). This trend is distinct from upskilling, which refers to an increase in high-skilled work only. There has been much conjecture as to the causes of polarisation. Explanations include reference to the digitisation of work and the ways these economies are in a transition whereby past industries and sectors may no longer have the salience they once had (eg., the shifts in energy sector). Thus, the polarisation framework, considering the bifurcation of labour markets in regional areas, allows us to assess the spatial and societal impacts of the transitions explored in this research.

7.1 Polarisation

As indicated above, the labour market trends in these regions have been marked by the increased feminisation of the workforce, indicated by the massive marked expansion of part-time employment in the health and social support sector as well as full-time employment in education and training. Alongside this pattern, regional workforces are ageing, with increased participation by people aged over 60; at the same time, increasingly there are limited employment opportunities for the young. These trends indicate an emergent polarization within regional labour markets.

Figure 24 provides the ANZSIC 2 occupations that increased by more than 4 per cent for female employment growth in the six study regions (LHS), and the regional average income in total and for the occupations (RHS). Figure 25 provides the same data for male employment.

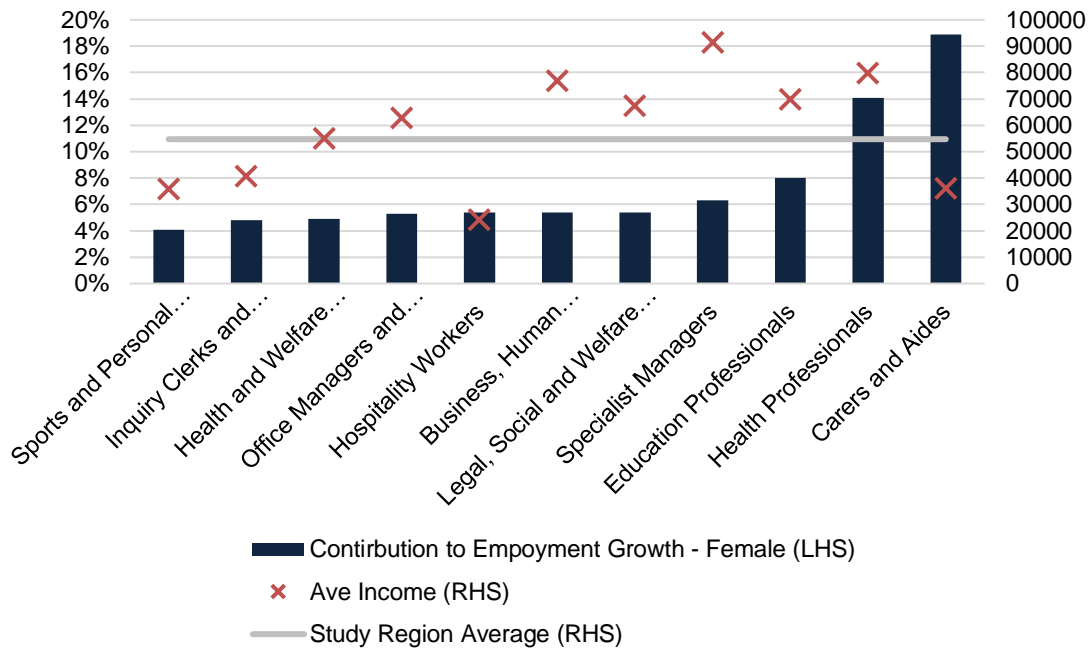


Figure 24: Female employment growth and income, ANZSIC Occupations Level 2, Australia and Total Regions 2006-2016

Source: WP2: Diversity in Regional Growth and Development, Australian Bureau of Statistics (2016).

The data in Figure 24 does not filter for full-time employment as underemployment is contributing to polarisation and increasing precarity in regional employment.

