



# Tasmania's future workforce: Maximising productivity

TASMANIAN AGRICULTURAL PRODUCTIVITY GROUP NOVEMBER 2023

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# Overview

## Tasmania's workforce

- Labour force overview
- Employment by industry sector – change over time

## Future workforce

- New workforce entrants – population projections
- Employment projections by industry sector
- Alternative sources of labour

## Future workers' perspectives

- School leavers
- Non-participants

## Maximising productivity

- Labour Productivity
- Innovation

## Key Messages



# Tasmania's Workforce

THE TASMANIAN ECONOMY AND WORKFORCE IS IN THE BEST STATE IT HAS EVER BEEN...

BUT....THIS IS NOT SURPRISING...

POPULATION AGEING = AGEING WORKFORCE

POPULATION AGEING WILL ONLY BE A PROBLEM WHEN THE LABOUR FORCE PARTICIPATION RATE IS HIGH AND INCREASING AND THE UNEMPLOYMENT RATE IS LOW AND DECLINING.

AS IS THE CASE IN TASMANIA CURRENTLY.

# Tasmania's workforce by age and sex

Around 290,000 workers

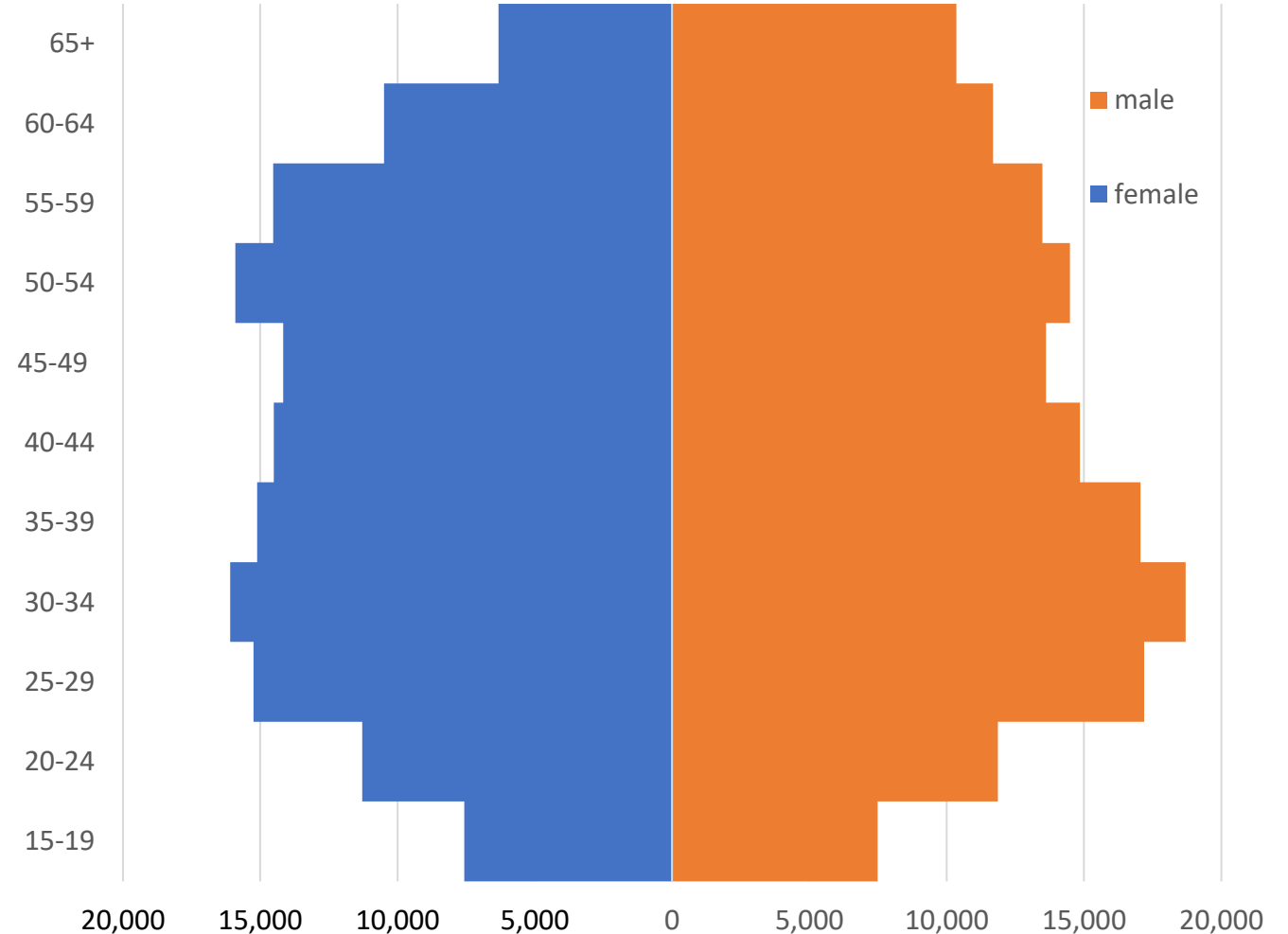
52% are male

A third aged 50 or older (96,000 people)

Over the next 15 years these older workers will exit the workforce due to retirement....

They will need to be replaced....

Or... the functions that these workers do will need to be replaced either by humans, technology or AI...

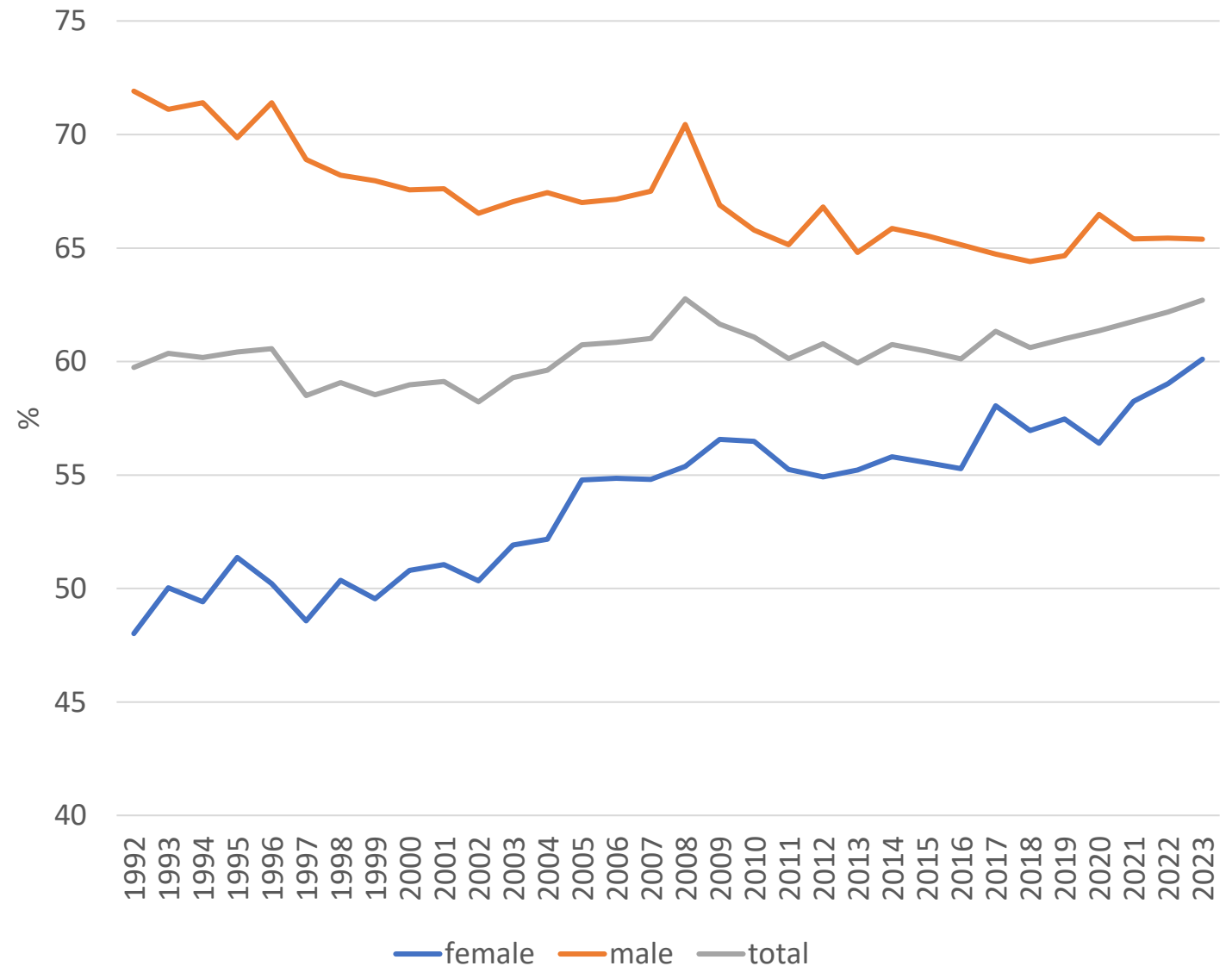


Source: ABS, Employment Characteristics, September, 2023

# Labour Force Participation Rates by sex – 1992 to 2023

Male labour force participation rates had been trending downwards – known as the disappearing working man - while female labour force participation rates have been increasing steadily.

The gap between male and female labour force participation rates has narrowed to 5.3 percentage points compared with more than 25 percentage points 30 years ago.



