

The future of work in Tasmania: pre COVID-19 and post COVID-19

A PRESENTATION TO THE TASMANIAN LEADERS PROGRAM

JULY 2020

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Overview

- ❖ Changing nature of work
- ❖ Tasmania's workforce – pre-COVID-19
 - ❖ Workforce polarisation
 - ❖ Educational attainment structure
 - ❖ Future projections
- ❖ COVID-19 impact on the workforce
- ❖ Tasmania's workforce – post COVID-19
 - ❖ GFC comparison



Changing nature of work – context

In public discourse the changing nature of work is largely attributed to the Fourth Industrial Revolution and technological advancement

- History repeats itself
- a long wave transformation which takes place over half a century, give or take a decade
- Defined as *'the vast diffusion of what was once an invention into a socio-economic phenomenon'*
- must have the capacity and capabilities to profoundly transform the rest of the economy and, eventually, society
- needs a shift in the techno-economic paradigm which will eventually culminate in a *'great surge of development'*
- industrial revolution scholars suggest we are actually in the midst of the fifth industrial revolution
 - Mechanisation - 1770s
 - steam and railways - 1830s
 - steel, electricity and heavy engineering - 1875
 - oil, automobile and mass production - 1908
 - information technology and telecommunications since 1971

Phase 1 – Installation period/Job destruction

Incremental/process innovation, associated with take up of new technologies, adoption or imitation, by businesses and industries, in quest to reduce costs, increase efficiencies, productivity, competitiveness, market share etc

Phase 2 – Adjustment period/turning point

- is characterised by unintended consequences such as increasing job and skill mismatches, obsolescence of qualifications and training, unemployment, income and wealth polarisation, jobless economic growth and within nation economic and social divergence
- Associated resistance to change, distrust, inertia, social dislevel, rising inequality, regional disparities and economic stagnation
- Becomes a critical issue/crisis point which requires socio-political intervention
- Not a passive process and cannot be left to the markets to determine
- Requires new institutional framework, which needs to be shaped by government regulation and policies
- The level of political consensus, conflict or confusion strongly influences the speed and the ease or difficulty with which the surge of development and growth is established

Phase 3 – Deployment period/Job creation

- Whereby the full benefits of the technological revolution are spread across the economy and society
- Requires a new socio-political paradigm to fully realise the growth potential associated with each new techno-economic opportunity
- Lasts as until new technology is invented and starts the diffusion process

To progress to the job creation phase, the increasing mismatch between the economy and the regulatory systems created during the installation phase needs to be resolved.



Changing nature of work - *other factors at play*

- ❖ Globalisation, increasing competitiveness and productivity and resultant offshoring
 - ❖ Routine-biased technological change (RBTC) – replacement of jobs
 - ❖ Skill-biased technological change (SBTC) – complements jobs
- ❖ Rise of the services sector
 - ❖ Increased labour force participation by women
 - ❖ Changes to the social organisation of care
 - ❖ Changing demographics
 - ❖ Consumption patterns – higher disposable income and outsourcing of home services
- ❖ Historical industry structure of a region
 - ❖ Exposure to traditional industries
 - ❖ Diversification process
- ❖ Education
 - ❖ Level of attainment and structure, professionalisation, polarisation, over- and under-education, skill utilisation, mismatch
- ❖ Economic policy and industry policy

Workforce Polarisation

- ❖ An increasingly pervasive feature of advanced nations

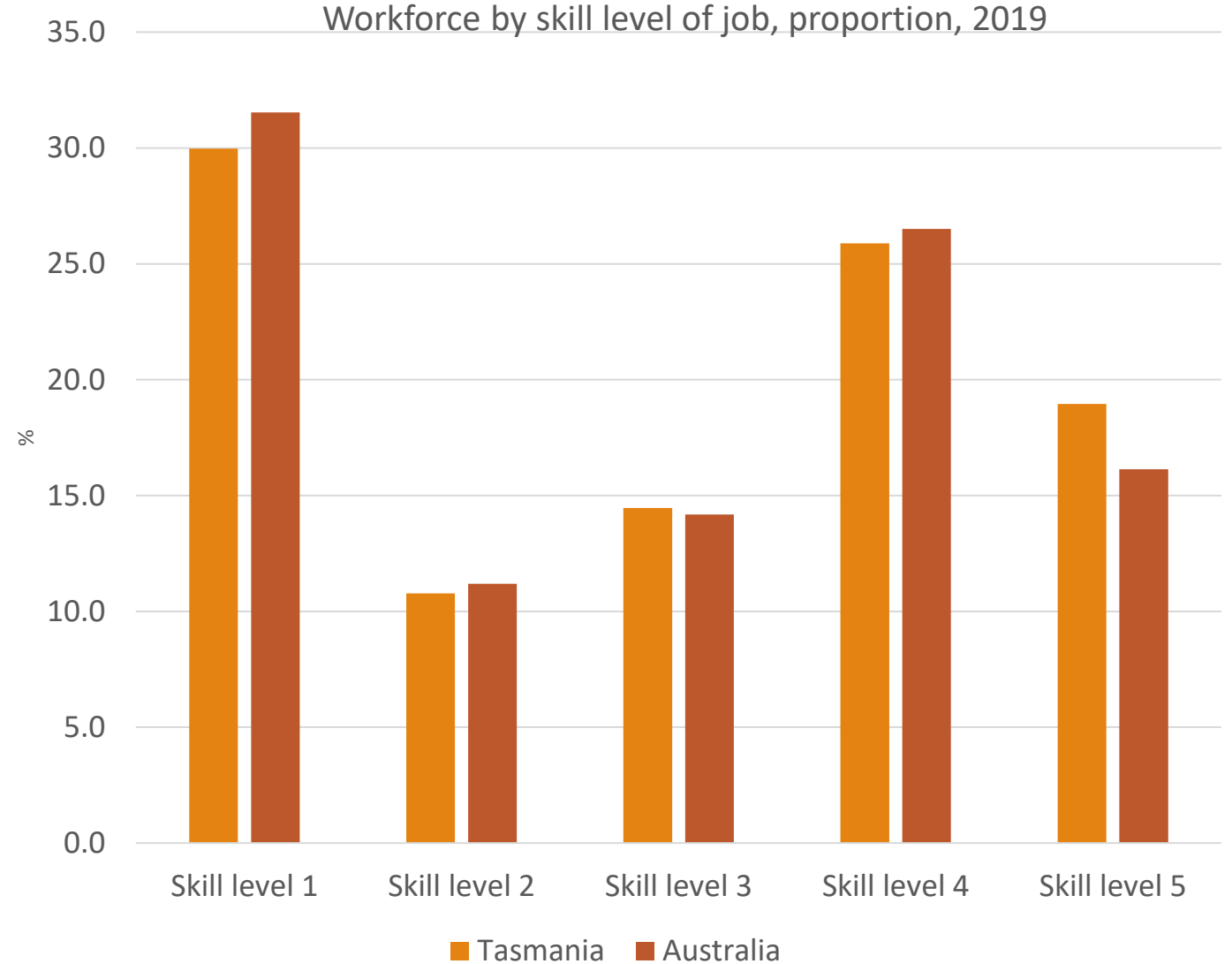
- ❖ Disproportionate employment growth (or change) in the top and bottom of the occupational skill distribution

- ❖ Defined as a pattern of change within the labour market whereby the share of employment in high skill jobs and low skill jobs increases relative to the share of employment in middle (intermediate) skill jobs over time.