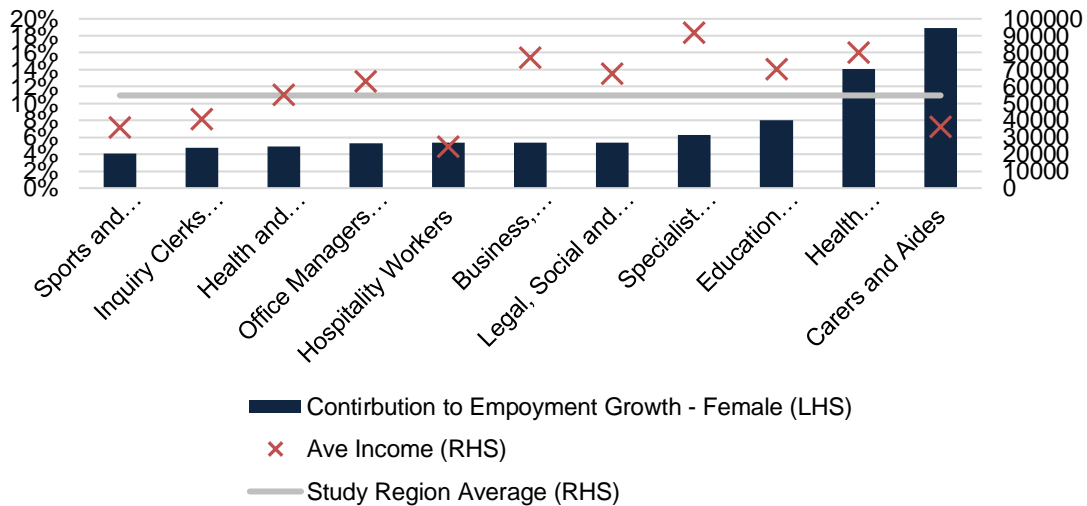


Figure 25: Male employment growth and income, ANZSIC Occupations Level 2, Australia and Total Regions 2006-2016

Source: WP2: Diversity in Regional Growth and Development, Australian Bureau of Statistics (2016).

The occupations included in these figures capture more than 80 per cent of female and male employment growth over the 10-year period, indicating that they are representative

of changes in regional employment. The data provides evidence of employment polarisation from an income perspective within the study regions, as for females only two of the growth occupations received a wage within 20 per cent of the average: *Health and Welfare Support Workers* and *Office Managers and Program Administrators*. It was similar for males, with only *Construction Trades Workers, Road and Rail Drivers* and *Construction and Mining Labourers* within 20 per cent of the average income. An aspect of this polarisation is that the occupations that are providing additional employment in the regions are associated with part-time employment: jobs in sales, cares and cleaners for example.

The starkness of these trends, and their implications for regional futures, is reinforced by the ways in which training bodies seek to enhance job access and work opportunities in the regions. The interviews conducted for *Regional Skills, Trends and Learning* (Denham & Fairbrother 2020) provided further evidence of this shift towards lower-paid, part-time and casual work. While the training providers had observed the increase in employment opportunities in Health and Community Services within their regions, the pay and conditions were not comparable to those that were previously available to workers in manufacturing or mining for example.

Polarisation and Skills

A standard measure of employment polarisation is to assess the relative growth of employment in order of skills (see Autor 2010; Coelli & Borland 2016). The ABS categorises occupations by skill level at ANZSCO Level 4, which is then aggregated to form the following table of Level 1 occupations. Skill level 1 is the highest, requiring a Bachelor-level qualification or at least five years of relevant experience, while Level 5 occupations require a Certificate I or compulsory secondary education (Australian Bureau of Statistics 2013).

These regional patterns are presented in Table 12.

Table 12: Skill Level of Broad Occupations in Regions Relative to Australia. 2016

Occupation (level 1)	Skill Level
Managers	1,2
Professionals	1
Techs. & Trades	2,3
Community. & Personal Service	2,3,4,5
Clerical & Admin.	2,3,4,5
Sales	2,3,4,5
Machine Ops. & Drivers	4
Labourers	4,5

Source: Australian Bureau of Statistics (2013)

The percentage share of the regions and Australian workforce by skill level is shown in Figure 26.

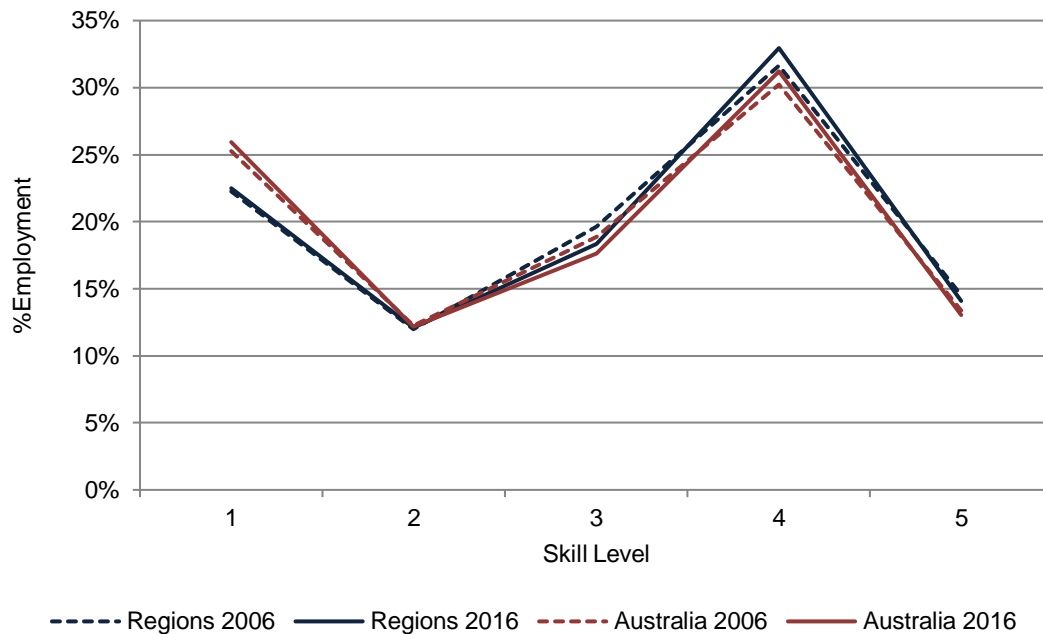


Figure 26: Employment share by skill level, study regions and Australia 2016

Source: Toner & Douglas (2020), ABS (2006, 2016) Occ. Level 2, shared skill levels shared equally.