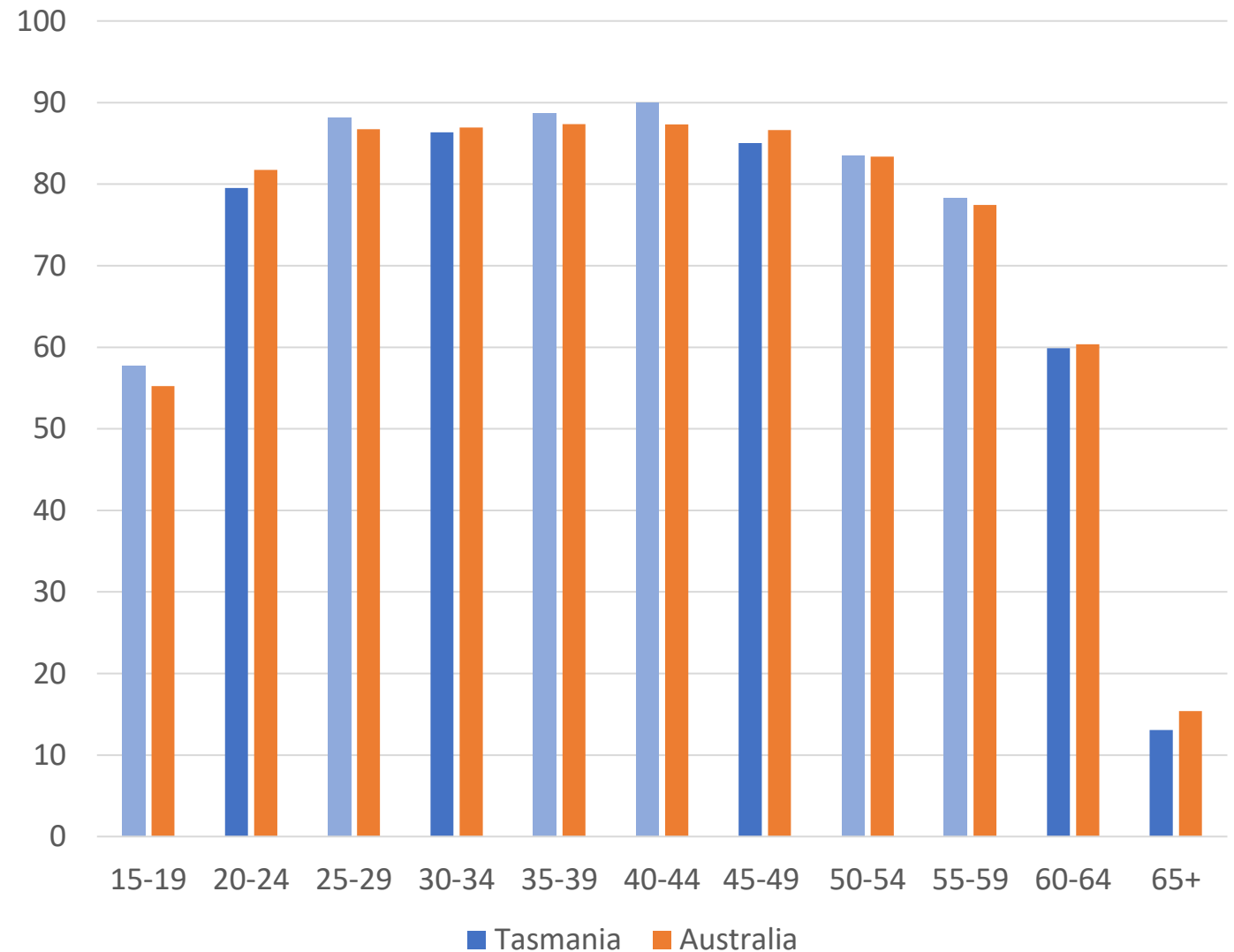
Source: ABS Labour Force, September, 2023

# Labour Force Participation Rates by age – Tasmania and Australia

Tasmania's labour force participation rate is almost 4 percentage points lower than the Australian rate.

When considered by age group, the labour force participation rates do not differ considerably with the national rates.

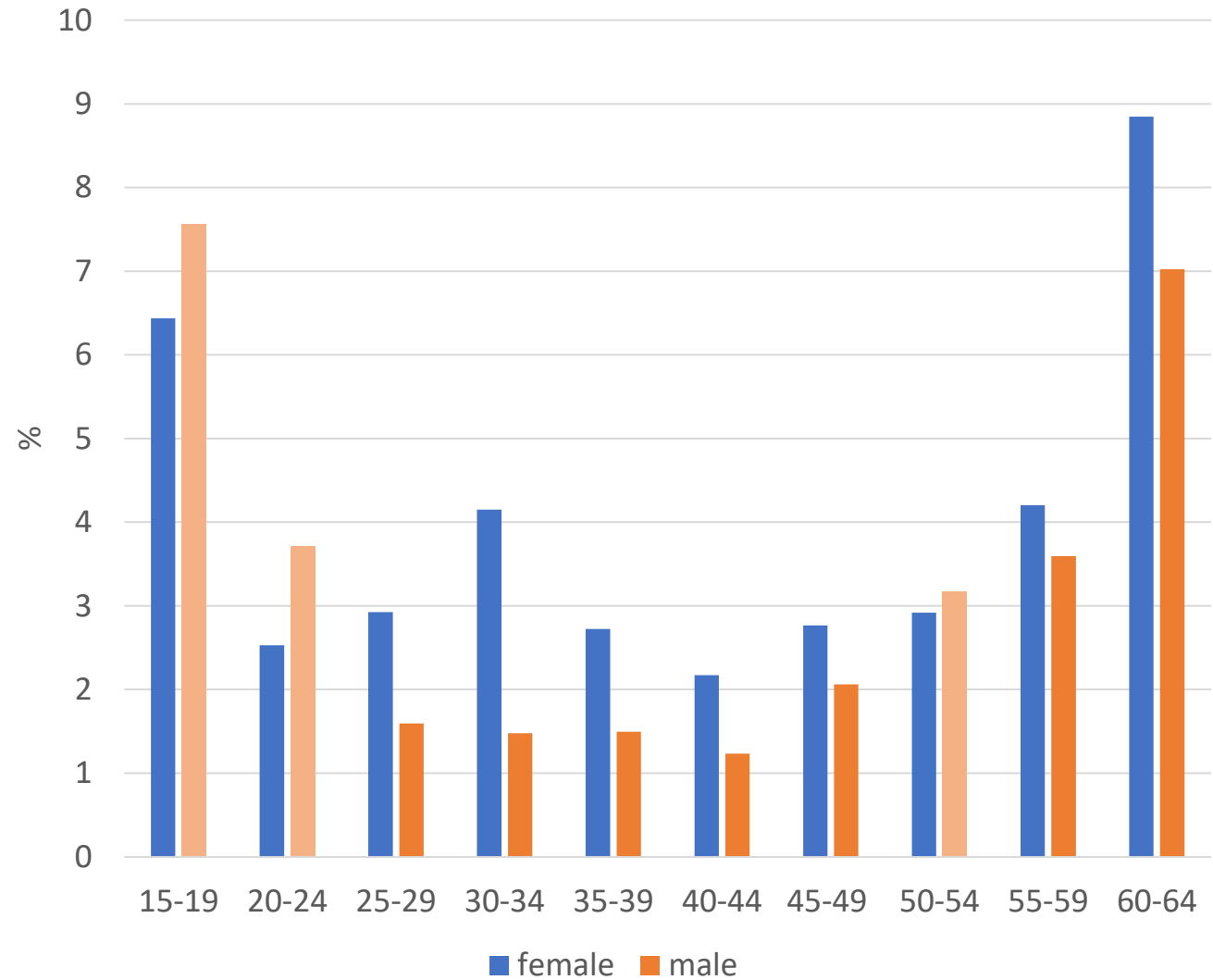
Labour force participation rates are higher in Tasmania for 5 out of the 11 age group ranges.



Source: ABS Labour Force, Australia, September, 2023

# Not in the Labour Force — age and sex

For all age groups other than those aged 15 to 24 and 50 to 54 years, more women are not in the labour force than men.



Source: ABS Labour Force, Australia, September, 2023



# Employment by Industry Sector - Tasmania and Australia

The Health Care and Social Assistance sector is the largest employing sector in Australia and Tasmania.

