

**Advanced Skills for
Advanced Manufacturing:**
*Rebuilding Vocational Training in a
Transforming Industry*

Tanya Carney and Jim Stanford
Economist and Director, Centre for Future Work
June 2018



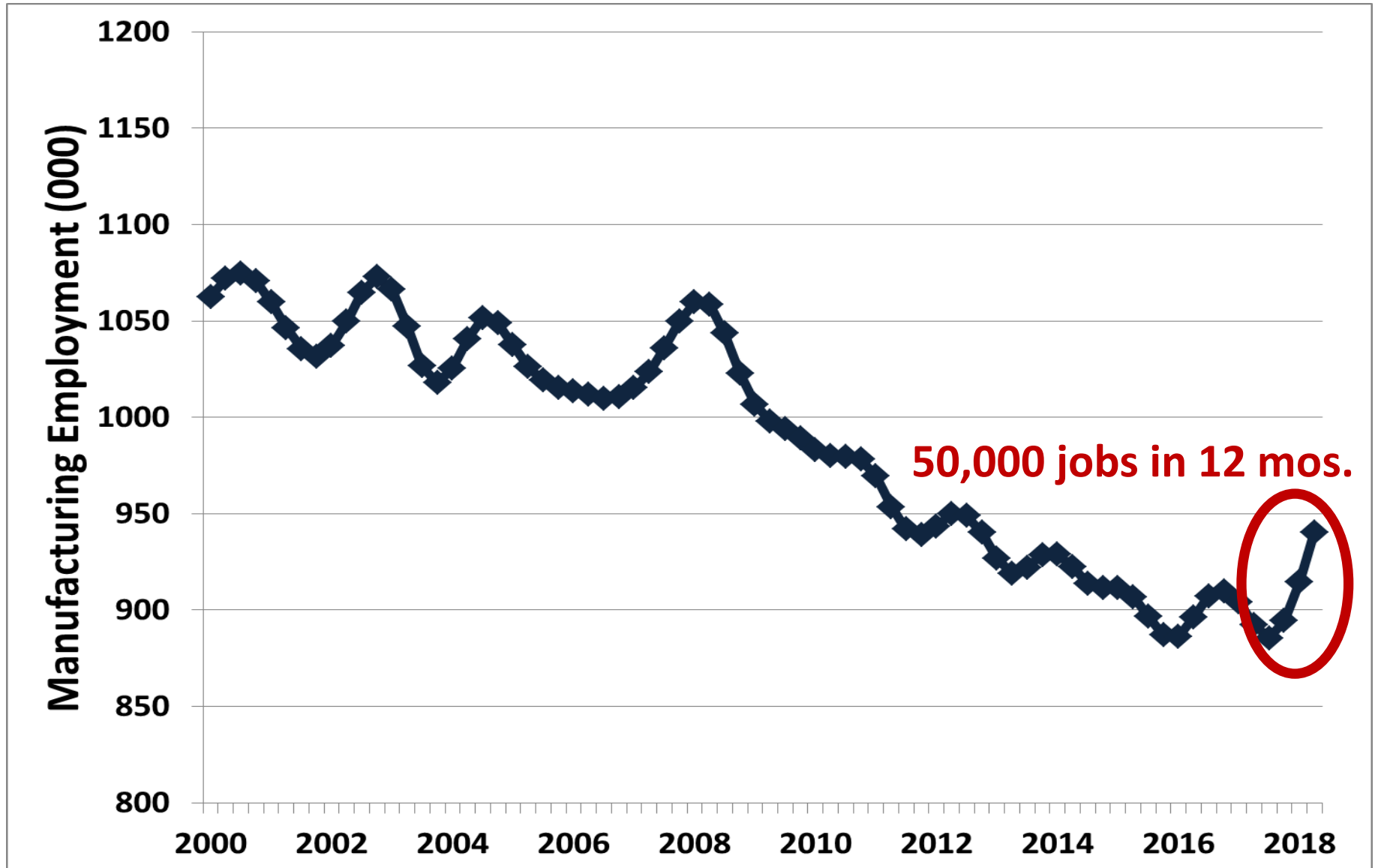