The data indicates the polarisation in Australian and study region employment, as Skill level 1 and 4 provide the most jobs and a decline in Skill level 3 employment. However, the data shows that the regions have a lower percentage of Skill 1 occupations and greater percentages of Skills 4 and 5 occupations than Australia as a whole. There is also an indication of a marginally greater increase in Skill level 1 employment in Australia as a whole, with the study regions exhibiting a greater increase in Skill level 4 employment.

Regional Training Providers

The skill-based polarisation is unambiguous. *Regional Skills Trends and Learning* (Denham & Fairbrother 2020) interviewees noted two distinct trends that provide ‘lived experience’ of polarisation. The first was that many students were being encouraged to attend universities, often out-of-region, attributed to the widely held view in regional communities that the benefits outweighed the costs and dislocation. The second was the decline in middle-skill employment associated with traditional regional industries such as manufacturing and heavy industry, which tended to offer much better pay and security than the job opportunities in health and community services.

TAFE cannot address the polarisation of job opportunities by itself. Nonetheless, it does have a role in providing pathways into better work for regional residents. TAFE training has facilitated regional residents from demographic sections finding work that had

previously had low participation rates; women and older people in particular. Regional TAFE training organisations had also established formal or informal pathways with local universities, providing more accessible opportunities for under- and post-graduate training and the associated Skill level 1 employment opportunities.

7.2 The Geography of Employment Polarisation

Keating (2003) reported a substantial change in the distribution of unemployment across regions in Australia.

The worry now is that the changes in job opportunities may be interacting with the changes in neighbourhoods to reinforce the trend to greater inequality. When employment rates were the same across all regions, it was reasonable to presume that if inequality was reduced among individuals and families it would also be reduced across all regions and neighbourhoods. But in the last two decades it is possible that increased inequality among regions is not purely the counterpart of increased inequality among individuals. Rather the conjecture is that the increased inequality observed among neighbourhoods is also a *cause* of increased inequality among individuals (Keating 2003, p. 387).

As this suggests, employment polarisation is not occurring equally across regions. Of the top 10 growth sectors in regional areas, it is of note that the greatest disparity in growth between the study regions and Australia is in the well-paid highly-skilled occupations of *Specialist Managers* and *Business, Human Resource and Marketing Professionals*. Given the bias towards metropolitan areas in the Australian data, the implication is that the growth in well-paid employment is greater in the capital cities than the regions. This feature has implications for spatial equity as high-income employment is concentrating within metropolitan regions.

The larger cities – and especially their inner-city areas – have prospered on the back of an expanding services sector, while non-metropolitan Australia and the outer suburbs of the capitals have felt the hard edge of the shift to a post-industrial society (Beer 2018, p. 448). Iammarino et al. (2018) observed similar processes in Europe, rural employment growth has been predominantly in lower-skilled jobs in comparison to metropolitan areas, leading to divergence in regional economies.

Moreover, the six study regions provide evidence of divergence within non-metropolitan Australia. The data in Figure 27 and Figure 28 indicates that some regions have undergone a polarisation in income and skills while others have just experienced growth in low-skill employment. Polarisation is evident in the study regions with larger population centres – Geelong, Central Coast and Toowoomba – as well as NT Outback.

