

Advanced Manufacturing: Beyond the production line

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Advanced manufacturing: a smarter choice for Australia

CEDA
Melbourne

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What is 'advanced manufacturing'?

Hard to define, even harder to achieve:

- 1. An approach, not a process**
- 2. Not confined to 'hi-tech' goods, sectors, equipment, technologies or materials**
- 3. Aim for value and 'uniqueness': requires IP, innovation, investment, positioning**
- 4. Skills, capabilities and attitudes: requires better VET, collaboration and organisation**



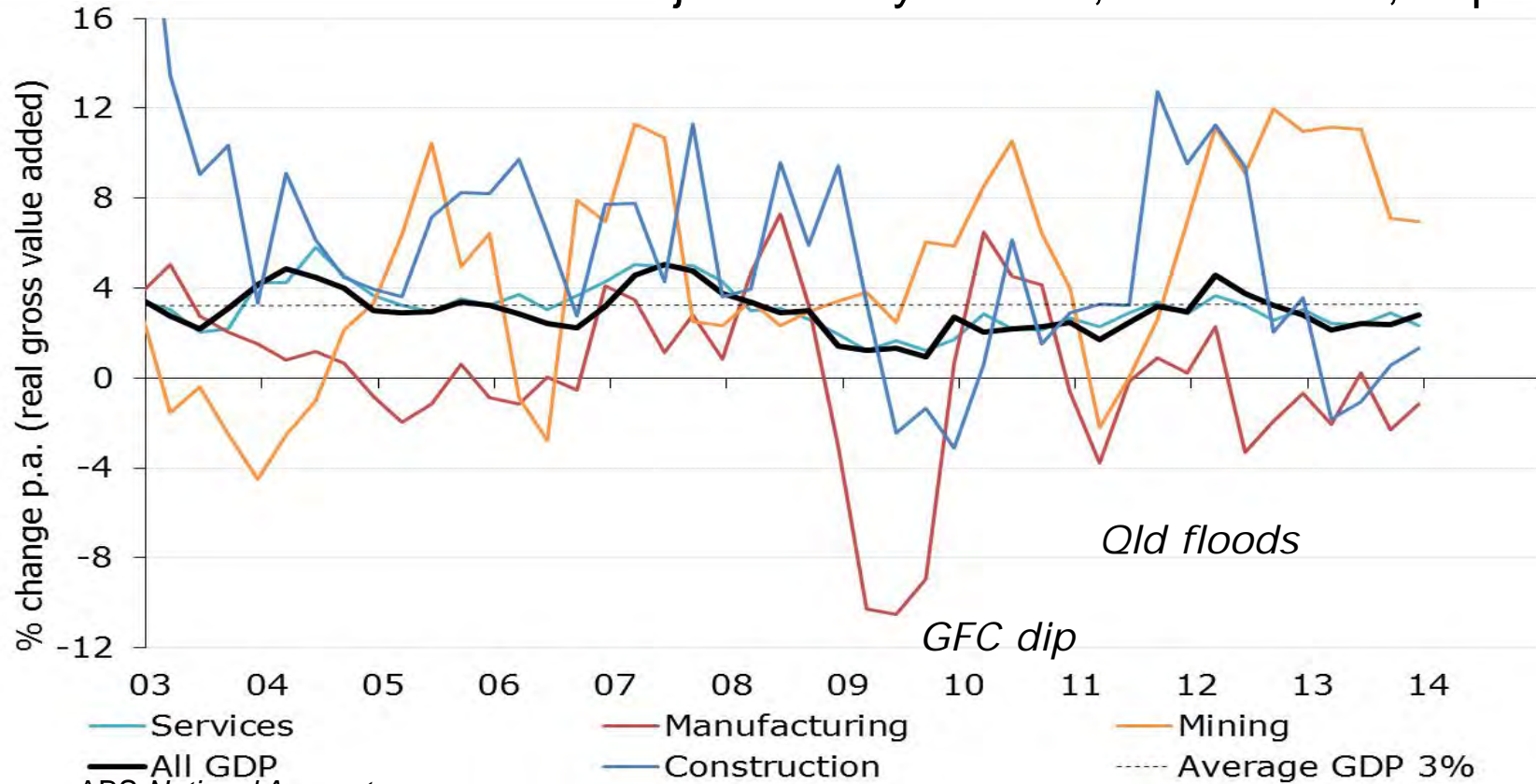
Why do we need 'advanced
manufacturing'?