- ❖ The emergence of polarisation in the labour market is in contrast to the trend of linear upskilling, or professionalisation, of the populations of advanced economies historically

- ❖ Substantial differences in the experience of polarisation by, and within, jurisdictions suggests there is no single factor to explain the diversity

- ❖ Exacerbated since the GFC

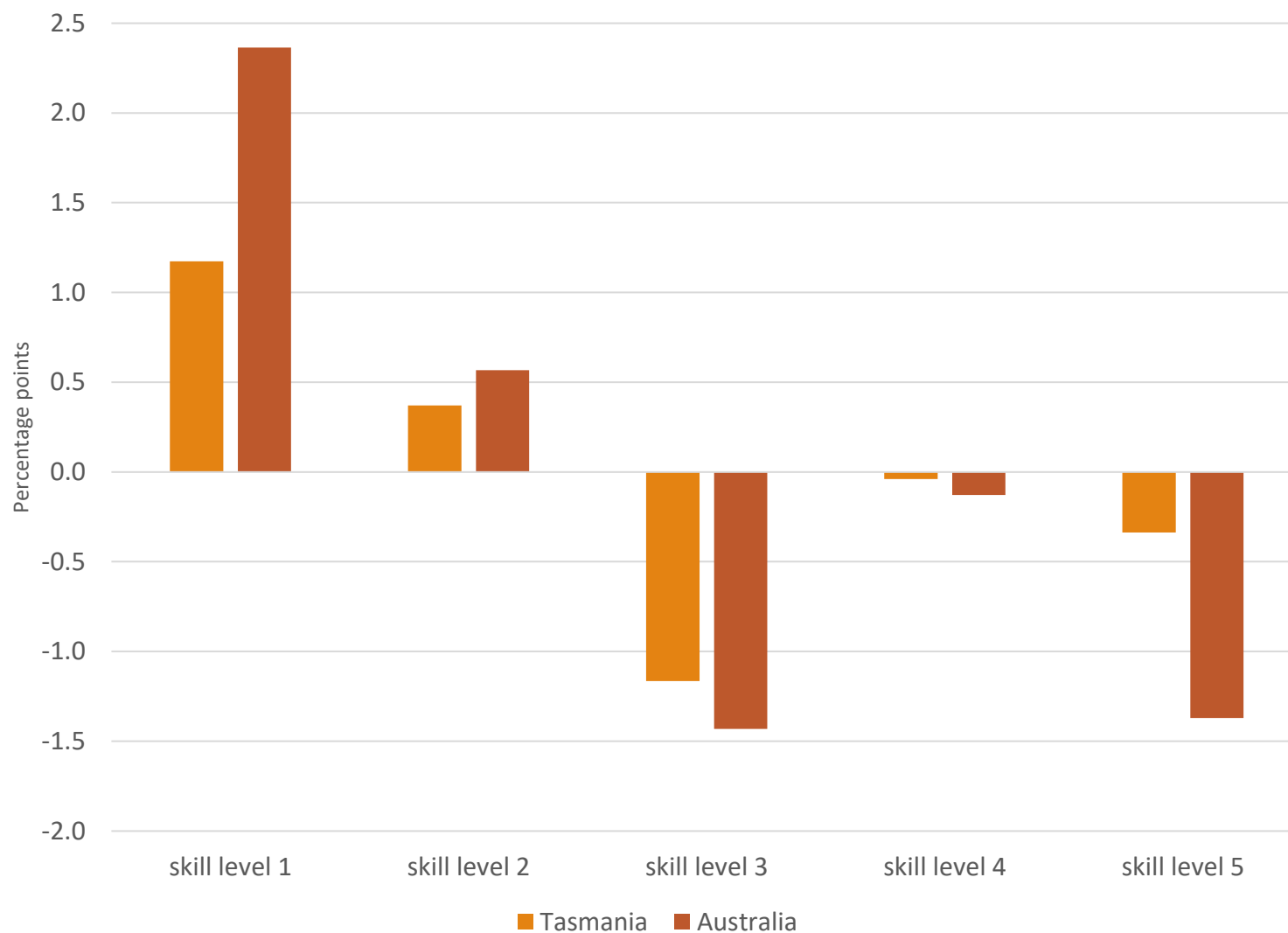


Source: ABS, Education and Work, 2019

Change in share of occupations by skill level

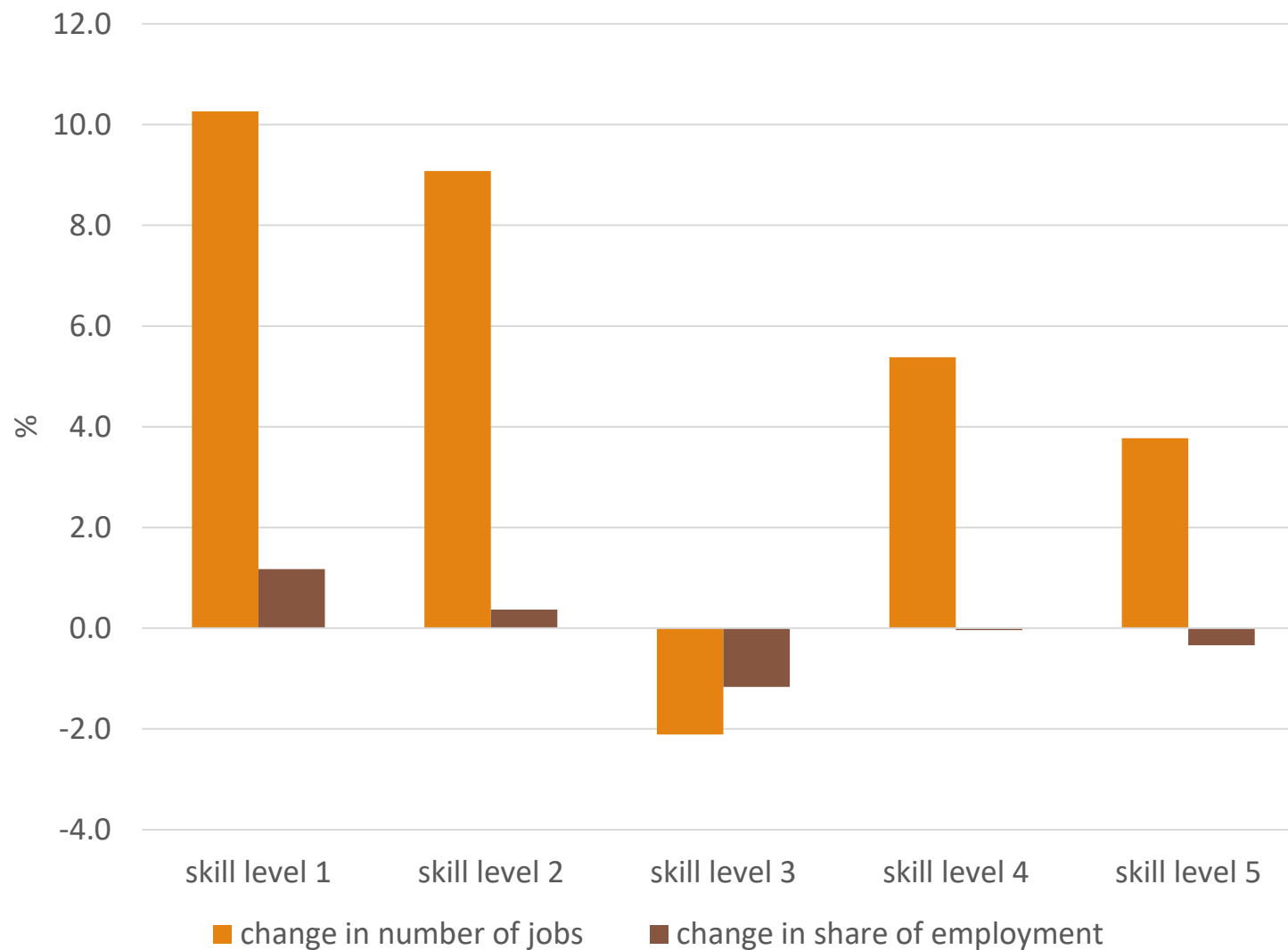
2006 to 2016

- Skill Level 1 is commensurate with a Bachelor degree or higher qualification
- Skill Level 2 is commensurate with an Advanced Diploma or Diploma
- Skill Level 3 is commensurate with a Certificate IV or III (including at least 2 years on-the-job training)
- Skill Level 4 is commensurate with a Certificate II or III
- Skill Level 5 is commensurate with a Certificate I or secondary education