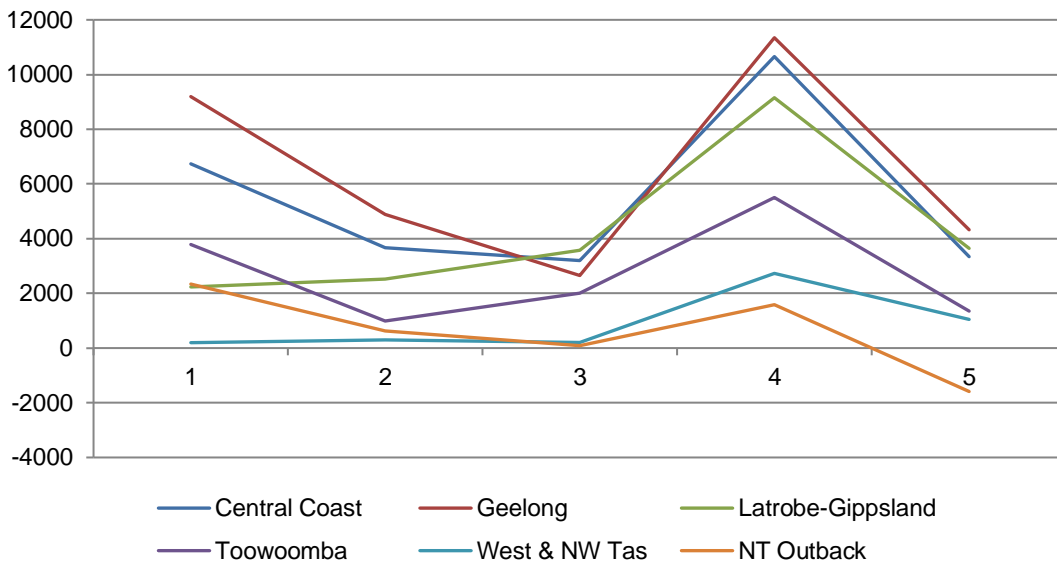


Figure 27: Six study regions polarisation, 2006-2016

Source: Toner & Douglas 2020, Australian Bureau of Statistics (2006, 2016) Occ. Level 2, shared skill levels shared equally.

Employment growth in Latrobe-Gippsland and West and Northwest Tasmania was predominantly in Skill level 4, rather than in levels 1 and 4. Also of note is that approximately 20 per cent of the Skill Level 4 workers are *Carers and Aides*, a high proportion considering there are 26 ANZSCO Level 2 occupations at Skill Level 4 (Australian Bureau of Statistics 2006, 2016).

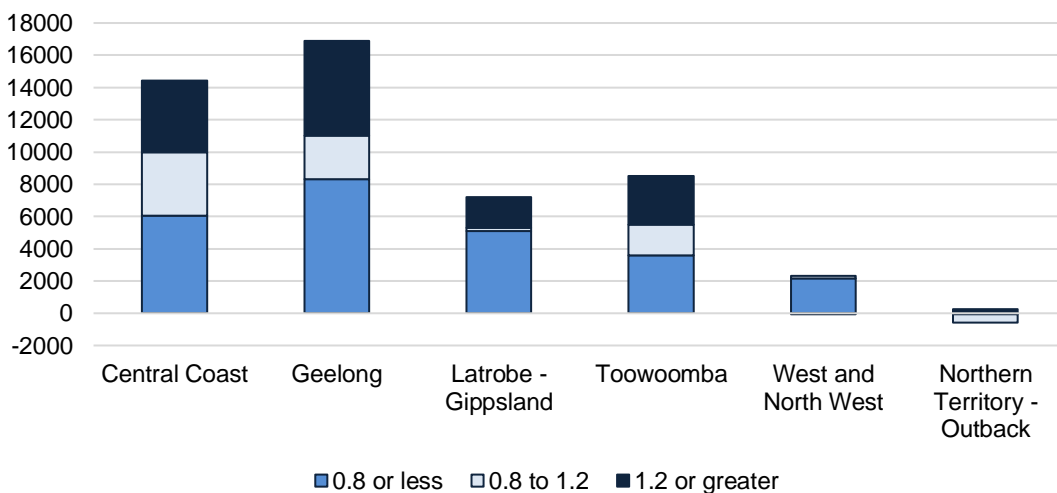


Figure 28: Income distributions of employment growth, six study regions 2011-2016

Source: Australian Bureau of Statistics (2011), Australian Bureau of Statistics (2016), study region place of employment by SA4.

The polarisation within the study regions is depicted in Figure 28, which shows the number of people employed in industry sectors where the ratio of average sector income to total average income across the regions is less than 0.8, between 0.8 and 1.2 and greater than 1.2. In each of the regions, most additional employment was at an income below 0.8 times the average, except NT Outback, where the only positive sector was the income ratio of greater than 1.2, and middle band income employment in West and Northwest Tasmania actually declined.

As well as the indication from Section 4.2.1 that larger population settlements are increasing in population faster than smaller ones, this analysis suggests that higher paid and skilled employment is concentrating within the larger settlements in the regions. This provides further evidence of the trends towards specialisation and higher skilled employment in regional cities across non-metropolitan Australia, which has been occurring for much of the last century (Bureau of Infrastructure Transport and Regional Economics 2014) and also recalls the activity centre hierarchies and trade areas analyses of Christaller (1933 [1966]) and Lösch (1940 [1954]).

7.3 Government Payment Recipients

The trends towards income polarisation and the move towards more equal gender representation in the workforce indicates that there may be greater polarisation in household incomes as well as social ramifications (cf. Broomhill & Sharp 2004). That is, it is possible that as a result of the workforce transitions that there are less one-worker households and more two-worker and no-worker households. A further exacerbating factor is the propensity for households to comprise of people with similar levels of skills and employment attributes, reinforcing household polarisation by concentrating the benefits of highly-paid employment in fewer households.