www.futurework.org.au



@jimbostanford

@cntrfuturework

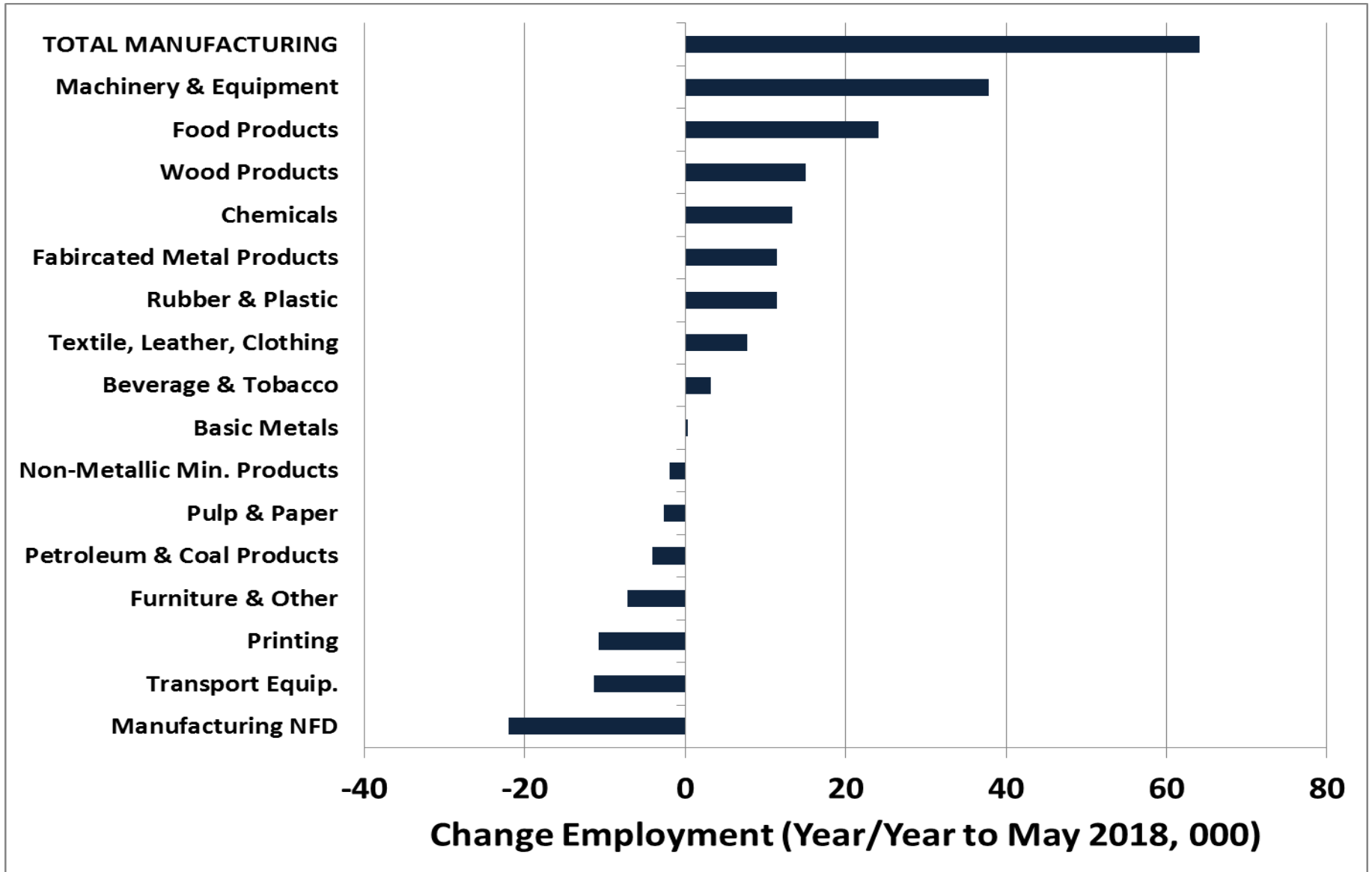
Better News at Last



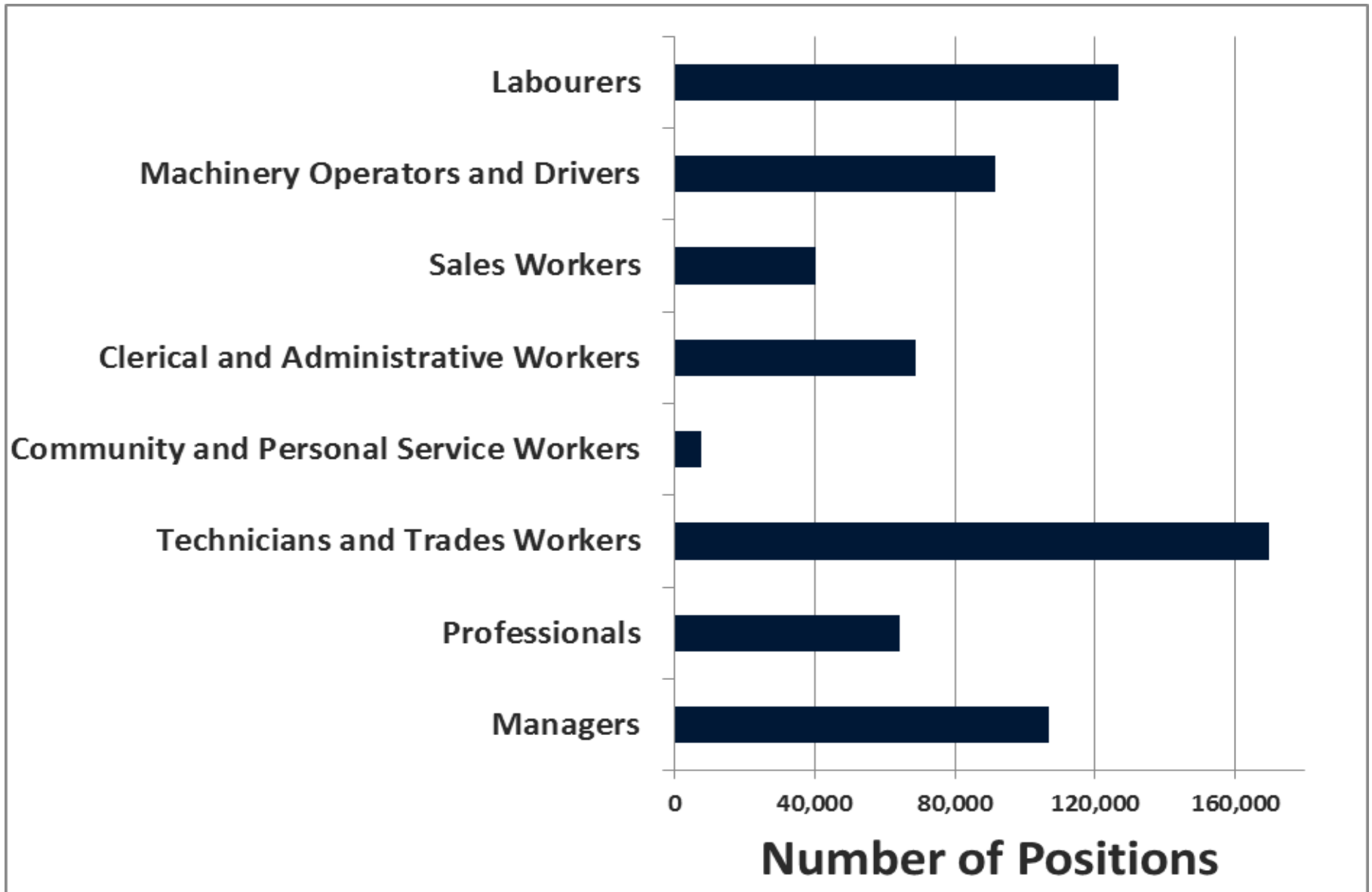
Don't Cut the Recovery Short

- Skills shortages could arise quickly, constraining future growth:
 - Sectoral & occupational diversity
 - Demographic transition of older workers
 - Increasing complexity and breadth of required skills (advanced manufacturing; digital technologies; desired integration of skill sets)