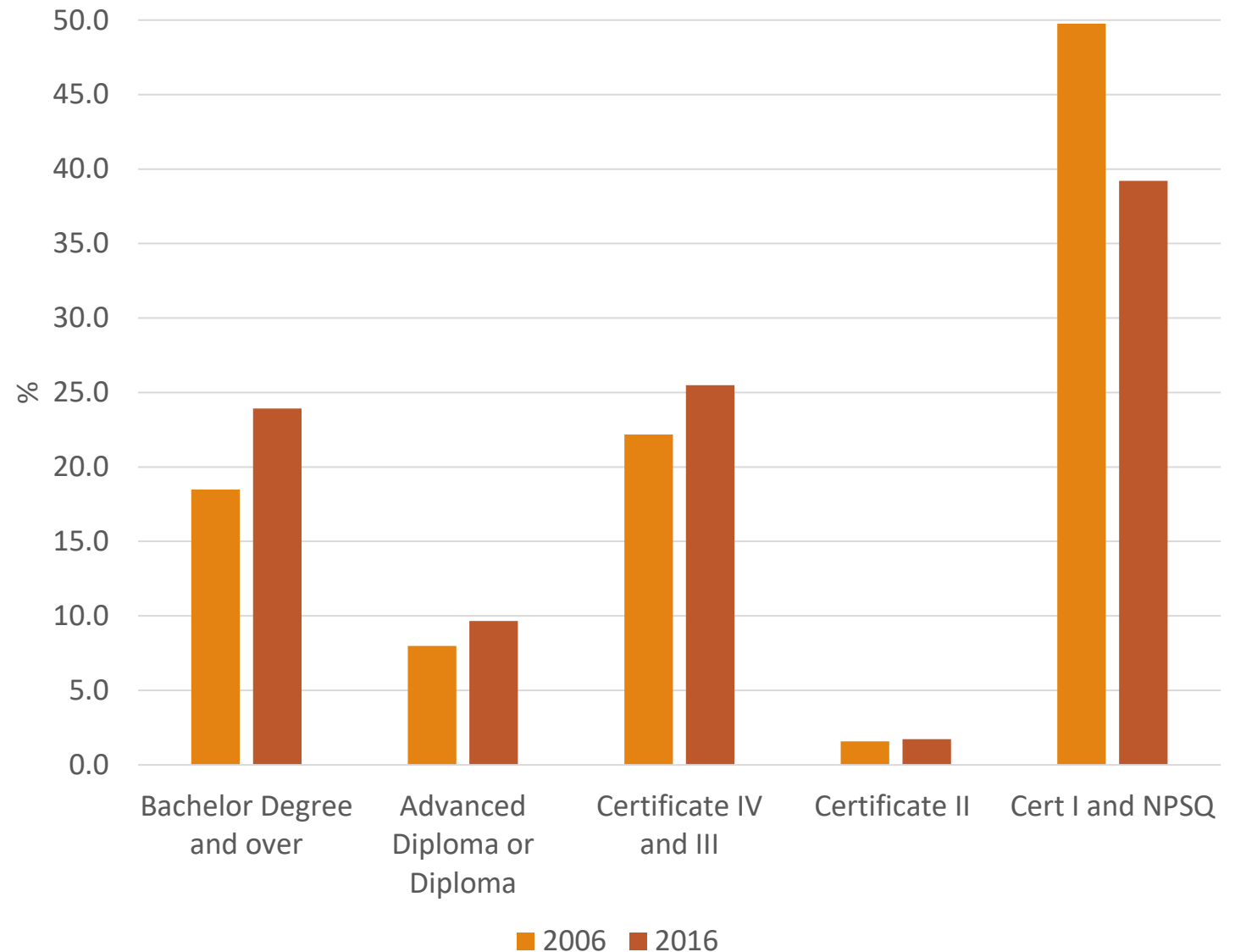
Source: ABS Census of Population and Housing, 2006 and 2016

Change in the workforce by skill level, number and share, Tasmania, 2006 to 2016



Source: ABS Census of Population and Housing, 2006 and 2016

Highest level of educational attainment of the workforce, Tasmania, 2006 and 2016



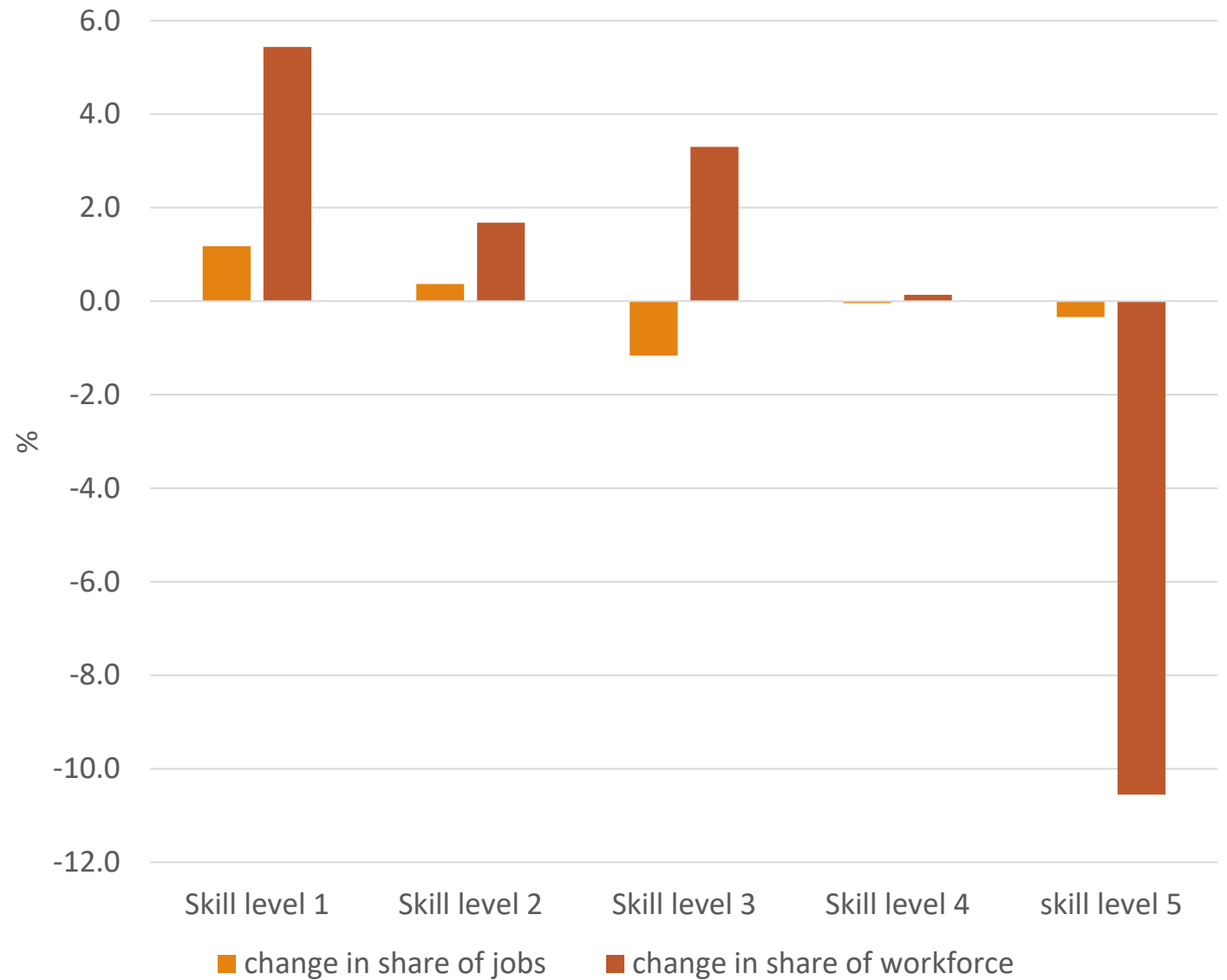
Source: ABS Census of Population and Housing, 2016

Change in the share of jobs and workers, by skill level, Tasmania, 2006 to 2016

Level of education required for the job

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Level of education attained by worker



Source: ABS Census of Population and Housing, 2016

Implications of workforce polarisation

❖ Threatens productivity, social mobility and inclusive growth

Associated with:

- ❖ Increases in non-standard forms of work
- ❖ Differences in hours of work between skill levels
- ❖ Low wage growth
- ❖ Widening inequality
- ❖ Increasing levels of over-qualification, education and skill mismatch
- ❖ Increasing under-employment
- ❖ Reduced opportunities for young people , graduates and new workforce entrants to enter the labour force
- ❖ Limited opportunities for upward career progression from lower-skilled jobs