Figure 29 indicates the number of residents in the study regions that receive payments from the Department of Social Security (De Silva & Banks 2020).

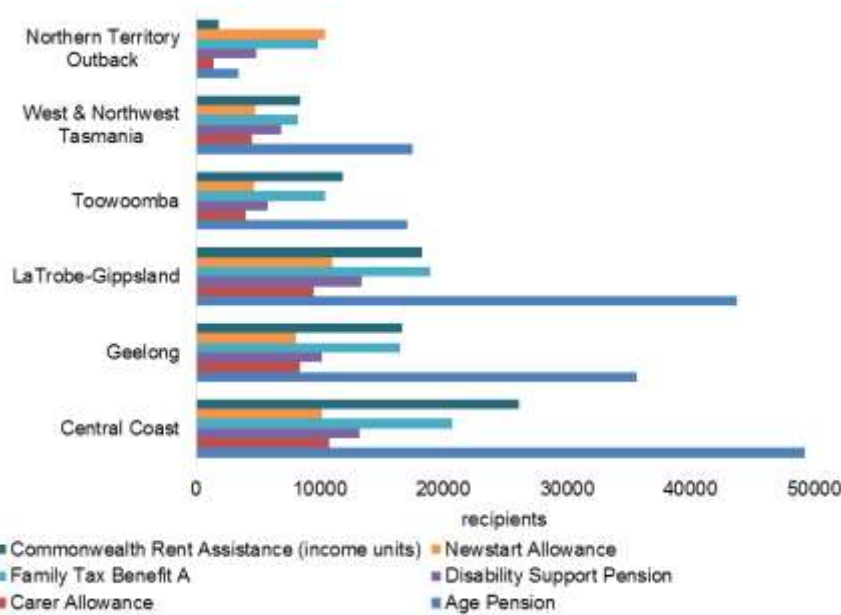


Figure 29: Income support payment receipt March 2019

Source: De Silva & Banks 2020, Data.gov.au, (Department of Social Services 2019)

While the highest numbers of Age Pensioners were living in the Central Coast (49,272), Latrobe-Gippsland (43,753) and Geelong (35,678), except for the NT Outback the proportion of residents aged over 65 receiving Aged Pensions was consistent at approximately 70 per cent.

NT Outback is also an outlier in Newstart Allowance payments, as it has the greatest number of resident recipients, at 10,450, as well as the smallest population of the study regions. Of the other regions, Latrobe-Gippsland and West and Northwest Tasmania had 7 per cent of residents receiving Newstart, compared to 5 per cent for the other regions.

The regions also have different trajectories of Newstart allowances, as shown in Figure 30 below also reproduced from *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020). The Central Coast and Geelong have had declining numbers of recipients in recent years, while the NT Outback and Latrobe-Gippsland have been increasing, and there is a notable seasonality with the NT Outback in particular.