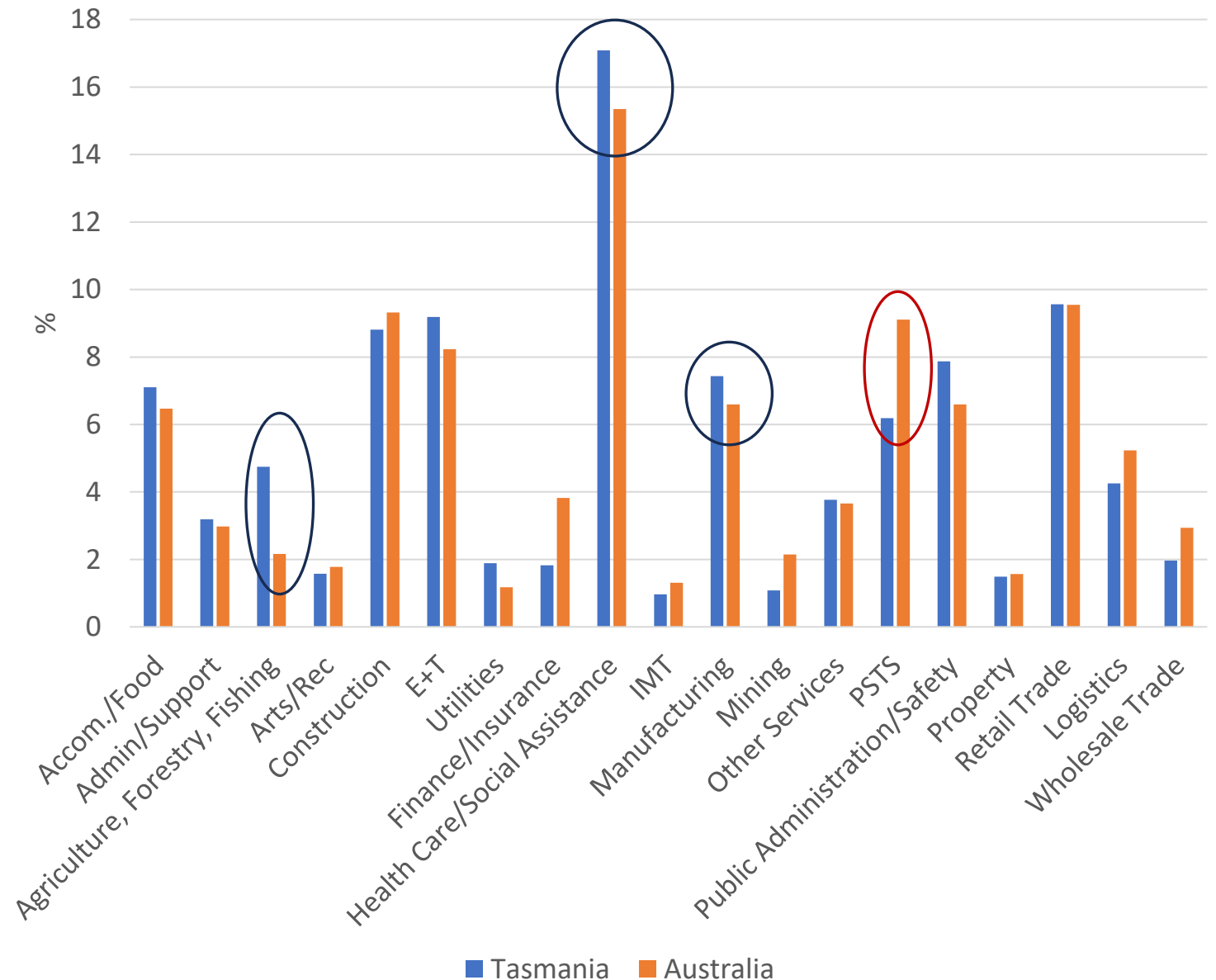
Top 5 employing sectors make up over half of the workforce (51.5% and 52.5% respectively).

Tasmania and Australia share 4 of the Top 5.

Next for Tasmania – Retail Trade, Education and Training, Construction and Public Administration and Safety.

Next for Australia – Retail Trade, Construction, Professional, Scientific and Technical Services, and Education and Training.

Manufacturing is the 6<sup>th</sup> largest employer in Tasmania (7.4%) and Agriculture, Forestry and Fishing is the 9<sup>th</sup> largest (4.7%).



Source: ABS Labour Force, Australia, Detailed, September, 2023



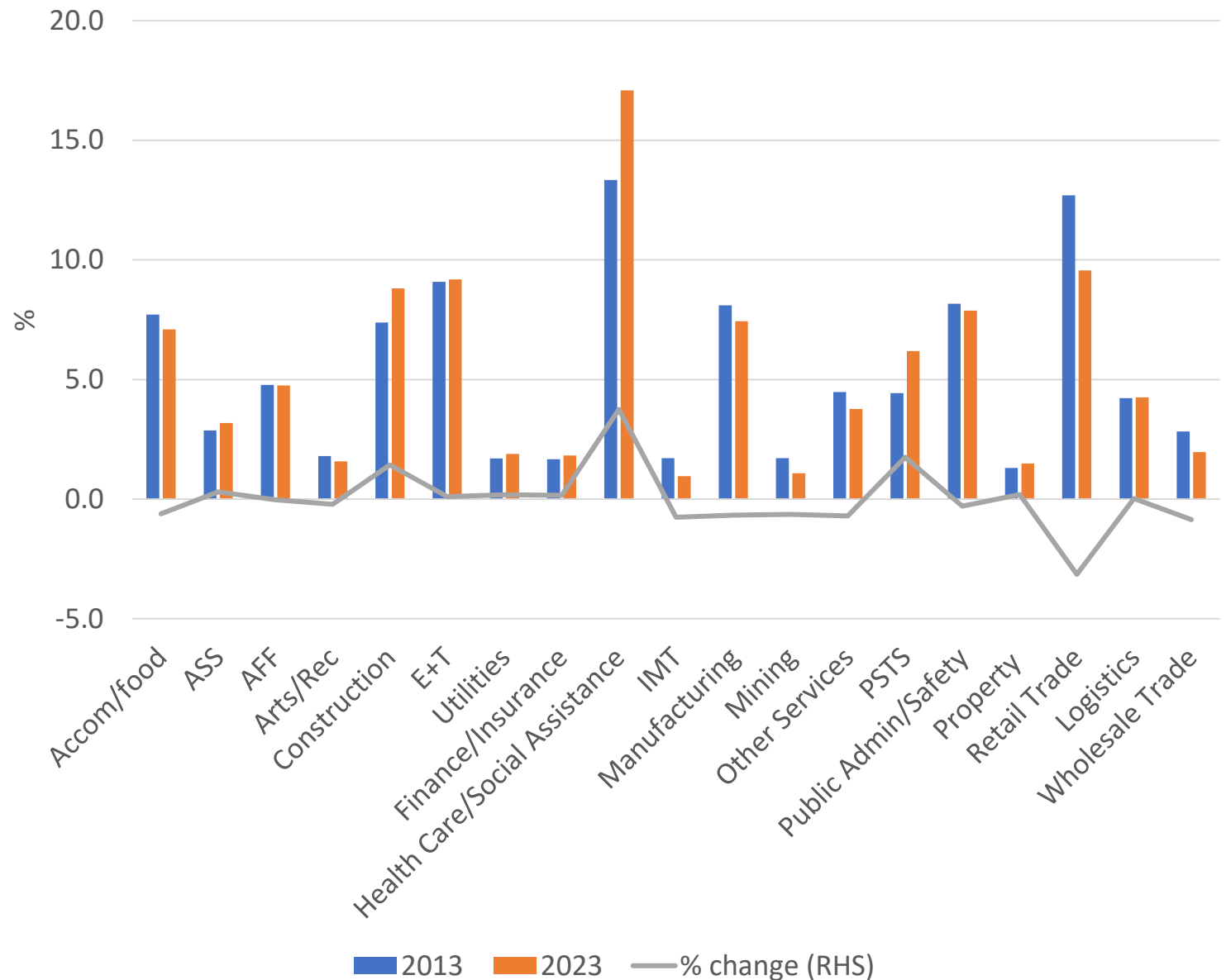
# Employment by Industry Sector: Change 2013 to 2023 - Tasmania

Total employment increased by 25.6% over 10 year period.

Almost 60% of all new jobs were in three sectors - Health Care and Social Assistance sector (31.8%), Construction (14.4%) and PSTS (13.1%)

Employment declined in mining; information, media and telecommunications; retail trade, and wholesale trade.

Employment in agriculture, forestry and fishing increased by 24.8% while its share of total workforce remained stable (4.7%).



Source: ABS Labour Force, Australia, Detailed, September, 2023

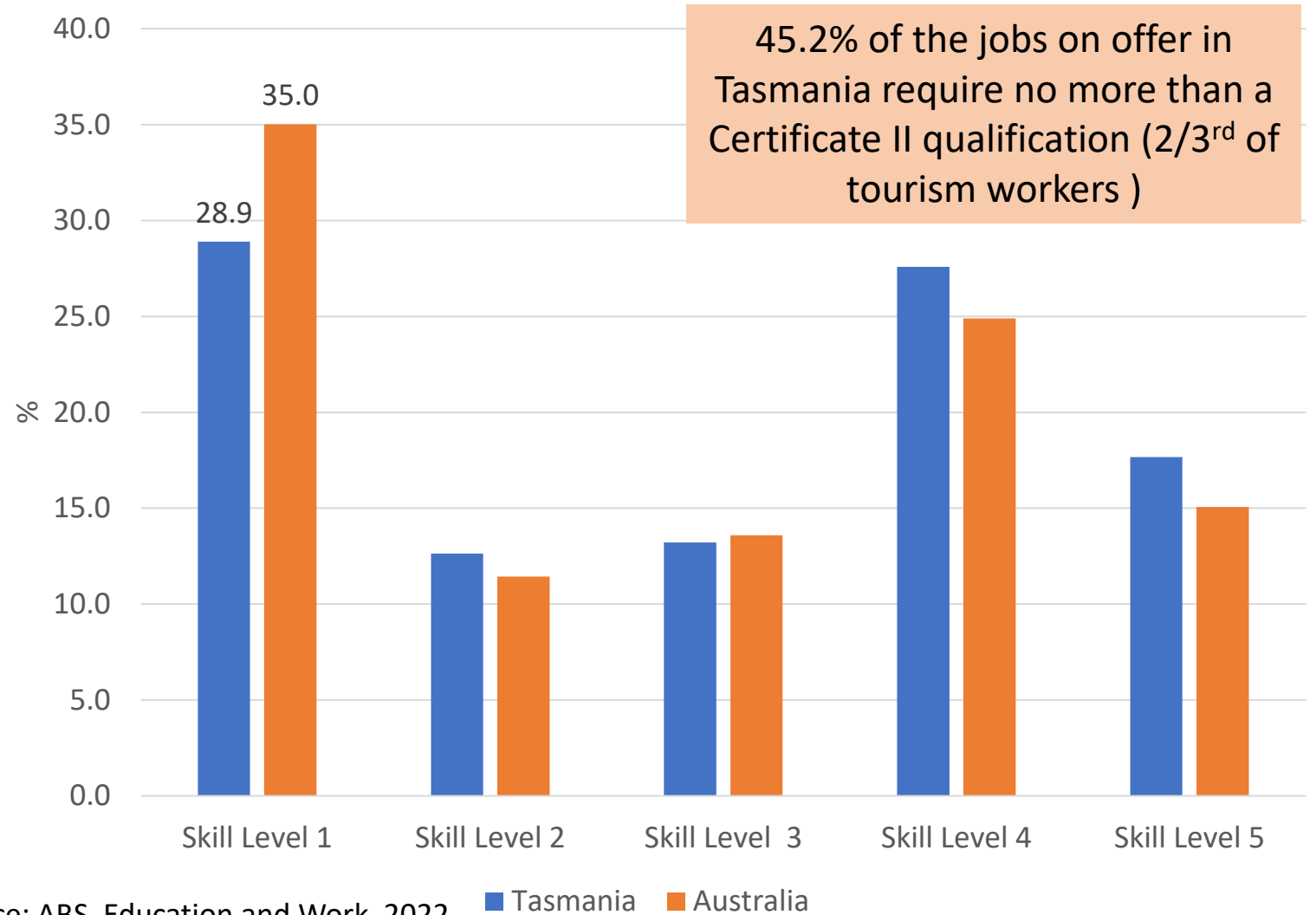
# Workforce polarisation

Direct result of:

- ongoing industrial revolutions and the shift to services sectors
- economic development policy
- priority industry sectors
- socio-demographic profile

Due to our industry structure and resulting job offering Tasmania has

- a population retention problem
- a utilisation problem



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





# Agricultural Workforce

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# Agriculture (primary production and processing) workforce by age and sex

Around 12,954 workers

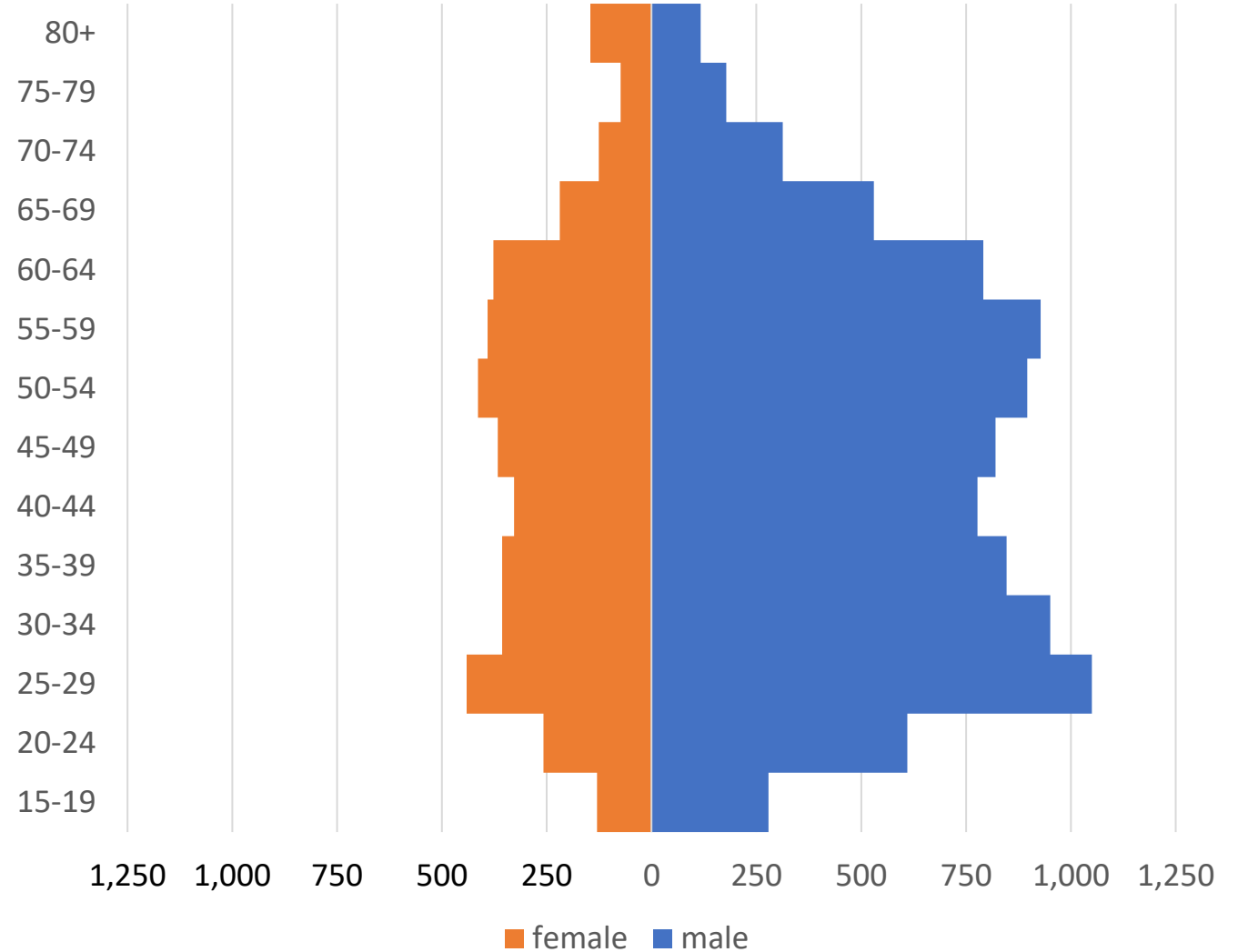
70% are male

41.5% are 50 or older (5,376 people)

These older workers will eventually exit the workforce.

They will need to be replaced...

Or... the functions that these workers do will need to be replaced either by humans, technology or AI...

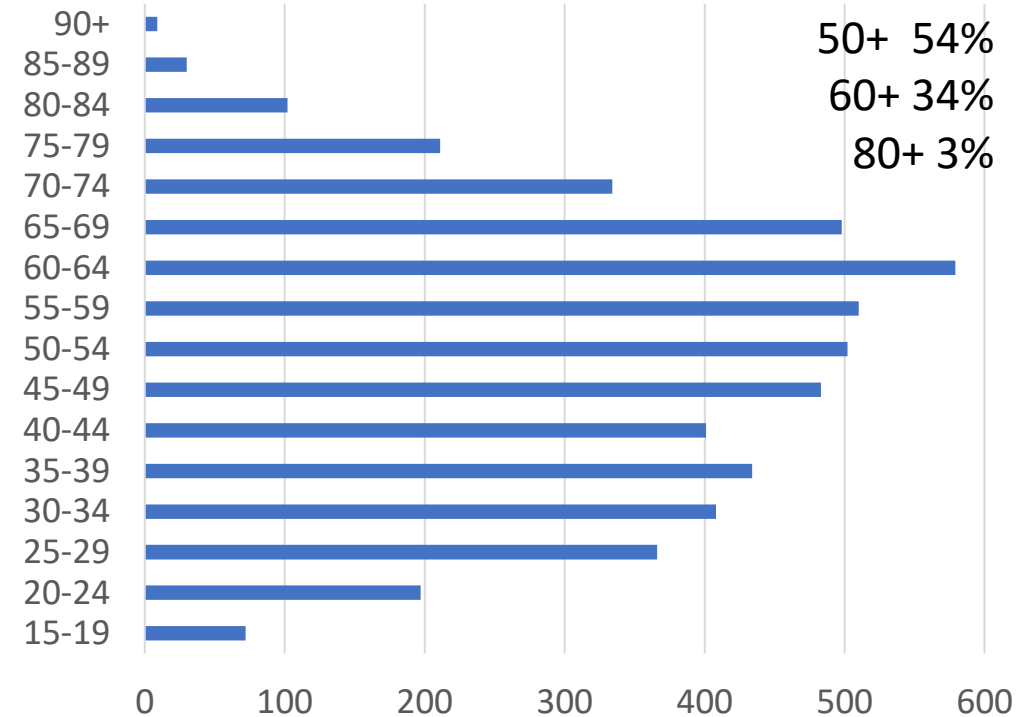


Source: ABS, Census of Population and Housing, 2021

# Agriculture Workforce (primary production and processing)

Top 10 Occupations (78% of workforce)	Number	% of workforce
Farmers and Farm Managers	4,226	32.6
Farm, Forestry and Garden Workers	2,580	19.9
Food Process Workers	1,197	9.2
Mobile Plant Operators	595	4.6
Packers and Product Assemblers	435	3.4
Construction, Distribution and Production Managers	281	2.2
Natural and Physical Science Professionals	269	2.1
Accounting Clerks and Bookkeepers	185	1.4
Mechanical Engineering Trades Workers	174	1.3
Truck Drivers	159	1.2

Age Structure – Farmers and Farm Managers



A network diagram with human icons connected by lines, overlaid on a dark background. The icons are stylized human figures in various poses, some standing and some sitting, connected by a web of thin lines. The overall theme is a network or workforce.