Why here and now?



Latest GDP growth is 2.8% p.a., below its long-run average (3%) and with a narrowing growth base

Growth in real GDP and major industry sectors, to Dec 2013, % p.a.

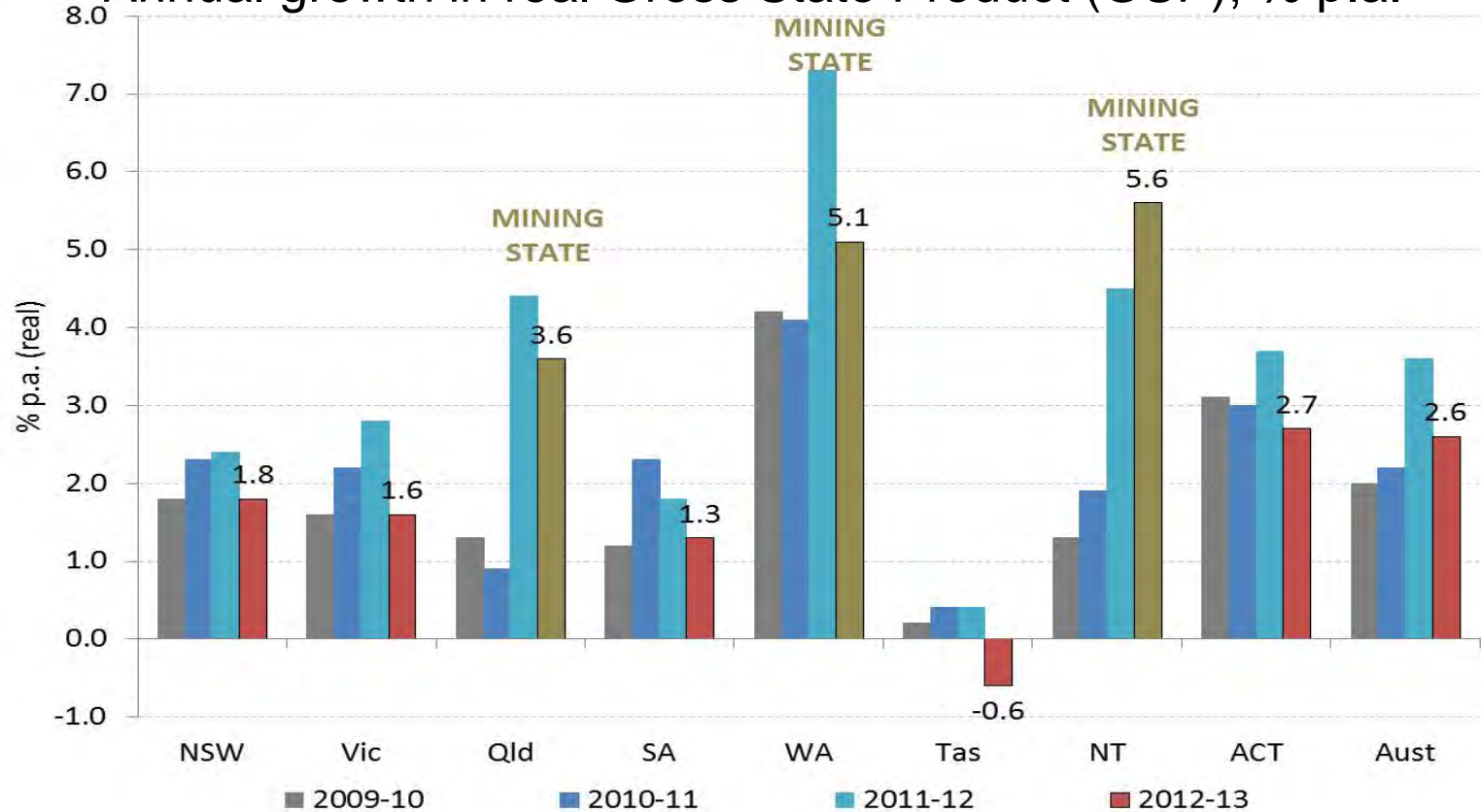


Source: ABS National Accounts



A big growth gap is apparent (again) between the mining states (WA, Qld, NT) and non-mining states

Annual growth in real Gross State Product (GSP), % p.a.