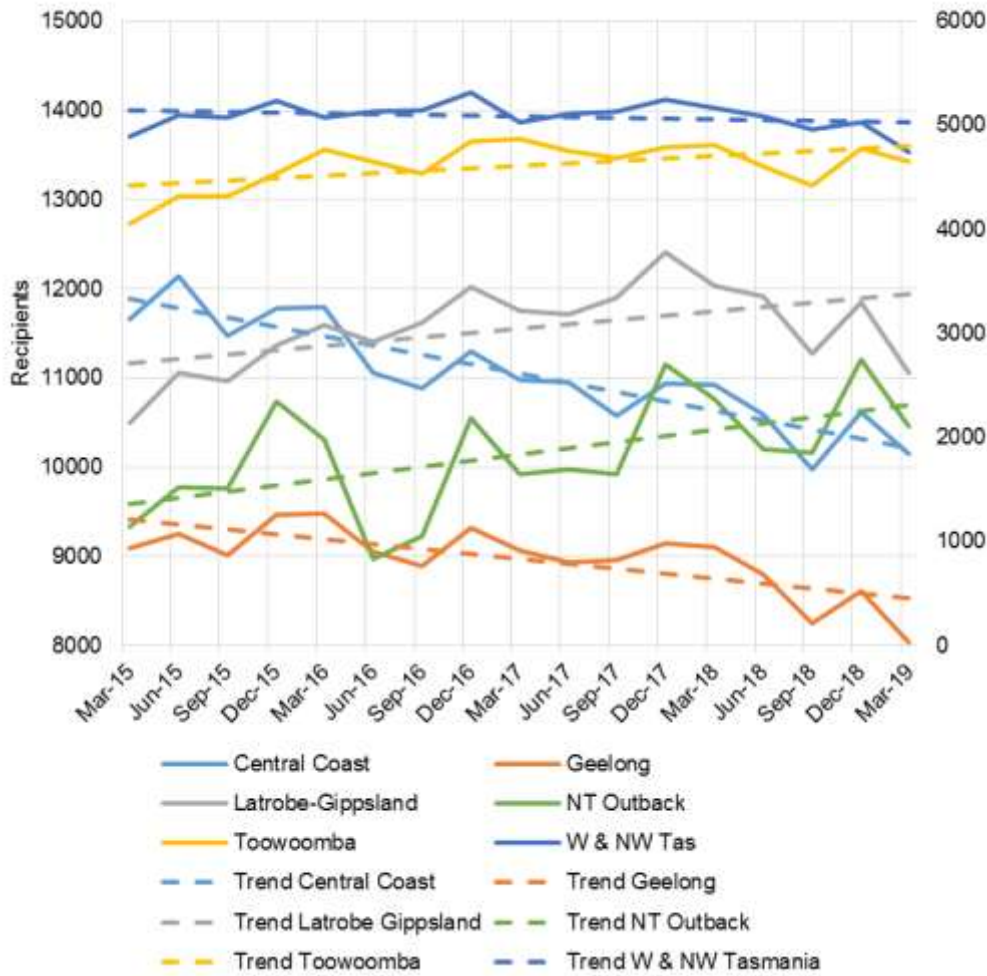


Figure 30: Newstart recipients by region

Source: De Silva & Banks (2020), Data.gov.au, DSS Payment Demographic Data (Toowoomba and W& NW Tasmania right side axis).

The seasonality of the Newstart Allowance payment data in Figure 30, with notable peaks in December, also provides the basis for further investigations into the temporality of employment and income support payments in regions, as well as mobility responses. Investigations into the role of Newstart Allowances enabling workers to remain in regions during seasons of low or no work, and therefore allowing industry to maximise production at peak times, would provide important insights into the functioning of regional labour markets and the role of government support. As *Day-to-Day insecurity of low-income regional households and labour markets* reports:

Less widely-recognised is that Newstart Allowance and similar payments increasingly support the working poor. Rather than a bridging payment between jobs, NSA plus work is becoming the norm for a significant number of people existing at the interface of the welfare and labour markets (De Silva & Banks 2020: 14).

Also, connections between the propensity for people to move for employment and training opportunities as a pathway out of welfare dependency also has implications for regional development policy. Therefore, the data analysis of De Silva and Banks (2020) provides a crucial foundation for further research into the intersection of employment markets and government support payments.

Additionally, there are differential patterns within regions, which also must be taken into account. *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020) provides data on Newstart Allowance recipients by SA2 within the Latrobe-Gippsland study region.

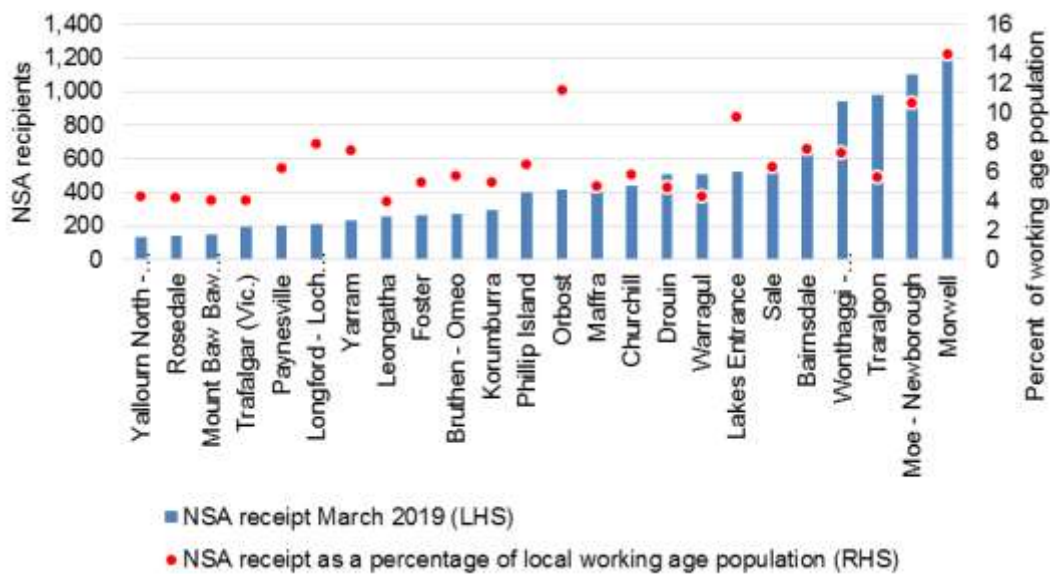


Figure 31: NSA receipt within the Latrobe-Gippsland Region

Source, De Silva and Banks (2020). ABS, 1410.0 - Data by Region, 2013-18, Population and People, data.gov.au, Department of Social Services (2019).