# Future Workforce

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# Labour Market Entrants to Exits (15-24:55-64)

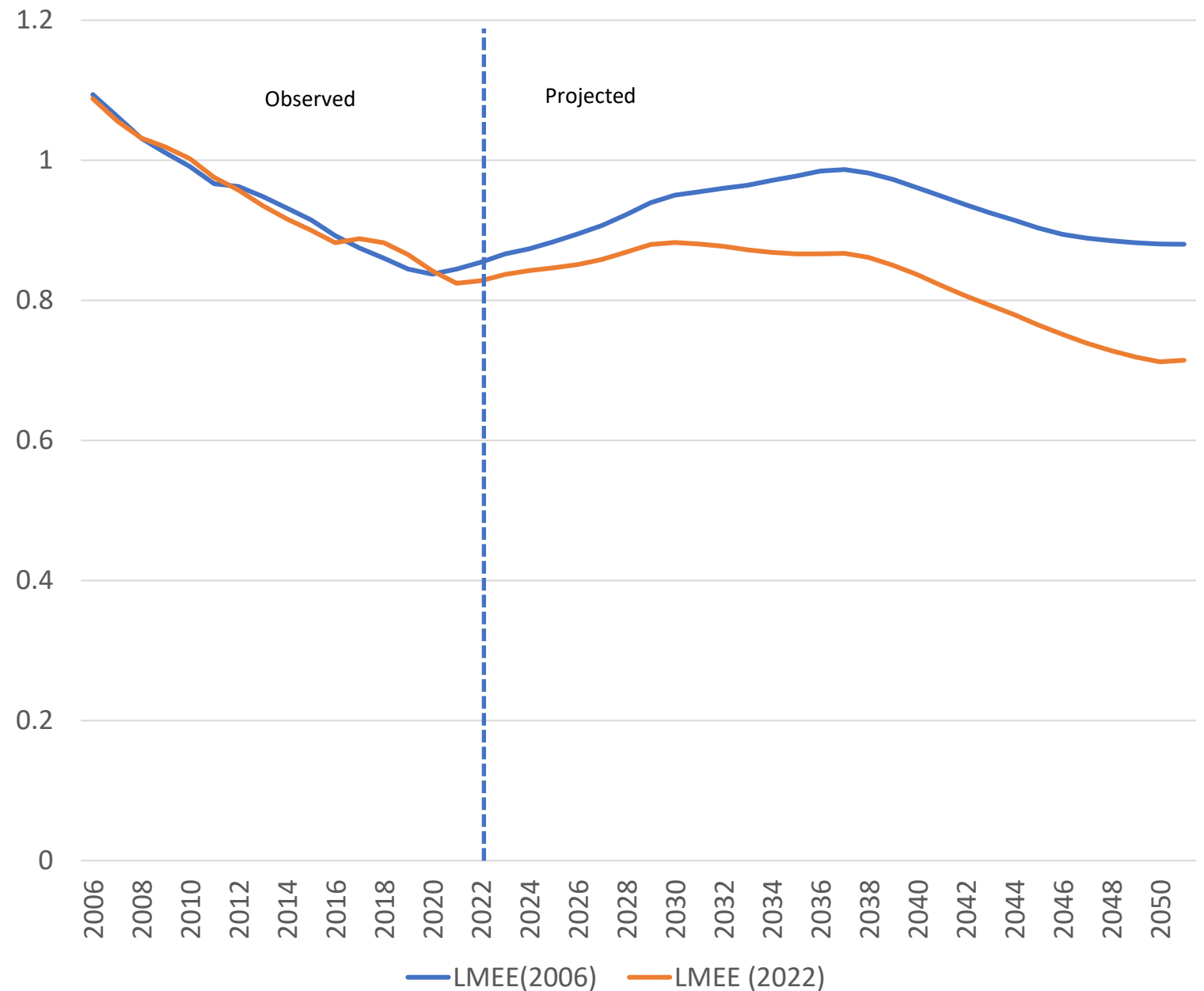
Shows the number of potential workforce entrants aged 15 to 24 years of age to potential workforce exits aged 55 to 64 years of age.

A ratio of more than 1 indicates more labour market entrants to exits.

A ratio of less than 1 indicates more labour market exits than entrants.

In Tasmania, the LMEE ratio shifted to less than 1 in 2010.

It is projected that there will be less potential labour market entrants than exits for the projection period.



Source: ABS National, State and Territory population; ABS population projections (2006); Advanced Demographic Modelling, population projections, Tasmania (2022)



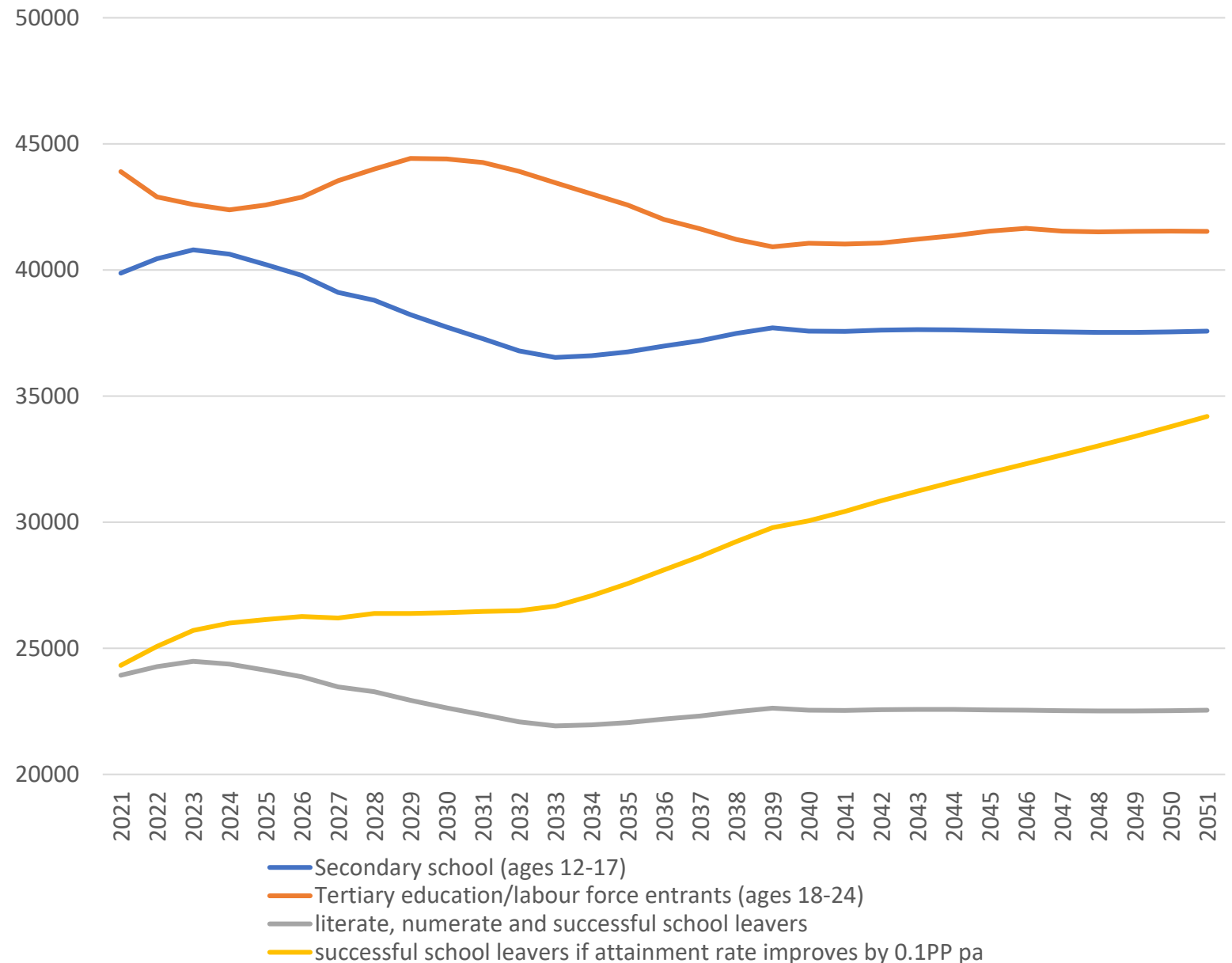
# Potential new workforce entrants - projections by age group

The number of secondary school students aged 12 to 17 is projected to start declining from 2025.

The number of labour force entrants aged 18 to 24 is projected to start declining from 2030.

If Tasmania's successful school completion rate remains at around 60% (3 in 5 students) then the potential supply of educated and skilled workers is further diminished.

If Tasmania's educational attainment rate improved by 0.1PP each year, the number of literate, numerate and successful school leavers would increase but the LMEE would still not exceed 1.