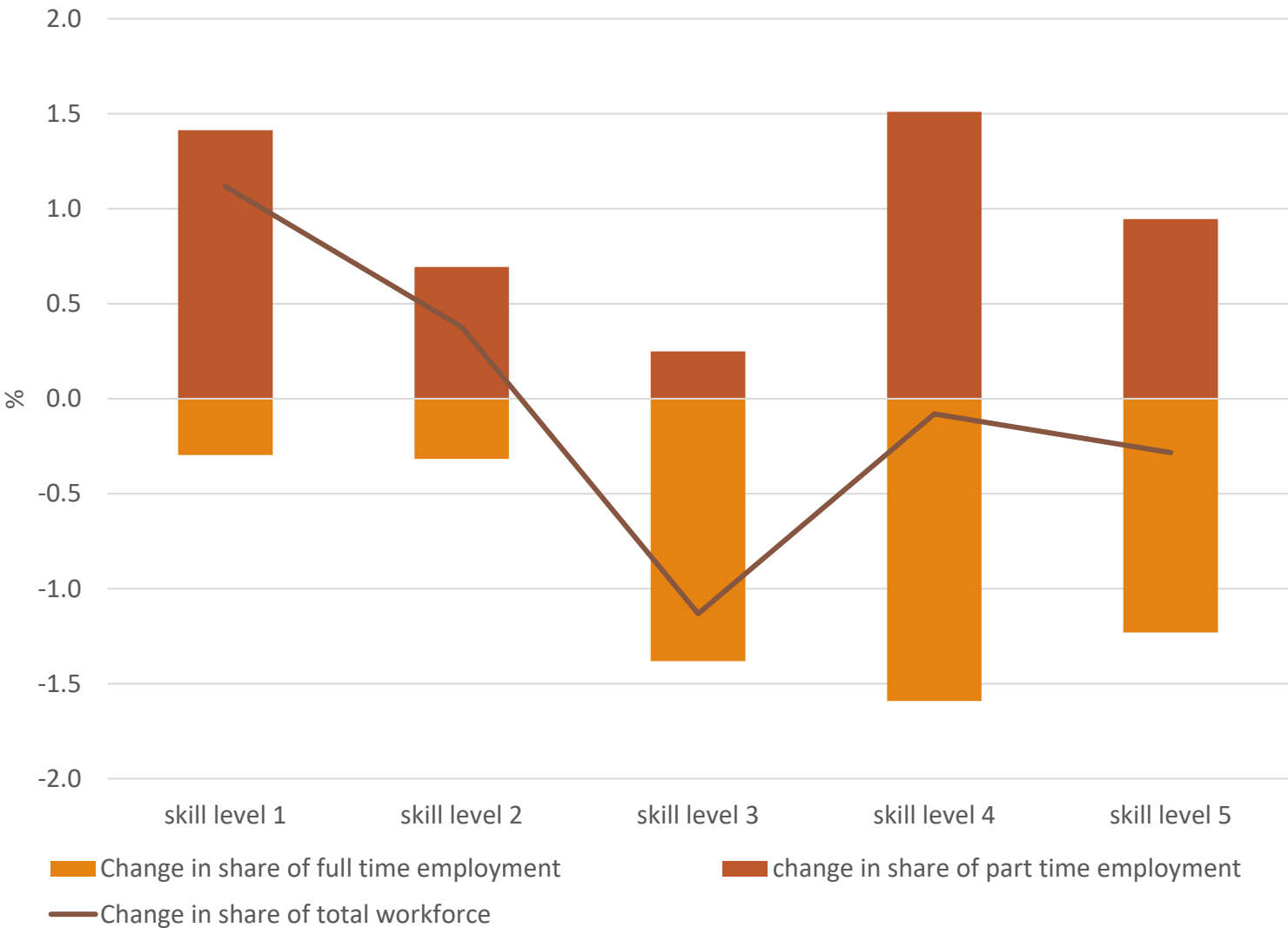
Tasmania: Workforce by occupation skill level and educational attainment, 2016

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	Bachelor Degree and over	Advanced Diploma or Diploma	Certificate IV and III	Certificate II	Cert I and NPSQ
Skill level 1	63.0	11.4	11.2	0.4	14.0
Skill level 2	21.6	20.1	23.8	1.5	33.1
Skill level 3	5.1	6.6	59.2	1.4	27.7
Skill level 4	9.1	9.7	28.5	2.3	50.4
Skill level 5	4.9	3.9	16.0	3.2	72.0

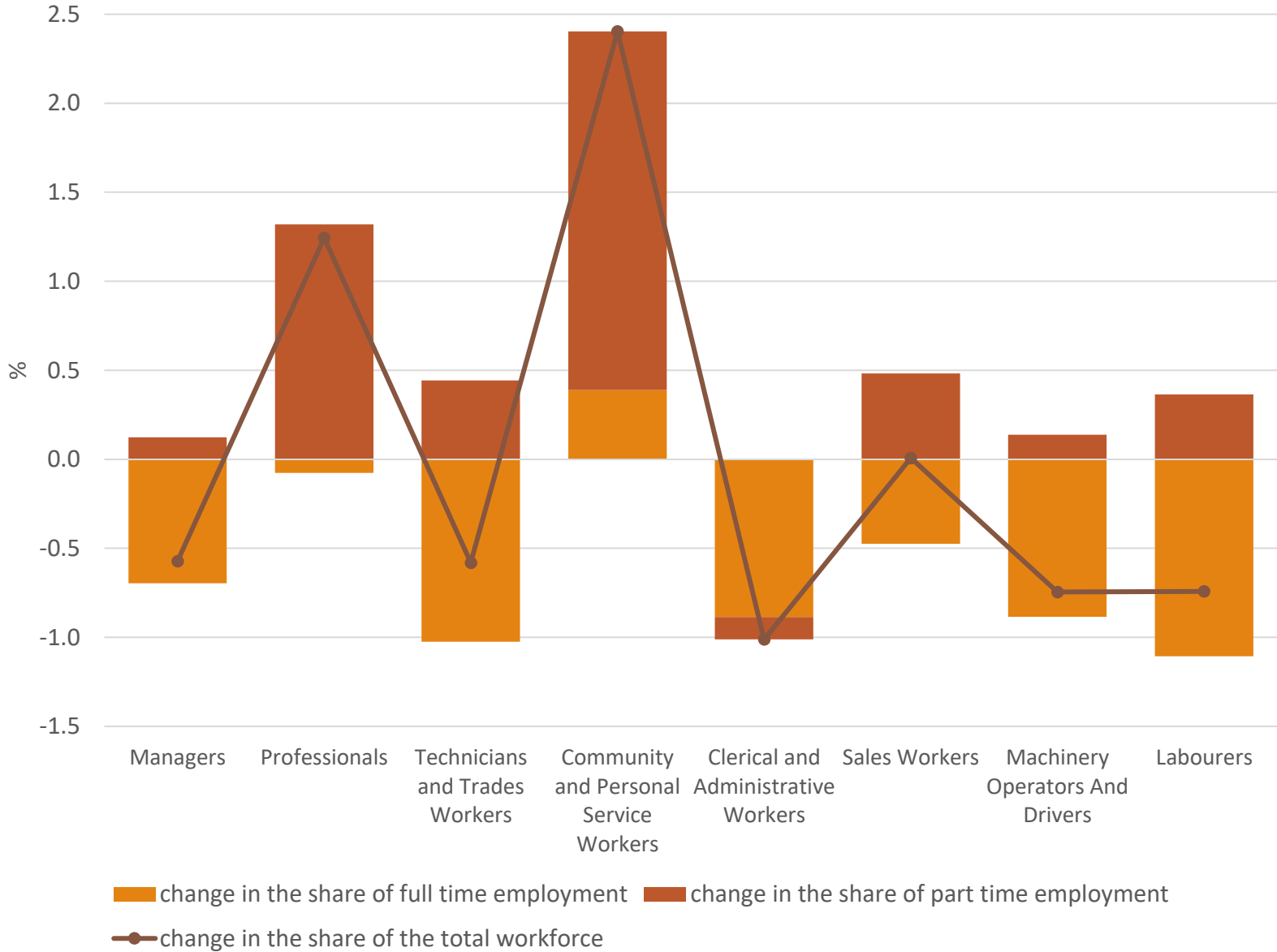
Source: ABS Census of Population and Housing, 2016