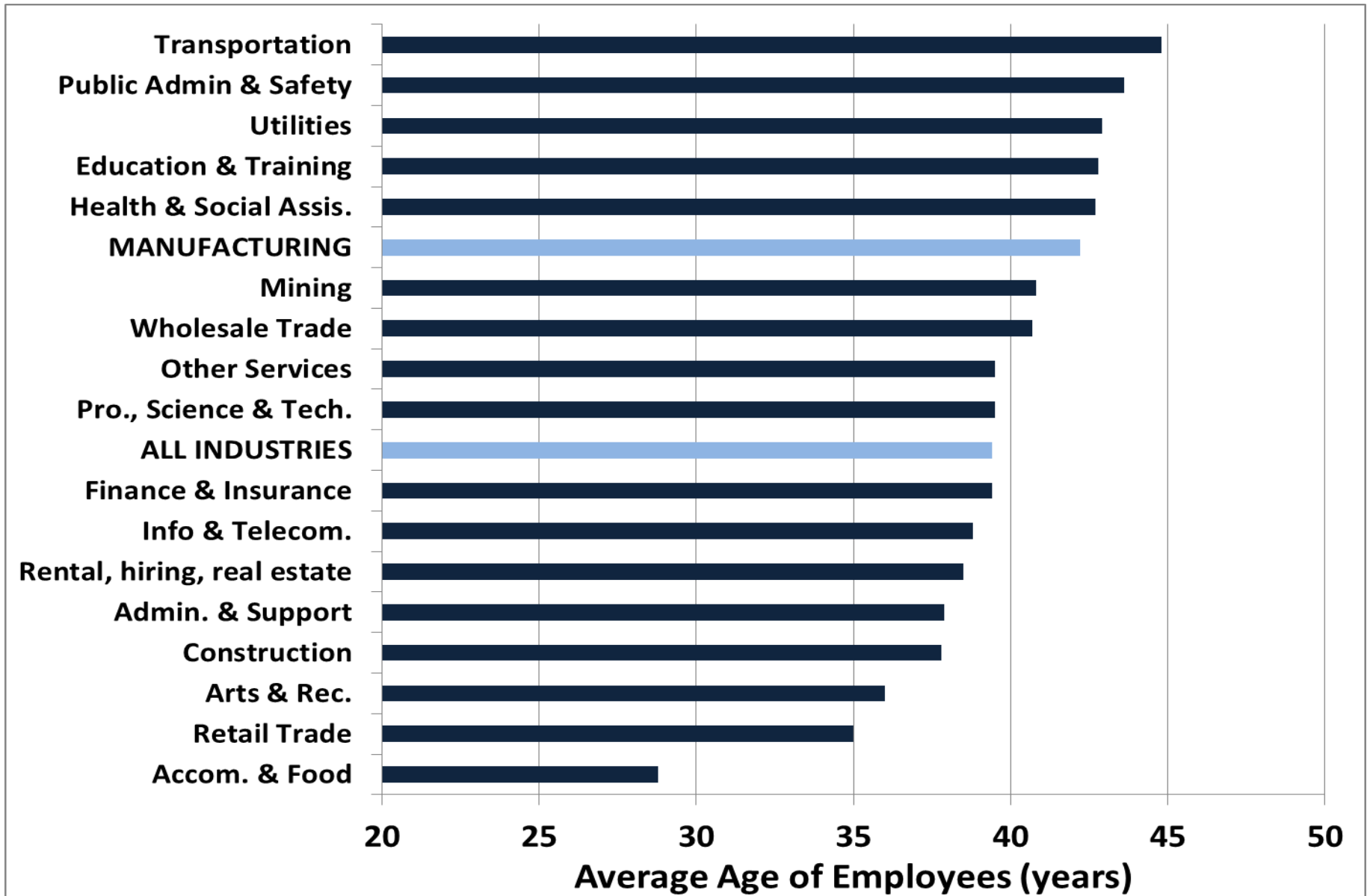
Winners and Losers



Occupational Mix



We All Get Older



The Pipeline is Empty

- Firms did not invest in apprentices and other skills development during the downturn.
 - Fiscal constraints
 - Uncertainty about future needs
- Lack of hiring coincided with advancing age.
- Irrationality of VET system exacerbated the problem.
- Consequence: Skills shortages arising quickly.

Shortages of Engineering Trades

ANZSCO Code	Occupation	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
3222-11	Sheetmetal Trades Worker	Shortage	Recruitment difficulty	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage
3223-11	Metal Fabricator	Shortage	Recruitment difficulty	Recruitment difficulty	Shortage	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Shortage