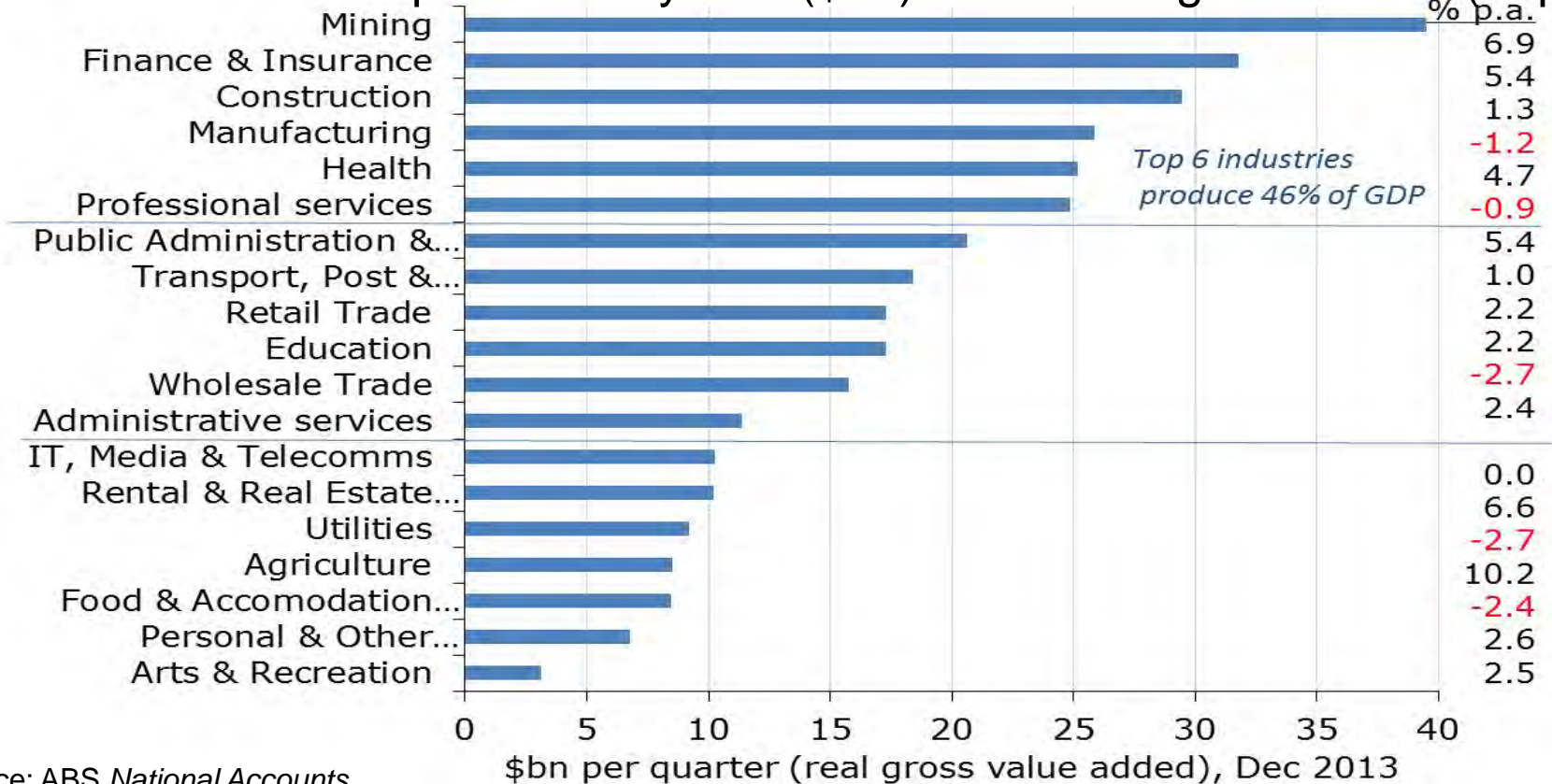


Source: ABS, *State Accounts 2012-13*, Nov 2013.



Industry detail: our top 6 industries are re-shaping the economy. 3 are expanding, 3 are struggling

Real value added output: industry size (\$bn) growth rates (% p.a.)



Source: ABS National Accounts



Manufacturing myth-busting: still big, still matters

How big and significant is manufacturing?

- **Produces value-added output worth around 7.5% of GDP in 2013.** A touch larger than health services and professional services (\$100-\$120bn per year).
- **Employs 8% of the workforce or 950,000 people.** About the same as the entire education sector. Manufacturing employment is spread fairly evenly across all states (relative to their population size).
- **Produces 35% of our goods export earnings.** \$86bn in 2012-13. Around 10% of manufacturing businesses are directly exporting. More do it indirectly.
- **Typically contributes around 10% of all CAPEX** and 25% of R&D spending.