Tasmania: Change in share of employment by labour force status 2006 to 2016



Source: ABS Census of Population and Housing, 2006 and 2016

Change in share of employment by labour force status, 2006 to 2016



Source: ABS Census of Population and Housing, 2016

Occupational changes, Top 20 increases and decreases, 2006 to 2016, Tasmania

Increase			Decrease		
	No.	Skill level		No.	Skill level
Aged and Disabled Carers	1,841	4	Secretaries	-883	3
Sales Assistants (General)	1,421	5	Livestock Farmers	-754	1
Registered Nurses	726	1	Retail Managers	-686	2
Chefs	622	3	Metal Fitters and Machinists	-509	3
Education Aides	613	4	Forestry and Logging Workers	-387	4
Kitchenhands	496	5	Sales Assistants and Salespersons, nfd	-369	5
Checkout Operators and Office Cashiers	467	5	Timber and Wood Process Workers	-365	5
Enrolled and Mothercraft Nurses	456	2	Corporate Services Managers	-362	1
Construction Managers	444	1	Sales Representatives	-316	4
Nursing Support and Personal Care Workers	435	4	Textile and Footwear Production Machine Operators	-292	4
Domestic Cleaners	406	5	Bank Workers	-276	4
Child Carers	395	4	Food and Drink Factory Workers	-274	5
Cafe Workers	374	5	General Clerks	-273	4
Bar Attendants and Baristas	359	4	Other Cleaners	-258	5
Commercial Cleaners	345	5	Manufacturers	-249	1
Waiters	318	4	Paper and Wood Processing Machine Operators	-240	4
University Lecturers and Tutors	310	1	Mixed Crop and Livestock Farmers	-225	1
Generalist Medical Practitioners	291	1	Metal Engineering Process Workers	-203	5
Receptionists	289	4	Other Factory Process Workers	-198	5
Electricians	275	3	Engineering Production Systems Workers	-194	4

Educational Attainment Structure (EAS)

- Conceptualised by the International Labour Organisation (ILO)
 - Provides a framework for linking education and skills to economic development and industry structure
 - Defined as the share of the labour force by highest level of educational attainment
 - Further defined by shape along a bell curve
 - Explains the knowledge base of different labour forces
 - explains differences in industry structures and economic performance
 - holds for both developing and developed countries.
 - Argues that capabilities to innovate and develop new products are influenced by the particular mix of educational, vocational and technical competencies, which increase with the diversity and complexity of the knowledge sets embodied in the labour force.
- Two key types:**
- ‘Strong middle’ EAS are those with relatively higher shares of vocational and technical education and training.
 - provides the widest range of options for developing and diversifying industry structures associated with a technological revolution.
 - Associated with a strong manufacturing sector
 - Enables innovation – to invent and design new products and services rather than just copy
 - ‘Missing-middle’ EAS are polarised and present with relatively lower shares of vocational and technical education but higher shares of schooling and tertiary education.
 - provide limited options for advancing technological revolutions as the labour force lacks the broad supply of complementary occupations required in addition to tertiary qualified managers and professionals.
 - The relatively higher tertiary education share provides options to develop advanced services such as research and development, finance, tourism, ICT enabled services, and administrative services

Educational Attainment Structure

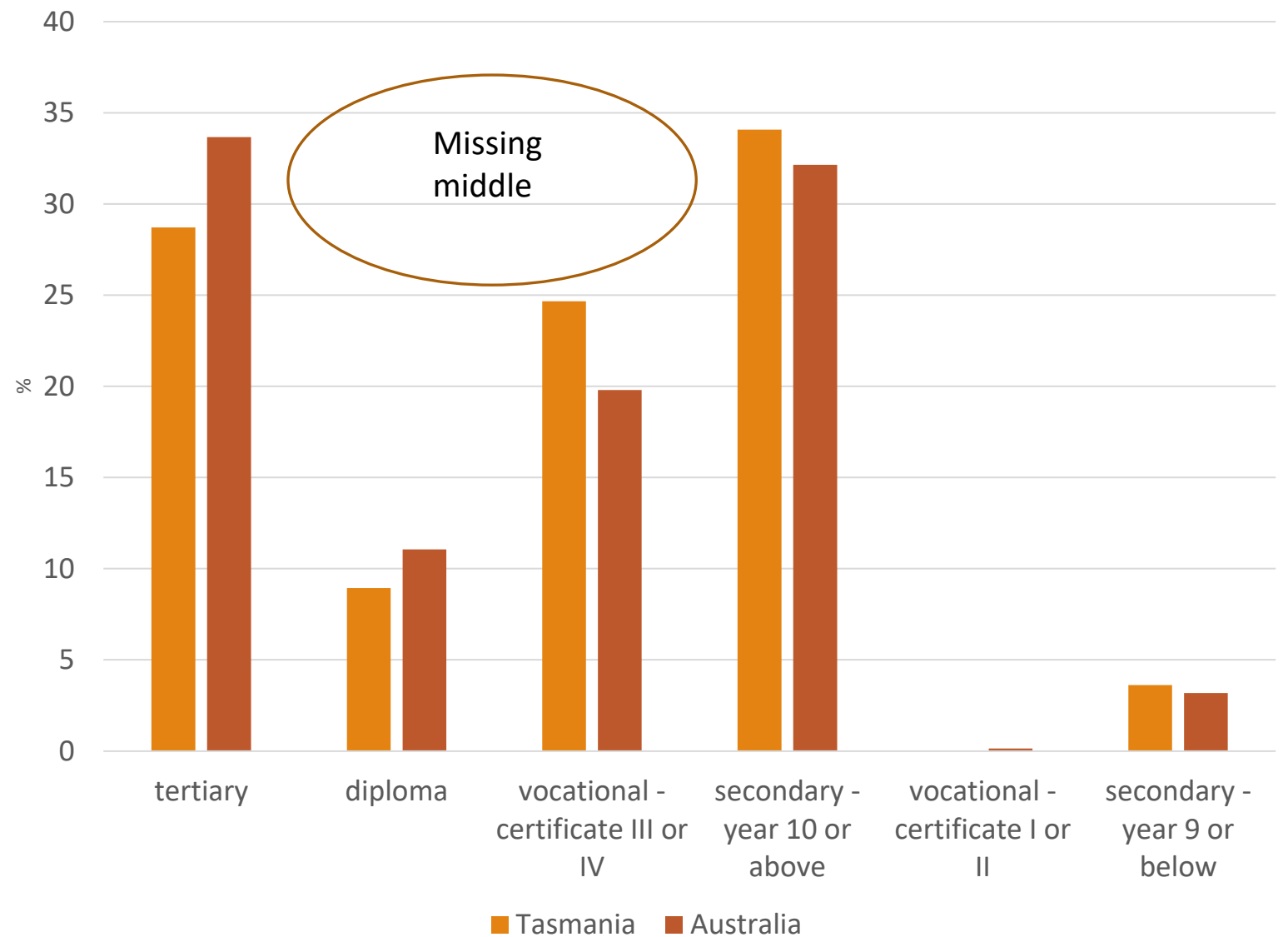
Australia's EAS constrains its ability to innovate and diversify its industry base beyond a services-based economy.

Missing middle EASs provide limited options for advancing technological revolutions as the labour force lacks the broad supply of complementary occupations required in addition to tertiary qualified managers and professionals.

Missing middle countries are limited in expanding their manufacturing base, and industrialise by expanding sophistication in services and adopting incremental innovation but are unlikely to achieve the same level of advancement as a strong middle nation.

- Good at imitation, adoption, process/incremental innovation but not invention or product innovation

Educational Attainment Structure, Labour Force, 2019



Source: ABS, Education and Work, 2019

Projections of the future of work: Australia

TOP 25 JOBS GROWTH (47.5% OF ALL JOBS)

skill level		Number	share of change	% growth
5	Sales Assistants (General)	56157	5.2	11.8
4	Aged and Disabled Carers	35441	3.3	20.0
4	Child Carers	35305	3.3	23.2
1	Registered Nurses	30840	2.9	11.0
2	Chefs	24008	2.2	23.8
1	Construction Managers	20719	1.9	23.9
1	ICT Managers	19464	1.8	40.2
4	Bar Attendants and Baristas	18626	1.7	17.3
1	Management and Organisation Analysts	18471	1.7	22.2
4	Education Aides	18169	1.7	16.5
1	Software and Applications Programmers	17879	1.7	13.2
3	Electricians	16829	1.6	12.0
4	Receptionists	16753	1.6	9.2
1	Advertising and Marketing Professionals	16729	1.6	20.5
4	Nursing Support and Personal Care Workers	16622	1.5	18.2
5	Kitchenhands	16223	1.5	11.8
1	Advertising, Public Relations and Sales Managers	16182	1.5	10.0
2	Contract, Program and Project Administrators	16122	1.5	13.8
2	Office Managers	15654	1.5	9.4
1	Accountants	15360	1.4	7.8
1	Primary School Teachers	14490	1.3	9.0
2	Architectural, Building and Surveying Technicians	14332	1.3	18.6
4	Waiters	14029	1.3	10.4
4	Truck Drivers	13392	1.2	6.7
5	Domestic Cleaners	13233	1.2	38.1