While the number of recipients is related to the overall population within each SA2 – for example the four on the right of Figure 31’s x-axis are the largest by population - there is some variation in the proportion (indicated by the red dots).

The data indicates that there is a wide variation in unemployment within Latrobe-Gippsland, even within SA2s located alongside one another. In particular, it is only 22 kms to travel from Moe through Morwell to Traralgon, yet the proportion of Newstart recipients in Traralgon is significantly lower than the other two SA2s. Further investigation of the interconnection of the housing and employment markets with unemployment within these closely located population centres within Latrobe-Gippsland would provide further insights into regional experiences of precarious and polarised employment.

Orbost had the highest unemployment rate in the region, which may be a result of the drought conditions in the region, as agriculture is a major industry sector in East

Gippsland. Also, the region's timber and sawmilling industry has been in decline in recent years (Ferguson 2015). The Orbost SA2 is also larger in area than the three central SA2s discussed above, indicating that any sorting mechanisms that may be occurring between locations may not lead to the differences in Newstart Allowance recipients as shown in Moe, Morwell and Traralgon.

An analysis at SA2 level provides a greater understanding of trends within communities (De Silva & Banks 2020). Particularly for a region as wide and diverse as Latrobe-Gippsland, there are widely different economic and social trajectories at play. This includes geography as discussed above in Section 4.2.3, as the region extends from near to the eastern boundary of Melbourne to the coast at the Victoria-New South Wales border some 450 kms further east. The implication is that it is necessary to consider these arrangements within regions as well as across regions.

As *Day-to-Day insecurity of low-income regional households and labour markets* concludes, there are further opportunities provided by this research that link to the wider outcomes of this research:

... individual patterns of Income Support Payment receipt, labour market engagements, changes to household composition, and movements into and out of regional areas over the last 18 years. A clearer understanding of how economic insecurity plays out spatially and over time can inform the challenges to regional policy development grappling with questions such as – how is the feminisation of work playing out at the regional level? How are ageing workers engaging in regional labour markets? What people in an area are supplementing their wages with an Income Support Payment? (De Silva & Banks 2020: 38).

As discussed in Chapter 5, there have been increases in female and older workforce participation, particularly in part-time work.

7.4 Summary

From a conceptual standpoint, polarisation is seen as a result of the change associated with the future of work, as discussed by Fairbrother & Denham (2020). Of particular importance is the relationship between digitisation and polarisation, reflecting the routinisation hypothesis (Autor et al. 2003).

Evidence and the implications of employment polarisation recurs throughout the reports that comprise the 2019 research. It is a central conclusion drawn from the employment data within *Diversity and Growth in Regional Development* (Toner & Douglas 2020), which includes evidence of increasing part-time employment, wage differentials and the concentration of economic development in the more populous regions, both within the six study regions and in comparison to Australian trends. Spatial employment polarisation

can be seen as a driver of youth mobility, as discussed in *Factors in Regional Mobility* (Denham 2020a).

Social security payments in Australia have shifted alongside changes to jobs, work and employment (Section 2.3.4). In particular, government payments are seen as a support for transitions between work and unemployment as well as for the underemployed and those described as ‘the working poor’. Therefore *Day-to-Day insecurity of low-income regional households and labour markets* (Toner & Douglas 2020) provides foundational insights into the prevalence of government support payments in the study regions. The detailed analysis of the Latrobe-Gippsland region indicates the fragmentation of the regions, via the range of proportions of government support payments.

It is also evident that the jobs being created were mainly at the low-skill end of the opportunities in Health and Community Services, and that there were few opportunities in traditional regional industries (Denham & Fairbrother 2020). The propensity for TAFE training to provide pathways into employment is also important in this context, as local providers respond to both the demands of communities and industry.

8 Conclusion

The research program brings to light major trends in regional jobs, work and employment over the decade from 2006 to 2016. It reveals changes to the industries and occupations that provide jobs impact on workforces and households. These developments have implications for policy, for institutions and for regional communities. The conclusions present further insights into the regional jobs puzzle, informing policy on the challenges and opportunities within regional Australia.

While this report provides a thematic response to the research questions that guide the report, in turn it is based on and derives its analysis from the four work packages that constitute the research program.

8.1 Addressing Jobs, Work and Employment

The research highlights major restructuring of regional job, work and employment over the decade from 2006 to 2016. It is likely that these changes have been occurring in the years prior to 2006, and given the prospects for the future of work outlined in *Regional implications of the uncertainties about jobs, work and employment* (Fairbrother & Denham 2020), it is likely that these trajectories will continue.