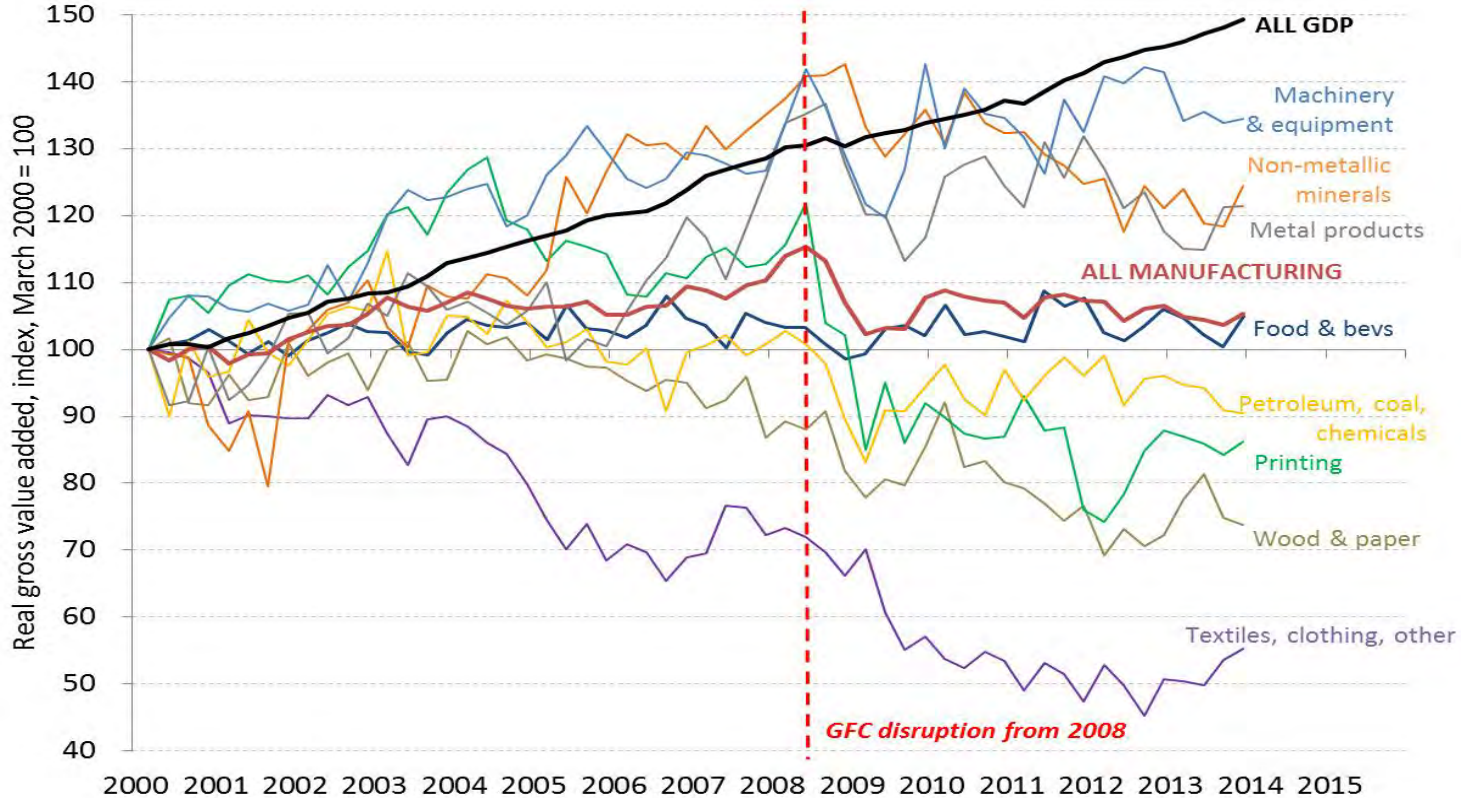
How much has it shrunk since the GFC (2008)?

- output volumes declined by 8% over the five years to Sep 2013.
- employment declined by 13% (140,000 people) over the five years to Aug 2013.
- aggregate corporate profits dropped by 40% over the five years to June 2003.
Manufacturing profit margins are now at the lowest level ever recorded by the ABS.