TOP 25 JOB LOSSES

Skill level		Number	Share of change	% change
3	Secretaries	-32738	-3.0	-77.4
1	Mixed Crop and Livestock Farmers	-11414	-1.1	-40.6
1	Livestock Farmers	-10502	-1.0	-11.0
1	Corporate Services Managers	-9564	-0.9	-75.0
4,5	Sales Assistants and Salespersons, nfd	-9322	-0.9	-37.3
1,2	Managers, nfd	-7804	-0.7	-816.4
4	Sales Representatives	-6676	-0.6	-7.6
5	Product Assemblers	-6325	-0.6	-23.7
1	Manufacturers	-5123	-0.5	-22.4
1	Engineering Professionals, nfd	-5100	-0.5	-38.8
5	Metal Engineering Process Workers	-4628	-0.4	-36.7
4	Bank Workers	-3948	-0.4	-7.7
3	Printers	-3623	-0.3	-28.7
4	Engineering Production Workers	-3559	-0.3	-18.9
4	Keyboard Operators	-3286	-0.3	-5.1
4	Sewing Machinists	-3229	-0.3	-44.1
5	Other Clerical and Office Support Workers	-3101	-0.3	-44.9
3	Electronics Trades Workers	-2911	-0.3	-11.3
3	Toolmakers and Engineering Patternmakers	-2875	-0.3	-87.9
4	Machine Operators, nfd	-2705	-0.3	-29.3
1	Crop Farmers	-2620	-0.2	-6.0
5	Other Factory Process Workers	-2484	-0.2	-18.2
2	Building and Engineering Technicians, nfd	-2281	-0.2	-65.7
5	Telemarketers	-2268	-0.2	-41.2
5	Cleaners and Laundry Workers, nfd	-2068	-0.2	-19.2

The Future of Work: pre- COVID-19

Based on the assumptions of no policy intervention in relation to employment and that historical trends will continue in terms of employment composition.

Projected employment growth based on structural change:

- Over half will be part time (54.0%)
 - part time employment for women – 30.3%
 - Full time jobs for men – 25.7%, full time jobs for women – 23.7%
- Of the top 25 jobs growth (47.5% of the total employment growth)
 - 33.3% will be skill level 1, 32.9% will be skill level 4, 1.6% will be skill level 3
 - 34.5% will be part time for women, 27.4% men full time, 21.9% women full time
 - The majority of new jobs will be in the services sector; carers, sales, hospitality, IT, educators as well as construction and professionals – consistent with demographic change and consumption patterns
- Of the top 25 job losses
 - 34.7% are skill level 1, 28.1% skill level 3, 35.7.1% skill level 4 & 5
 - 43.5% will be men working full time, 28.6% women working full time, 23.8% women working part time
 - The majority of job losses will be in manufacturing, agriculture, clerical and administrative work – consistent with RBTC

The future of work post-COVID-19



Dependent on:

- economic policy
- industry policy
- social policy
- industrial relations
- education and training policy

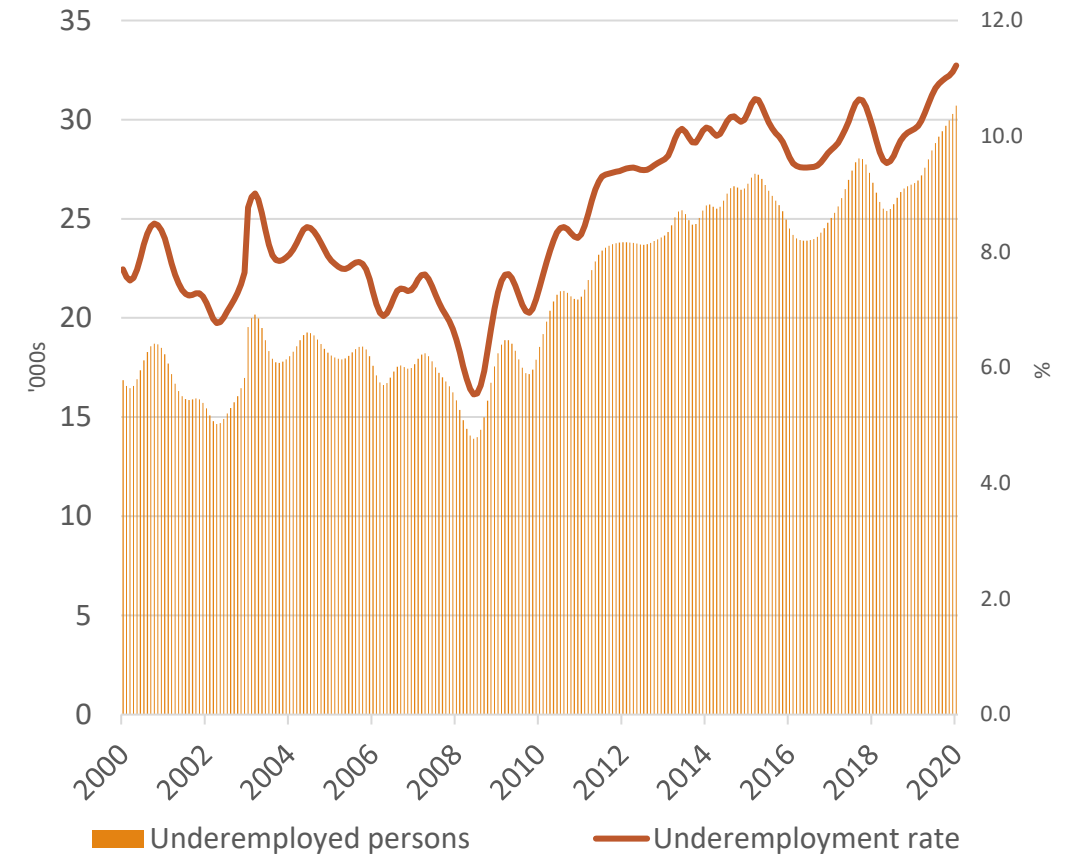
Comparison with the GFC

Pre-GFC

- There were more Tasmanians employed than ever before (242,100),
- the unemployment rate was 4.1%
- the labour force participation rate was 62.7%, the highest rate on record.

Post-GFC

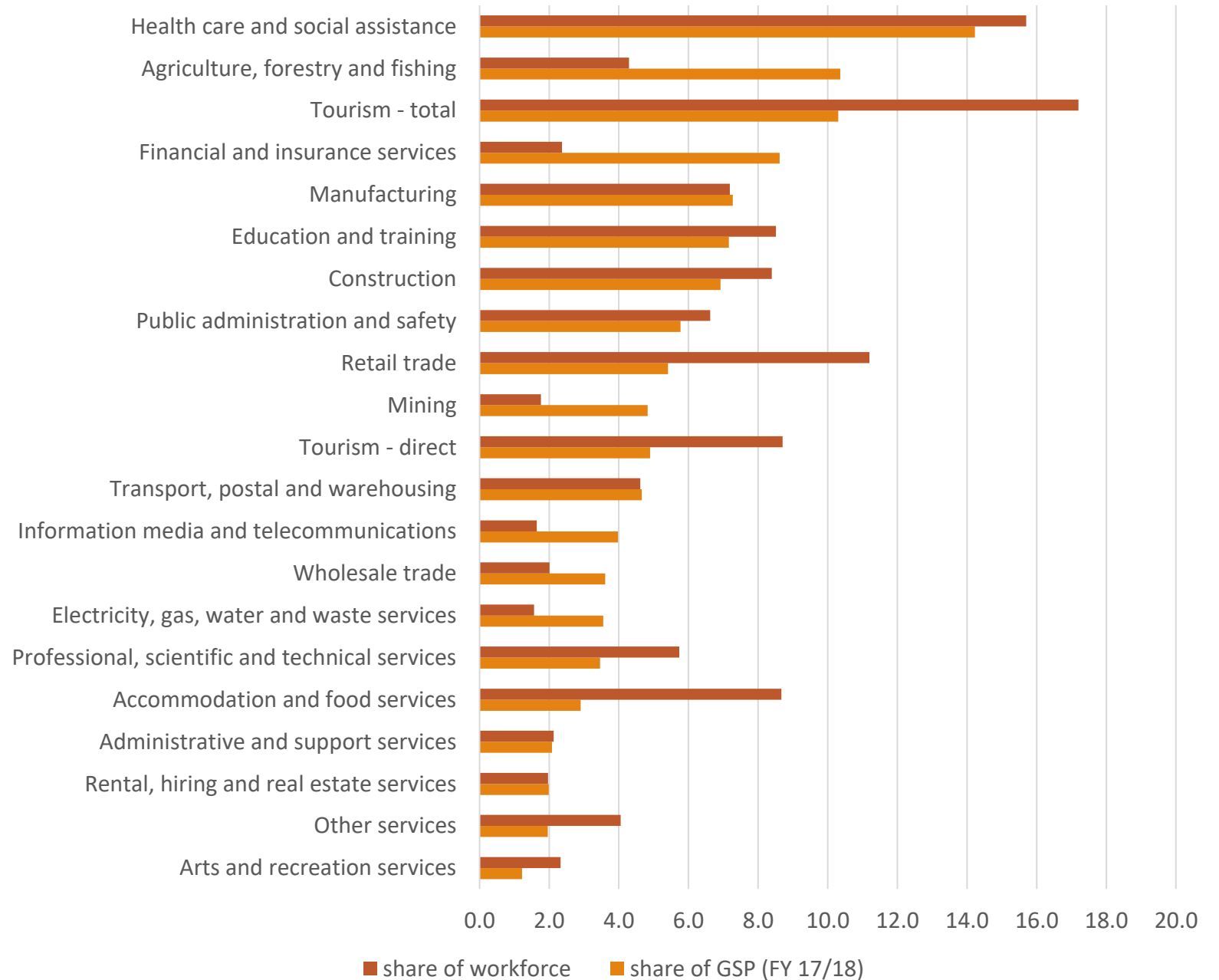
- It took nine years to March 2017 to return to the same levels of employment. However, the unemployment rate and the labour force participation rate did not reach the same historically high levels as in September 2008.
- By February 2020, more Tasmanians were in employment than ever before (258,700). The unemployment rate (5.5%) was the lowest since July 2011, the labour force participation rate (61.7%) was the highest it has been since January 2009, and the number of unemployed was the lowest it had been since October 2011.
- Since the GFC, under-employment increased from 5.0% to 11.2% (doubling from 14,350 people in 2009 to 30,700 in 2020)
- youth unemployment reached the highest levels on record
- We saw a shift to part-time employment, an absolute loss in the number of full-time jobs, coupled with the rise of insecure work, the gig economy and the phenomenon of the disappearing working man, inequality widened, wages were suppressed, and yet the cost of living continued to increase.