3223-13	Welder (First Class)	Shortage	Recruitment difficulty	Recruitment difficulty	Regional shortages	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Shortage
3231	Aircraft Maintenance Engineer*	Shortage	Shortage	Shortage	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Shortage
3232-11,12,13	Fitter	Shortage	Recruitment difficulty	Shortage	Recruitment difficulty	Regional shortages	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Recruitment difficulty	Shortage
3232-14	Metal Machinist (First Class)	Shortage	Recruitment difficulty	Shortage	Shortage	Shortage	Recruitment difficulty	Shortage	Shortage	Recruitment difficulty	Shortage
3233-13	Locksmith	Shortage	Shortage	Shortage	Shortage	Not assessed	Shortage	Not assessed	Shortage	Shortage	Shortage

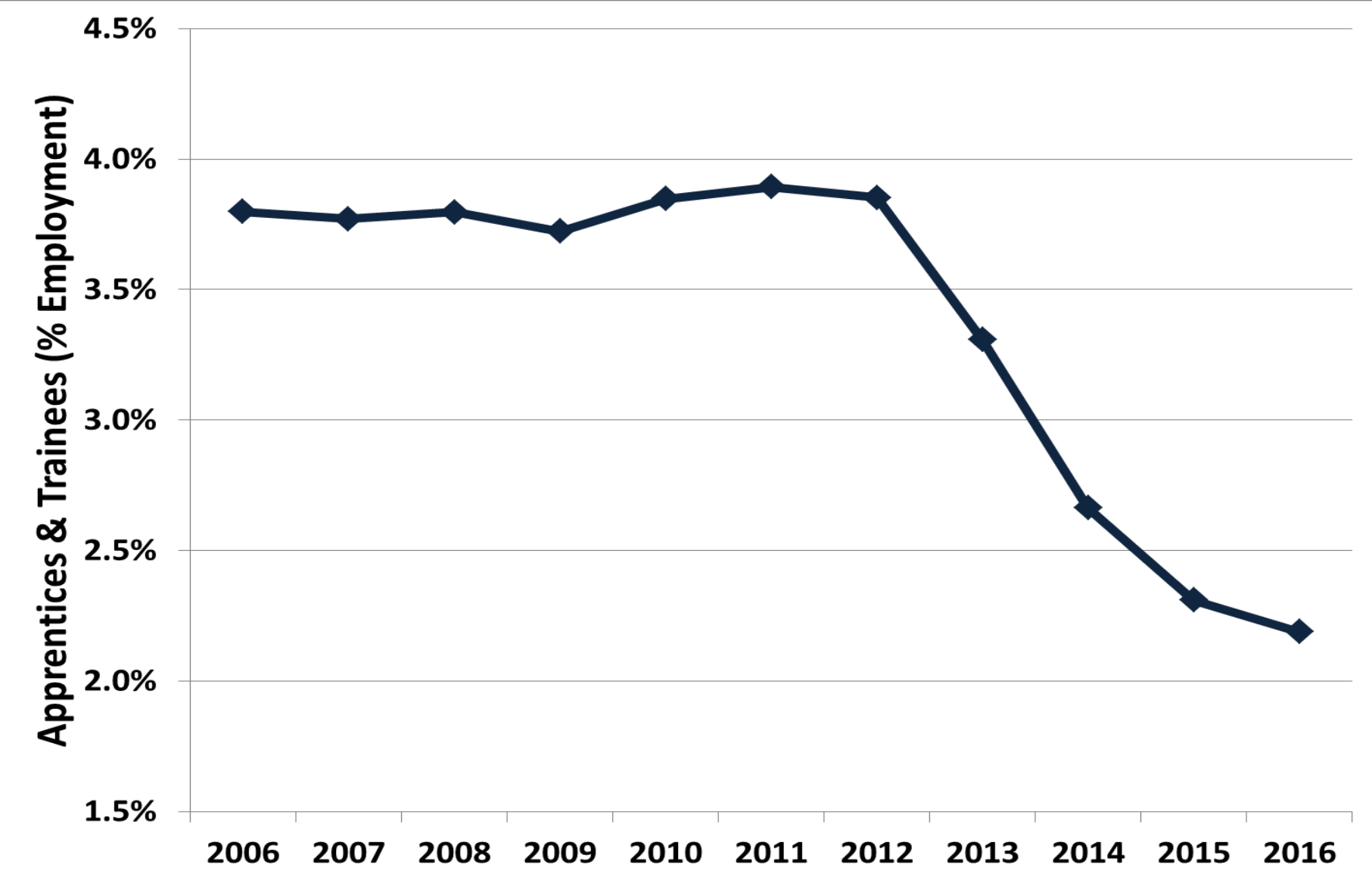
Legend: *Not assessed* *Shortage* *Regional shortages* *Recruitment difficulty* *No shortage*