Source: ABS various publications

2008 'GFC' followed by global disruption and high AUD. Output partially recovered, still 8% below peak

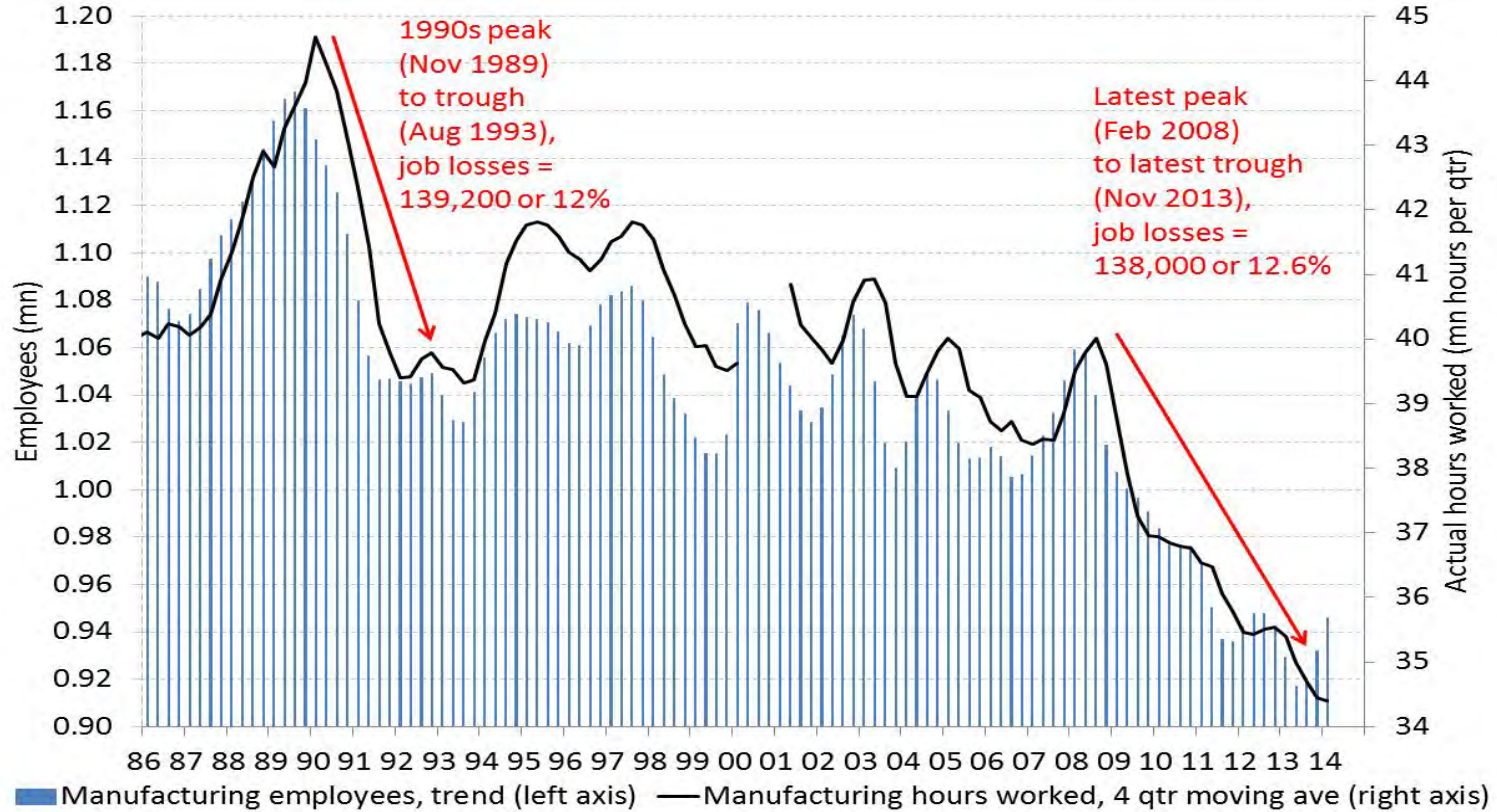
Real value added output growth index, by manufacturing segment



Source: ABS, *National Accounts*, to Dec 2013.