Source: ABS, Labour Force, 6202.0

Contribution to the economy

- Share of GSP
- Share of workforce
- NB Tourism is not an industry in its own right as industries are defined according to the goods and services the produce while tourism is defined according to consumption patterns equivalent to the sum of a proportion of (mainly) accommodation and food services, retail, rental hiring and real estate, education and training and transport and logistics as well as arts and recreation services). This figure is slightly misleading as it includes duplication.



Source: ABS, Characteristics of Employment; ABS, State Accounts; Tourism Research Australia, State Satellite Account

What sort of jobs do we want?

Policy needs to move beyond just creating jobs, but to creating good jobs which offer quality work in a good working environment.

The OECD's job quality framework comprises measures of earnings, labour market security and the quality of the working environment.

There are three guiding principles which measure good jobs, all of which need to be objective rather than subjective.

1. Focusing on job-related well-being; job quality is constituted by a set of work features which have the capability of enhancing or diminishing worker well-being
2. Maintaining a job-only focus; that is, the attributes of the job occupied by the worker and not the workers personal circumstances or background
3. Adopting a multi-faceted approach; a variety of job attributes impact worker well-being. While remuneration is considered the main factor, there are others such as security of work, autonomy, range of tasks, level of effort, career opportunities, access to training and/or professional development, flexibility, skill utilisation and so forth.

In August 2019, there were almost 248,000 people employed in Tasmania. Of these:

- 42,500 wanted to work more hours
- 17,000 had more than one job
- 97,200 were employed casually
- 93,800 did not have access to paid sick leave entitlements (three in five workers did)
 - 26.3% of women, 21.4% of men did not
- 4,600 did not know if they had paid sick leave entitlements
- 18,700 worked as independent contractors with no entitlements
- Five industry sectors made up more than half of the Tasmanian workforce
 - healthcare and social assistance (16.4%), education and training, retail trade, accommodation and food services and construction (7.2%).
 - women made up the majority of workers in health care and social assistance (80.2%) and education and training (69.4%), men made up 93.9% of the construction industry.

Employment by Industry Sector, men and women, Tasmania, 2019

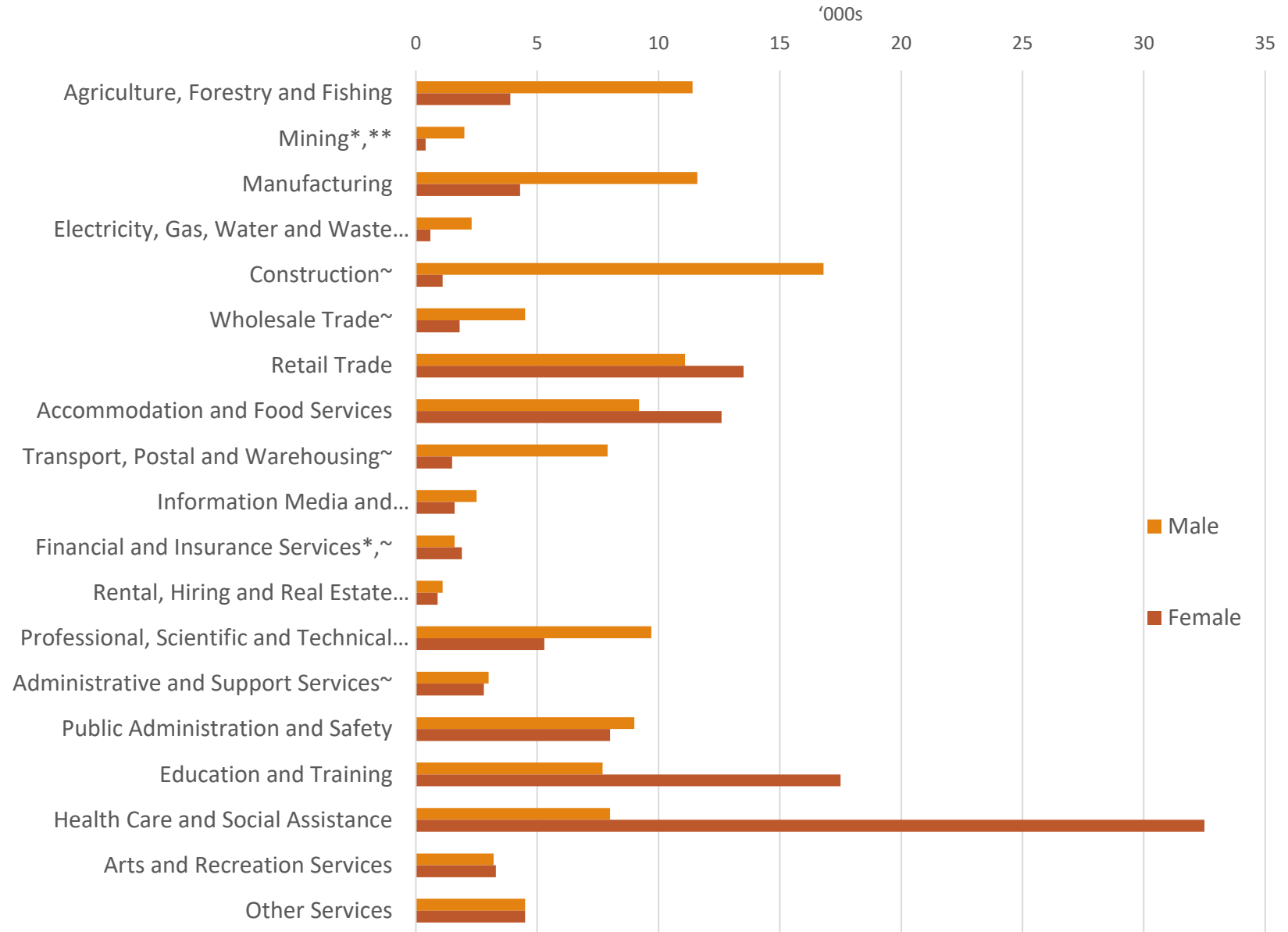
Two key issues:

1) Gendered industries and occupations

- Mismatch with stimulus package

2) Precarious employment

- casual, part time, gig
- Under-employment
- No entitlements for paid sick, carer or recreational leave