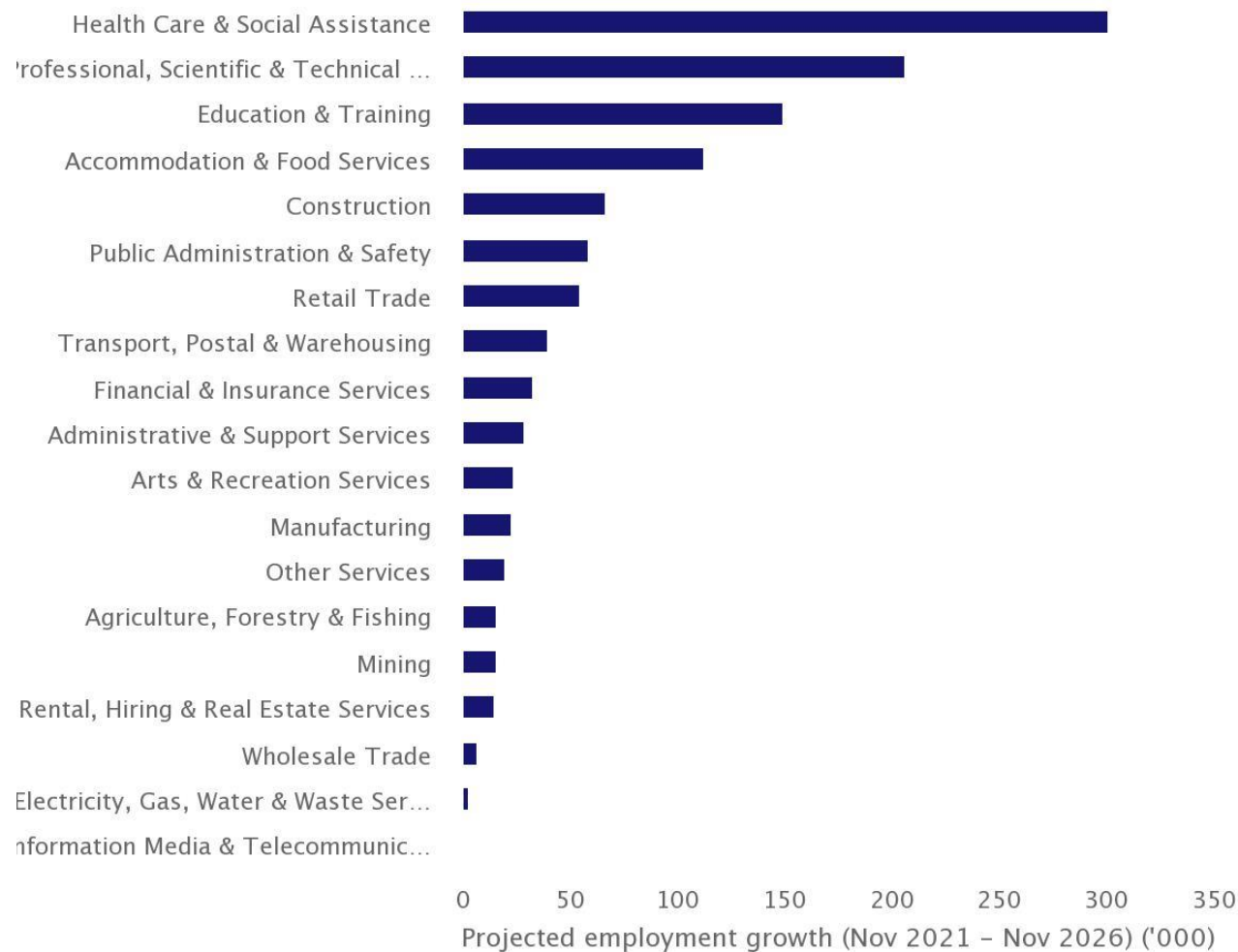


Source: Advanced Demographic Modelling, population projections, Tasmania (2022)

# Employment projections – Australia to 2026

Four services industries are projected to provide almost two-thirds (65.4%) of the total projected employment growth:

- Health care and social assistance
- Professional, scientific and technical services
- Education and training
- Accommodation and food services



## Future sources of workers

School leavers

Not in the Labour Force (NILF)

- women, older ages, disengaged

Immigrants

- Interstate and overseas

Career changers

The background of the slide features a repeating pattern of human silhouettes in various poses and colors. The silhouettes are rendered in shades of light gray, medium gray, and orange. They are arranged in three horizontal rows. The top row shows people in dynamic, walking-like poses. The middle row shows people in more static, standing poses. The bottom row shows the heads and shoulders of people, some facing forward and others in profile. A thin horizontal line is positioned below the text.

# Future workers' perspectives

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# School leaver: career planning perspective

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## Traditional post-school perceptions persist

- University is preferable/greater prestige - purpose to expand knowledge and networks
- Vocational education and training – suited to less academically inclined and aligned to a job
- Gap year

### Sources of information:

Shift from family and community to online sources, social media and the school sector

Level of detail/information limited to individual educator knowledge, lack of confidence

Time-poor, packed curriculum, struggle to stay up to date with changes in the world of work, skill needs and educational pathways

University is very active in engagement with the school sector compared with TAFE e.g. science days, robotics competitions, the Childrens' University and Discovery Day, career days, expos

## Short term lens – current interests/happiness

1. The offering: How and where it is delivered, how available it is and how easy to access/apply for, and the perceived quality or prestige.
2. Practical logistics: Costs and accommodation.
3. Personal readiness: The student's own (perceived) capability to pursue a particular option.
4. Social factors: The attractiveness of the social environment as well as the extent to which the option provides access to support networks.
5. Long-term outcomes: Future work opportunities, earning potential, and industry connections.
6. Tasmanian patriotism

# Reasons for Not in the Labour Force

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In Tasmania – Top 3 reasons for NILF

- 1) Permanently not intending to work (aged 65 and over) – 42.8%
- 2) Did not look for work – 42.4%
- 3) Permanently unable to work – 10.4%

In Australia – for those aged 15 to 64

- 1) Did not look for work
- 2) Permanently unable to work
- 3) Passively looked for work

Barriers and incentives to work differ by age and sex

**Barriers:**

- Own health
- Caring for children
- Studying
- Caring for others
- No need to work

**Incentives:**

- Part time, flexibility
- Affordable/accessible childcare
- Finding a job that matches skills and experience
- Support for training/study/upskilling
- Public transport access



# Maximizing Productivity

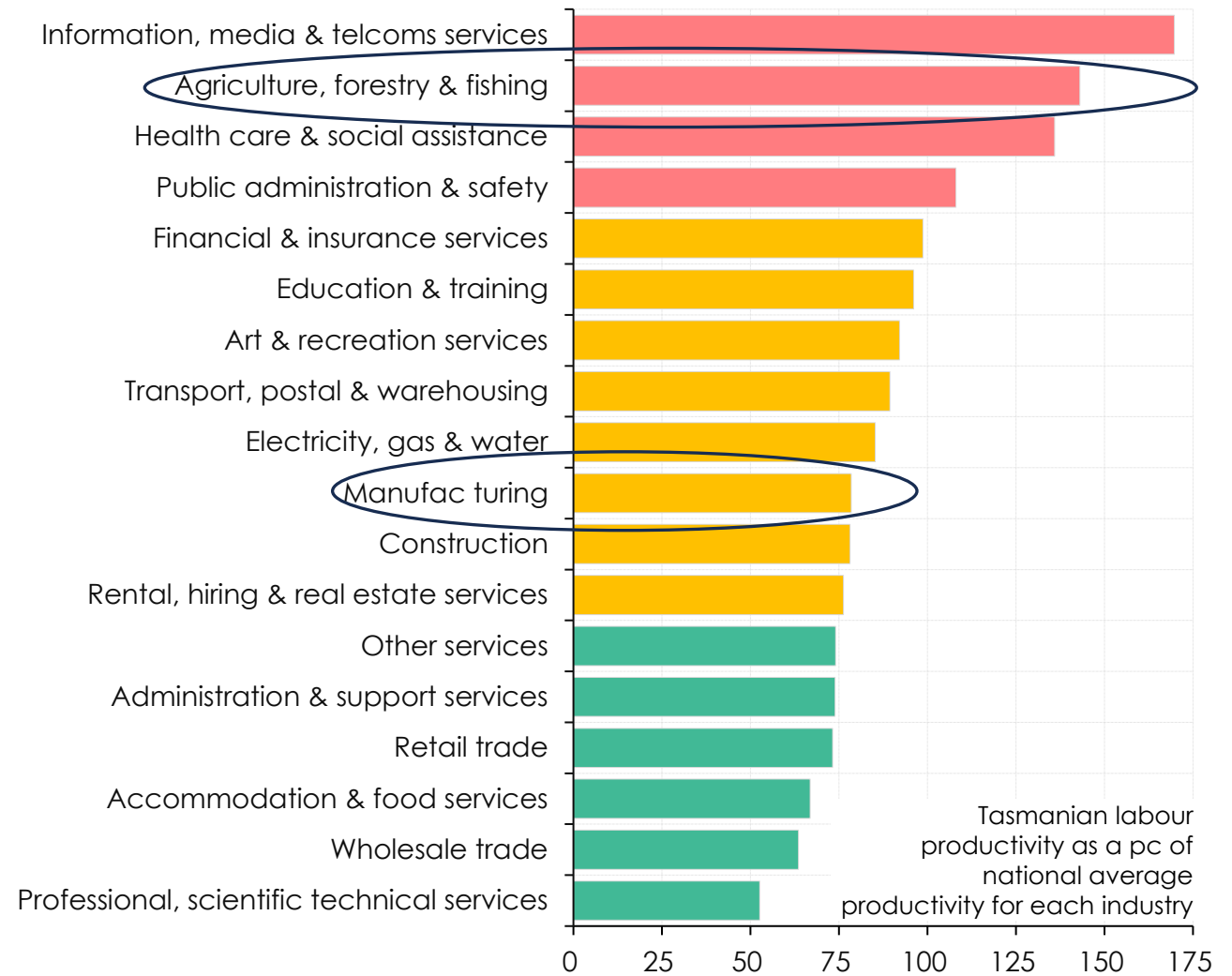
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LABOUR PRODUCTIVITY – UTILISATION  
INNOVATION