Source: Department of Jobs and Small Business (2018).

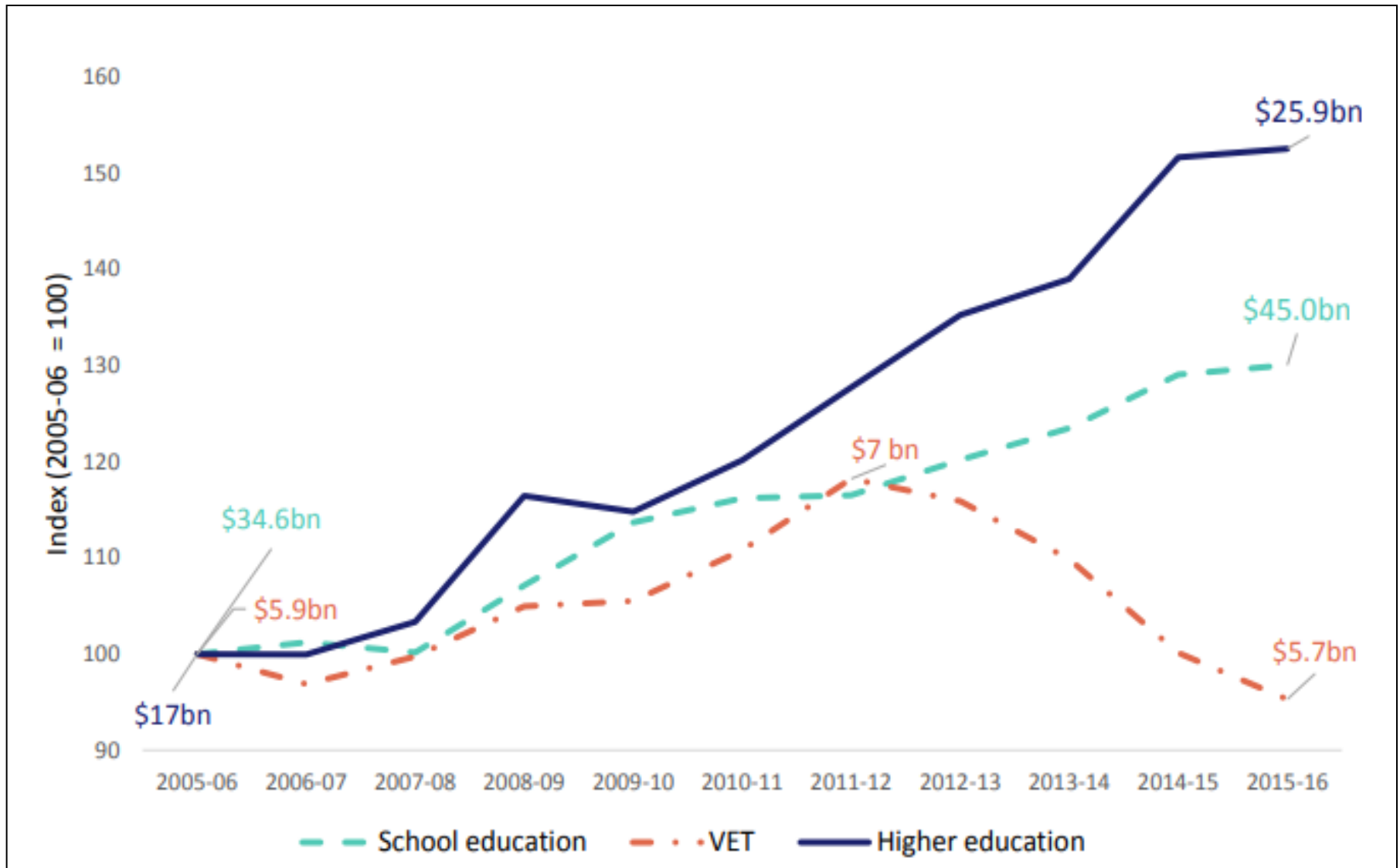
A Broken System

- Australian VET system in crisis:
 - Fiscal cutbacks from government (focused on universities).
 - Failed experiment with marketisation.
 - VET FEE-HELP fiasco.
 - Deep crisis faced by TAFEs.
- These problems afflict all sectors.
- But manufacturing hit hardest: greatest need for apprentices & skills.

Plunging Participation Rates



Funds Diverted from VET



Source: Pilcher and Torii (2017).

Other Challenges

- Increasing complexity of required skills.
- Fragmentation of curriculum into smaller units and microcompetencies.
- Poor completion rates.
- Access to training in precarious work.

Twelve Recommendations

1. Reestablish adequately funded and stable TAFEs as the centerpiece of vocational education.
2. Develop the capacities of TAFE manufacturing teachers and invest in modern training equipment.
3. Encourage partnerships on customised joint training initiatives between TAFEs and workplaces.
4. Expand other forms of integrated training between VET providers and workplaces.
5. Work to develop and implement higher-level and multi-disciplinary qualifications reflecting emerging skills and composite capacities.
6. Shift emphasis in curricula and training programs toward comprehensive and complete qualifications, rather than micro-competencies.

Twelve Recommendations

7. Integrate basic literacy and numeracy training into VET offerings at all levels.
8. Support apprenticeships in manufacturing with fiscal measures, instruction resources, and mentoring.
9. Implement provisions ensuring access to training opportunities within modern awards and enterprise agreements.
10. Develop better-resourced systems to support retraining and redeployment of displaced workers in declining sectors.
11. Develop models for phased retirement to smooth demographic transition facing skilled trade positions in manufacturing.
12. Establish a leadership-level Manufacturing VET Policy Board to coordinate VET initiatives in the sector, and represent the interests of manufacturing in broader VET processes and dialogues.

Conclusion

- Our list not the final word.
- Start the discussion about necessary reforms.
- Participation from all stakeholders needed.
- Move quick:
 - “Today’s inaction is tomorrow’s skills shortage.”

Thank You!

www.futurework.org.au



@jimbostanford
@cntrfuturework