The 2019 research program has brought to light changes to regional jobs, work and employment. The detailed analysis of the types of jobs being created indicates that they are largely part-time and, in many cases, low-skilled, which conforms with polarisation and routinisation hypotheses. In essence, the transitions in regional jobs, work and employment have provided more and different cohorts of people with work, but of lower quality. It is of note that this intersects with arguments regarding the gender pay gap, that work associated with female employment is undervalued. However, it can be argued that the increase in low quality work is a better situation than no employment growth, which also underpins the importance of the social security and training systems in supporting people's employment connections and transitions.

From a policy perspective, four main points are made.

1. Employment within or subsidised by the public sector has become pivotal in the provision of employment in the regions, also a prevailing trend in Australia. Employment in health and related industries is likely to continue to increase as a result of the NDIS, as well as in education and training due to the rise in post-secondary qualifications. Thus, regional prosperity has become increasingly contingent on government's willingness to fund service provision.
2. An underlying issue from this conclusion is that regional employment is increasingly disconnected from regional productivity. This process has been

occurring for some time in agriculture and as a result in some regions increased productivity has been at the expense of employment. The move to higher productivity in mining through robotic and remote controlled machinery has similar implications. For policy, it means that interventions that are intended to increase productivity are not necessarily a direct analog for interventions to increase jobs.

3. The change in the demographic composition of the workforce, in terms of gender and age, indicates that rather than workers transitioning between industries and jobs, it is more likely that people are falling out of employment while others are entering or re-entering the workforce. Social security and regional training provision are vital supports for individuals and households moving through and responding to transitions in regional jobs, work and employment. Therefore, policy for training and social security provisions needs to take into account how they facilitate people moving into employment and respond to change.
4. There is variation in the regions, and therefore policy to create jobs, work and employment needs to be responsive to regional differences. This also underscores to the need for place-based regional development interventions.

8.2 Regional Diversity

The diversity in trends and circumstances within the study regions aligns with the place-specificity of the regional jobs puzzle, and thus policy needs to take into account the variations in local needs, opportunities, institutions and capacities. To view this point from another perspective, policy cannot be a-spatial in its effect: the resulting changes to jobs, work and employment will not be uniform across and within metropolitan and non-metropolitan regions. This conjecture also means that spatially-blind regional development policies have place-specific effects, as they will shift locations of opportunity and advantage across regions.

Regional diversity also raises questions about the intent of regional development policy. If the point of regional policy intervention is to diminish the gap between regional and metropolitan prosperity, then questions as to whether nominally regional locations such as Geelong and the Central Coast, which are of similar circumstances to outer suburban metropolitan areas (Archer *et al.* 2019), should be a focus of regional development policy needs to be questioned.

8.3 The Regional Jobs Puzzle

This research has elucidated a political economy of regional jobs, with the relationships between demography, training, social security and jobs, work and employment evident in the work packages. The ageing of the population is a factor in both the increase in jobs in Health and Community Services and the changing demography of the regional workforce, as discussed in *Diversity and Growth in Regional Development* (Toner & Douglas 2020). Older populations mean more workers are required in jobs such as aged care and health; sectors that predominantly employ females. The regional workforce also has an increased proportion of people aged over 50 years, which is also a result of the ageing regional population. Additionally, *Factors in Regional Mobility* (Denham 2020a) highlights that retirement is associated with migration, particularly to high-amenity regions, and thus will be contributing to ageing in some regional locations.

Job opportunities are also a factor in migration patterns (see Trendle 2009 for example), indicating that regional population increases may occur as a result. Training demand is an obvious connection, as it facilitates the take-up of the new job opportunities. Given that a large proportion of the increases in jobs in the Health and Community Services sector have been part-time, it is likely that greater proportions of the workforce are supported by government support payments. *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020) reports that the study region populations receiving Newstart Allowance payments fluctuate, indicating the role they play in supporting regional workforces through the labour market ebbs and flows associated with industrial changes.

Labour markets are being reconstituted by a variety of internal and external factors. For example, the decline in manufacturing employment represents a direct change to regional jobs, work and employment as a result of increasing global influences and competition policies since the 1970s (Dicken 2011; Pacione 2005). This decline can be seen as a prominent factor in the West and Northwest Tasmania regional jobs puzzle, as outlined in *Lock-in and Learning* (Barton *et al.* 2019), as well as the demographic and economic factors in *Diversity and Growth in Regional Development* (Toner & Douglas 2020) and *Day-to-Day insecurity of low-income regional households and labour markets* (De Silva & Banks 2020). The task is to explain these developments and identify the drivers of change.

8.4 Final Remarks

The quantity and range of high-quality of work on offer in regional areas is likely to have an effect on people's willingness to migrate out of metropolitan regions. As people's working lives become more complex and less linear in their progressions, that is more frequent job changes as well as change in careers, the number and range of jobs on offer is important in addition to the current opportunities. This represents a major challenge for policy and interventions related to jobs, work and employment in regional areas.

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