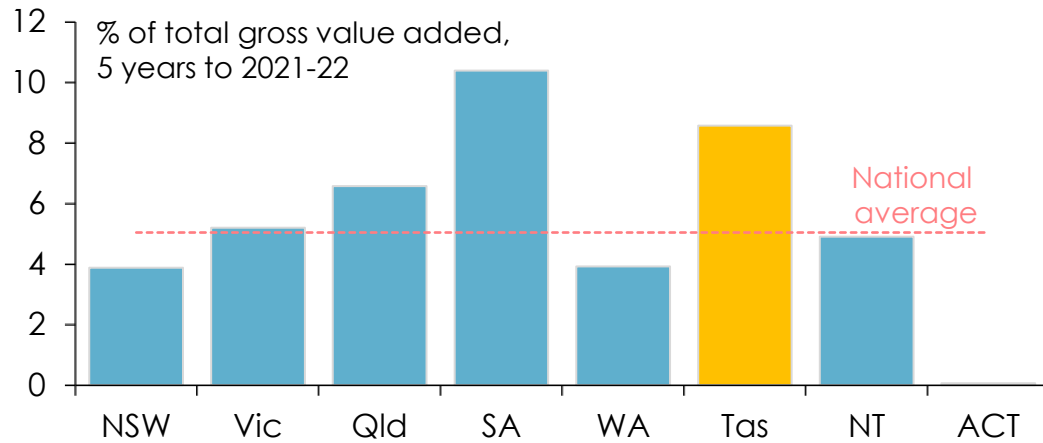
# Labour Productivity



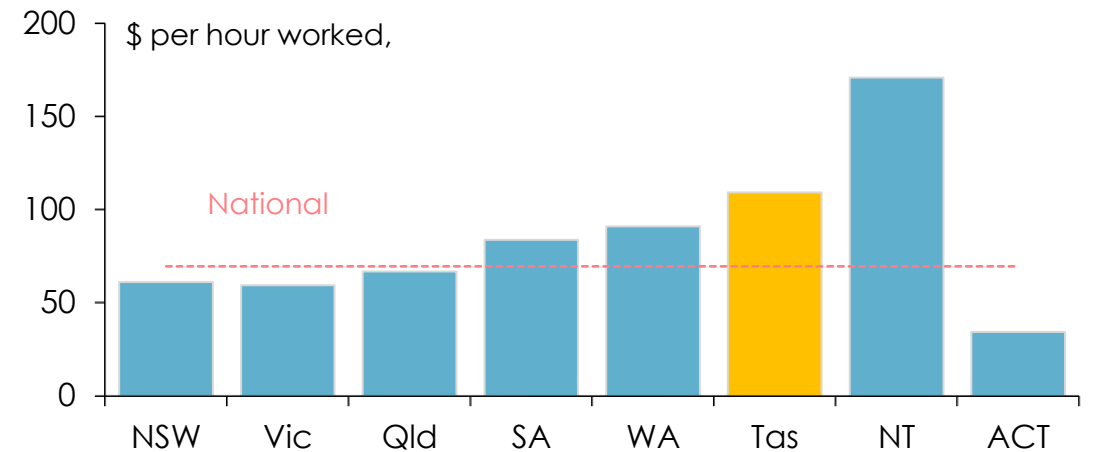
Source: Saul Eslake, Tasmanian Economic Forum, November 2023

# Agriculture, Forestry and Fishing is a sector in which Tasmania excels

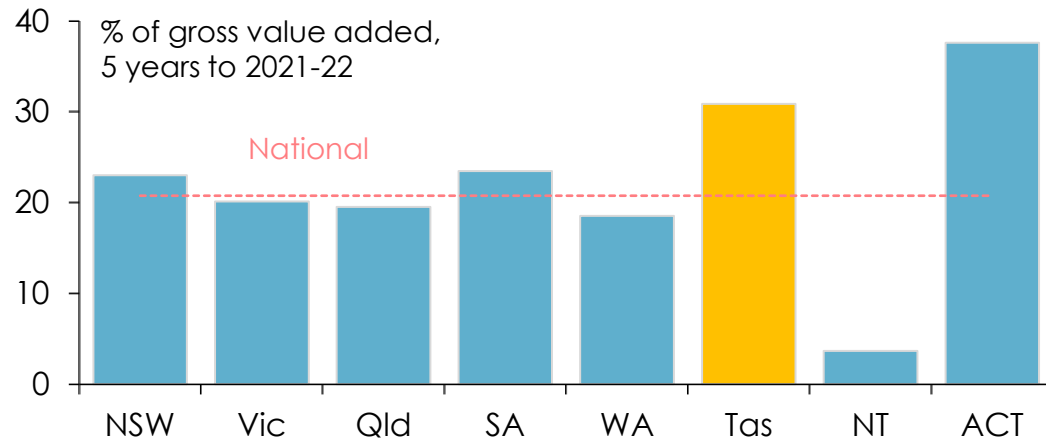
## Share of total gross value added



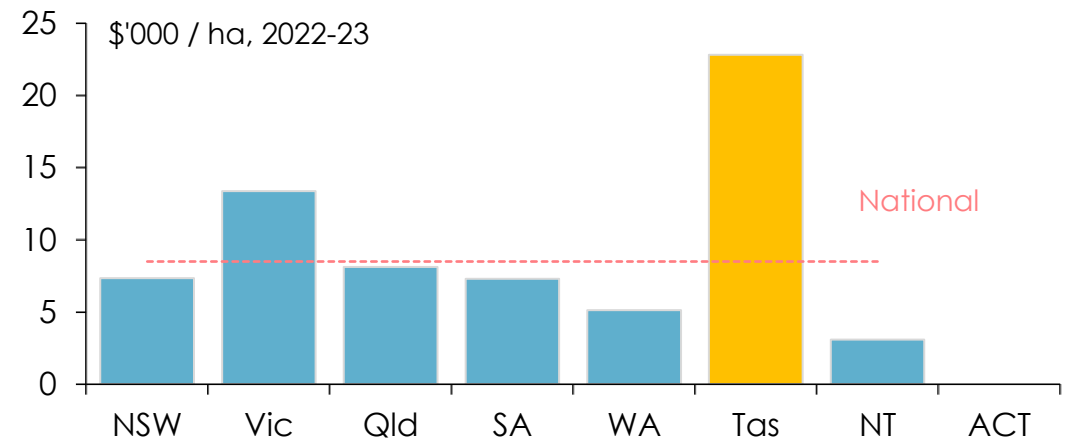
## Labour productivity (GVA/hour



## Income as a pc of GVA



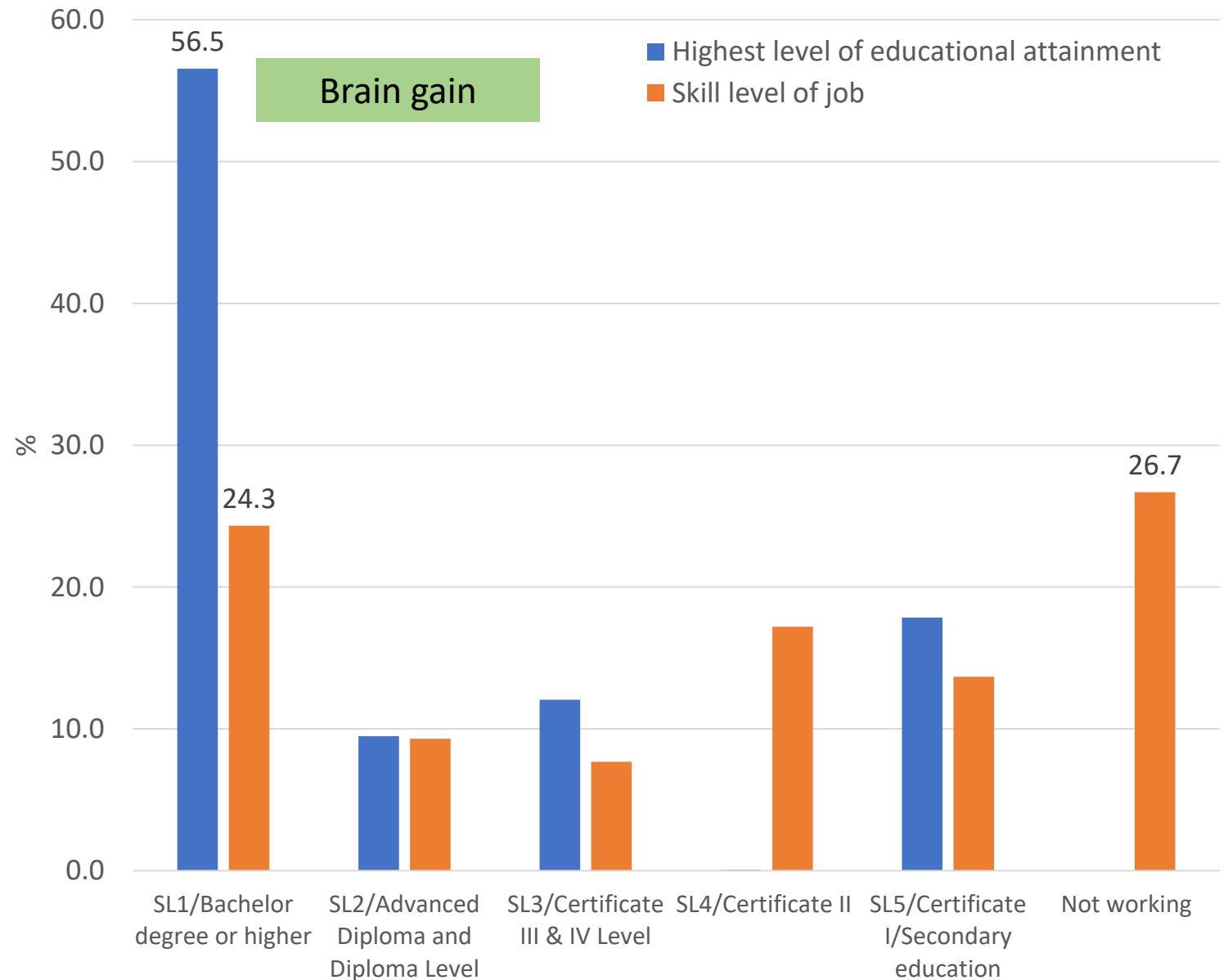
## Median value of rural land



# Utilisation Problem = Productivity problem

- Migrants to Tasmania
- 20-64 years of age
- Lived interstate or overseas 5 years prior to the 2021 ABS Census
- Educational attainment
- Skill level of job
- 47,189 people

Further reading: [More people have been moving to Tasmania than in the \(long-term\) past, BUT....](#)



# Utilisation Matrix\*

## – inward migration

\* Does not include field of study in analysis

Skill Level 1 is commensurate with a Bachelor degree or higher qualification

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Skill Level 4 is commensurate with a Certificate II or III

Skill Level 5 is commensurate with a Certificate I or secondary education

	Skill Level 1 (%)	Skill Level 2 (%)	Skill Level 3 (%)	Skill Level 4 (%)	Skill Level 5 (%)	Not Working (%)	Total (No.)	Under-utilised (%)
Postgraduate Degree Level	32.0	7.9	4.8	18.7	15.2	20.3	11,625	67.6
Graduate Diploma or Graduate Certificate Level	50.5	7.3	6.1	10.8	5.5	18.9	1,607	49.5
Bachelor Degree Level	36.5	9.7	5.3	15.1	12.5	20.0	15,051	63.3
Advanced Diploma and Diploma Level	16.0	18.4	9.0	18.1	11.1	26.3	4,739	65.3
Certificate III & IV Level	9.2	9.9	21.1	19.7	10.7	28.5	6,033	59.6
Secondary Education - Years 10 and above	7.6	6.4	6.6	18.8	18.4	41.0	8,134	41.0