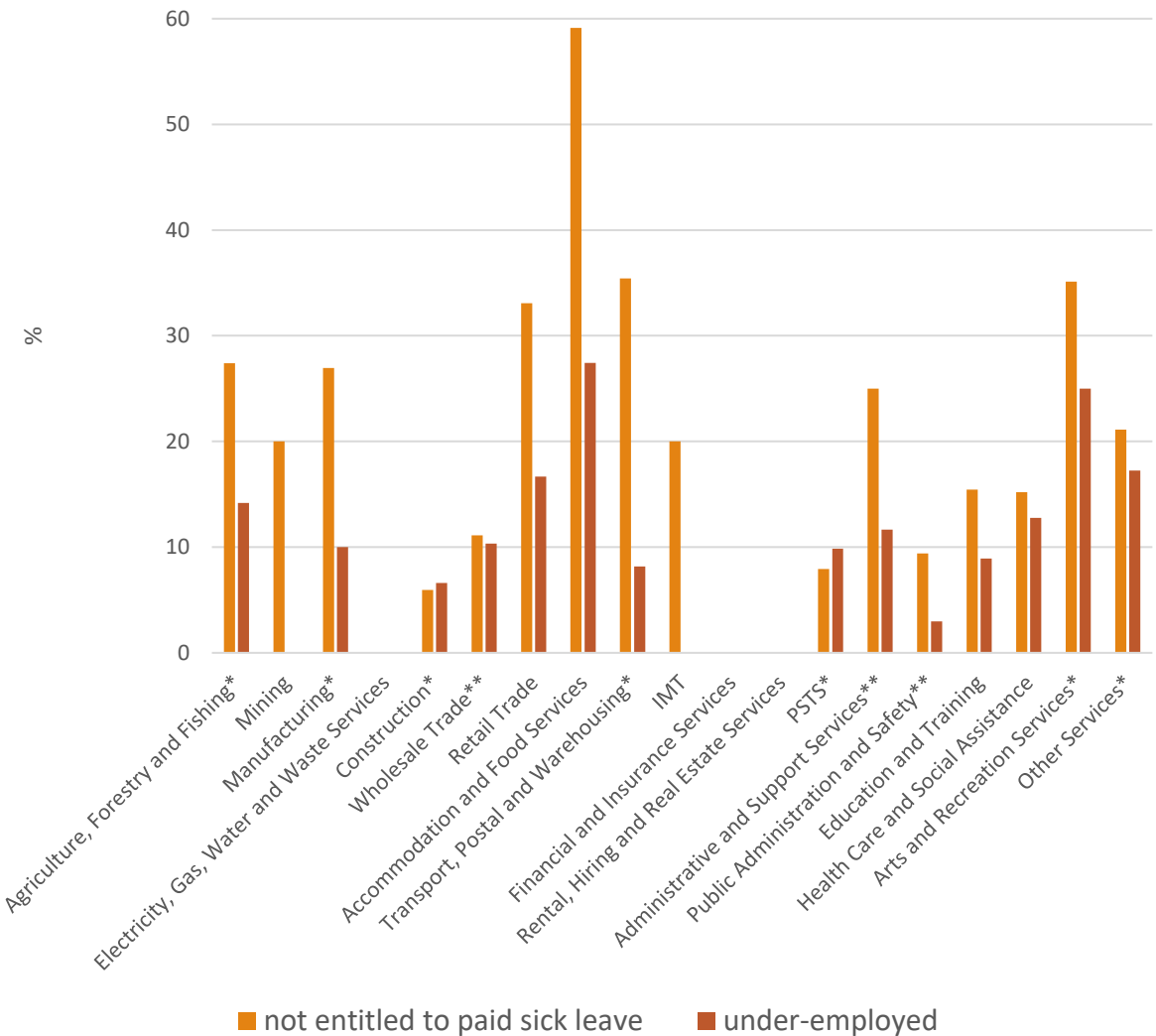


Source: ABS, Characteristics of Employment, 2019

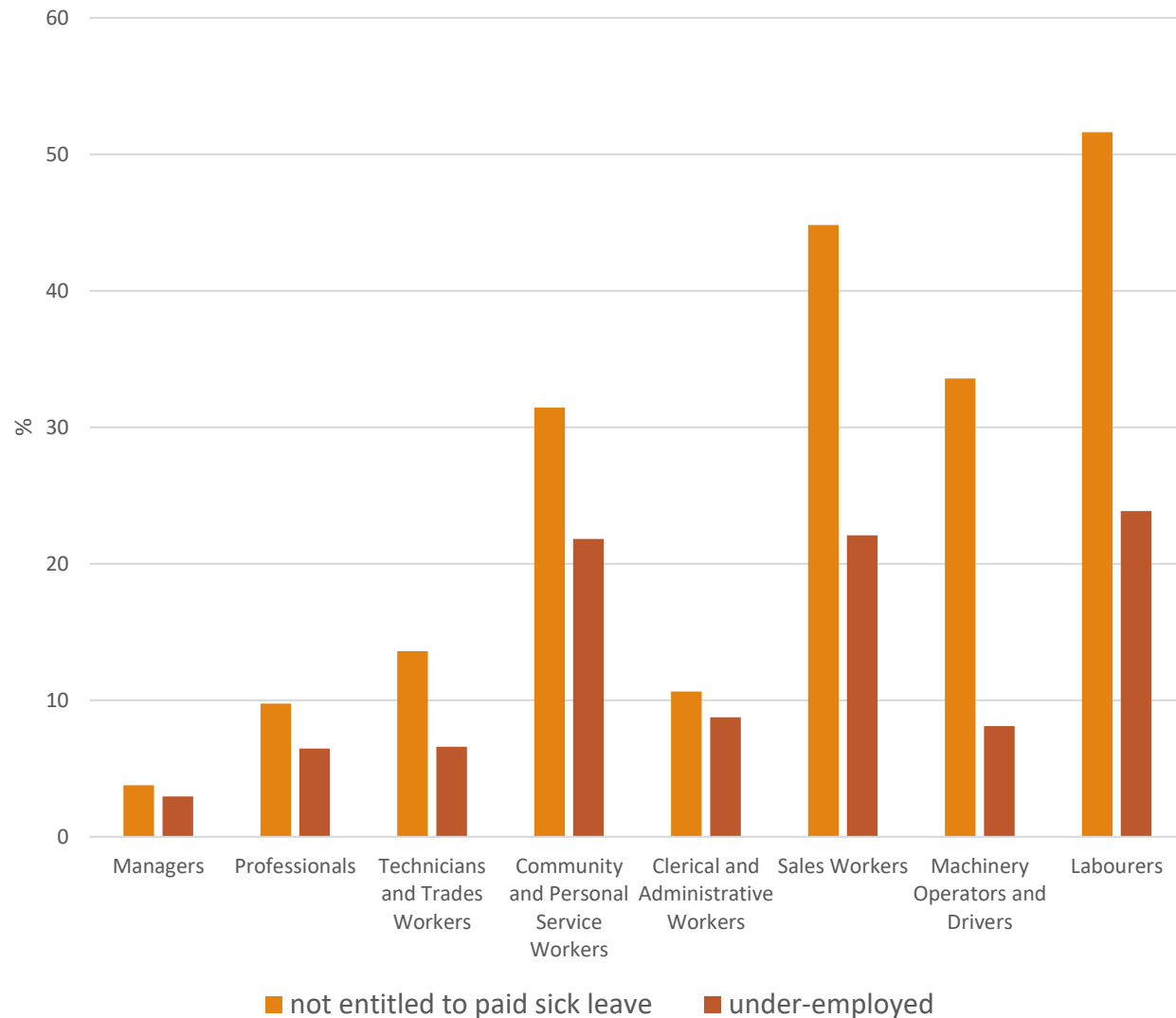
* Estimate has a relative standard error of 25% to 50% for men and should be used with caution

** Estimate has a relative standard error greater than 50% for women and is considered too unreliable for general use

~ Estimate has a relative standard error of 25% to 50% for women and should be used with caution



NB Agriculture, Forestry and Fishing, Manufacturing, Construction, Transport, Postal and Warehousing, Professional, Scientific and Technical Services, Arts and Recreation and Other Services have a RSE of 25-50% for under-employment and should be used with caution



NB Technicians and Trade Workers, Clerical and Administrative Workers and Machinery Operators and Drives have a RSE of 25-50% for under-employment and should be used with caution while Managers have a RSE of 25-50% for not being entitled to paid sick leave and should be used with caution



Thank you

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