White = match, red = under-utilised, green = under-qualified, orange = over-qualified, yellow = not utilised

# Utilisation Matrix\*: Agriculture Workforce

\* Does not include field of study in analysis

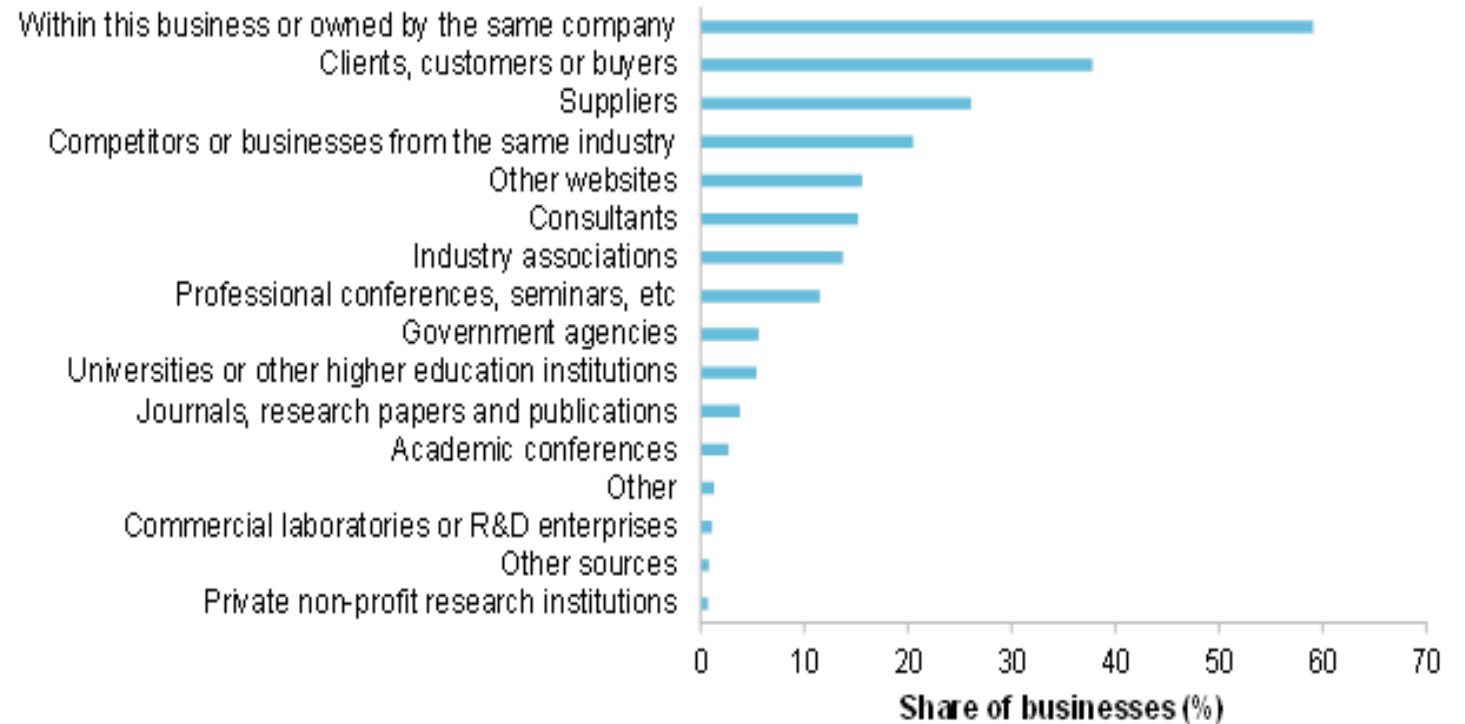
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	Skill Level 1 (%)	Skill Level 2 (%)	Skill Level 3 (%)	Skill Level 4 (%)	Skill Level 5 (%)	Total (No.)	Under-utilised (%)
Postgraduate Degree Level	45.1	3.8	1.9	9.9	39.4	639	54.9
Graduate Diploma or Graduate Certificate Level	76.0	4.0	3.2	7.2	9.6	125	24.0
Bachelor Degree Level	60.9	4.2	2.9	6.0	26.1	1,460	39.1
Advanced Diploma and Diploma Level	66.6	6.1	4.2	8.1	15.0	1,034	27.3
Certificate III & IV Level	38.9	4.7	16.4	14.8	25.1	2,701	39.9
Secondary Education - Years 10 and above	7.6	6.4	6.6	18.8	18.4	5,110	41.0
Secondary Education - Years 9 and below	43.9	0.3	3.8	14.8	37.2	950	0.0

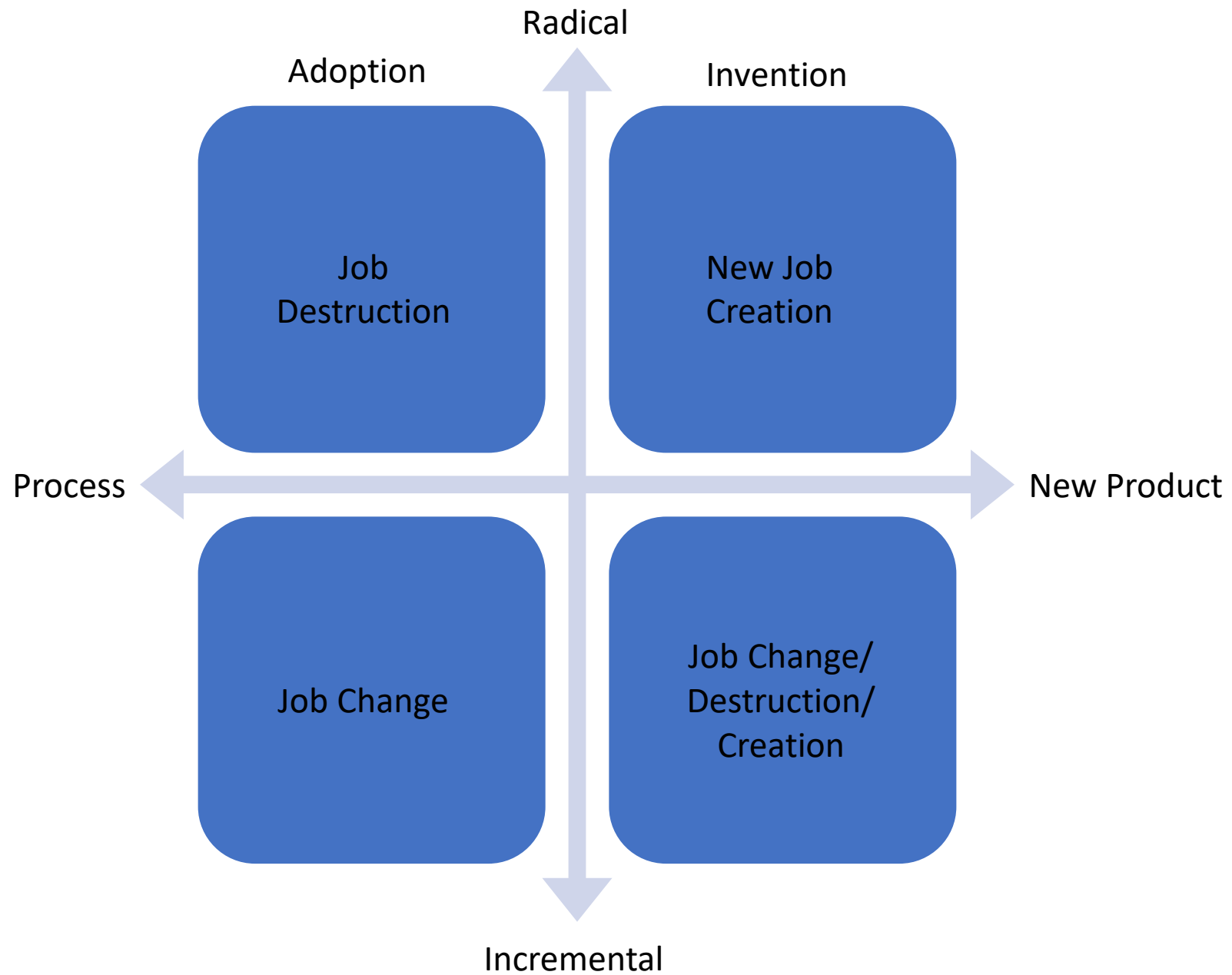
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# Source of Innovative Ideas

Innovative ideas mostly come from within businesses or from clients and customers (2019-2021)



Source: Productivity Commission, Innovation for the 98 per cent





A photograph of two robotic arms in a greenhouse, positioned over rows of green leafy plants. The arms are white and black, with blue accents. The background shows the curved structure of the greenhouse. The text 'Key Messages' is overlaid in white, with a thin white horizontal line underneath it. The bottom of the image has a solid orange bar.

# Key Messages

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# Key messages

Tasmania does not have a workforce demand issue, it has a workforce supply issue which will continue into the future.

There is, and will continue to be, increasing competition for workers from a diminishing supply of labour. Employers will need to attract additional and replacement workers from a range of different sources.

There will need to be a mindset shift away from traditional assumptions about work and workers to recognising that work is one component of an individual worker's life - workers are people.

Utilisation matters to improving productivity. We are not utilising the knowledge and skills available to us, well enough. Further education and training can improve productivity.

Technology, automation and artificial intelligence – takes some jobs, changes jobs, creates new jobs – but also a problem solver, productivity improver and critical workforce solution.



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