Effect seen in employment (down 13%) more than in output, as businesses focus on costs & productivity

Australian employment in manufacturing

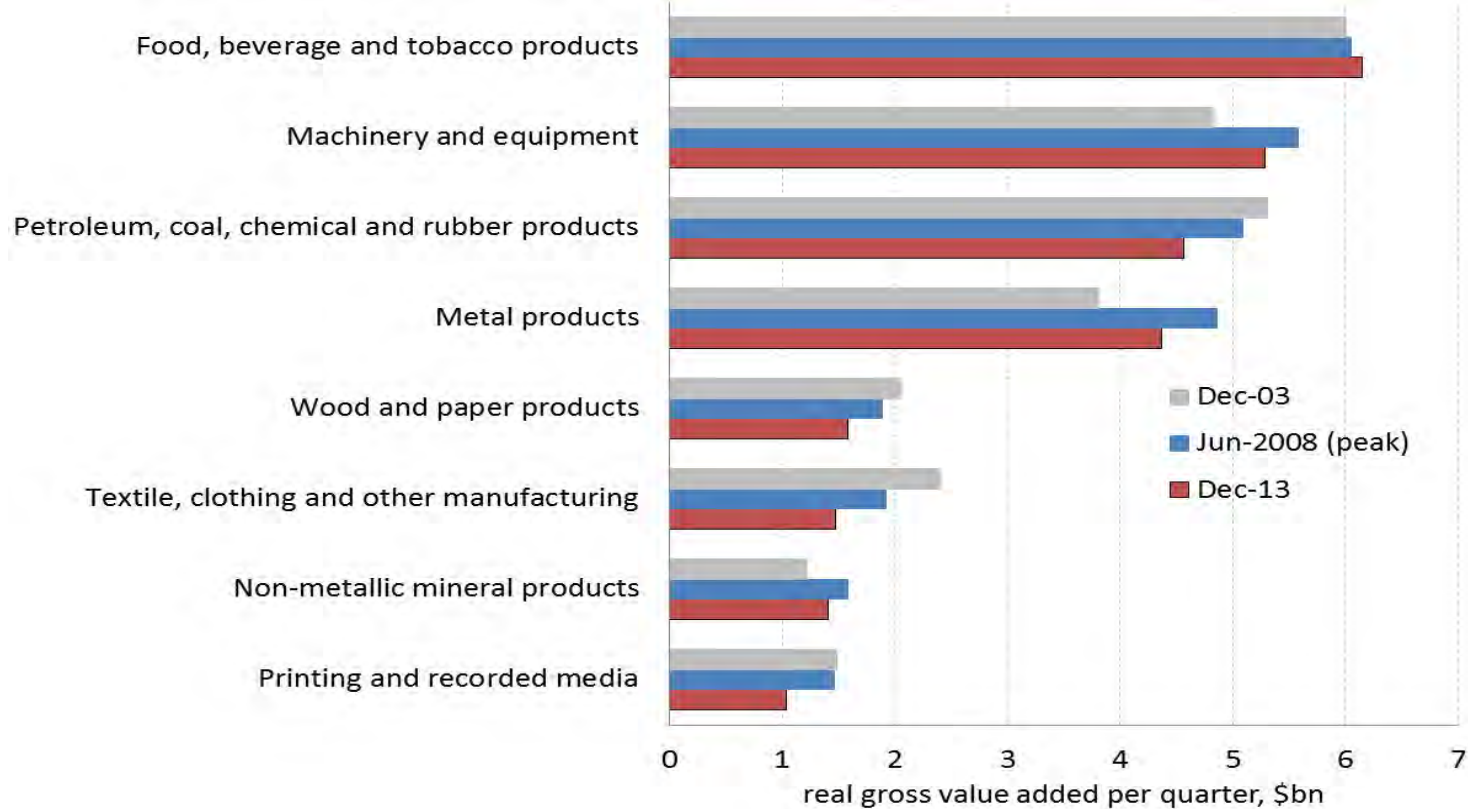


Source: ABS, *Labour Force Australia, Detailed Quarterly*, Feb 2014.



Growth in output over the past decade in food, machinery, metals, chemicals, building materials

Real value added output, by manufacturing segment



Source: ABS, *National Accounts*, to Dec 2013.

🗨️ Challenge: "Australia has become a more expensive country in which to do business"

WEF Global Competitiveness Indicators: Australia's rankings, 2007 to 2014*

Year	Overall competitiveness ranking	Flexibility of wages	Burden of Government regulation	Firm-level technology absorption	Hard infrastructure (transport)
2007-08	19	87	68	18	21
2008-09	18	90	66	17	25
2009-10	15	75	85	16	38
2010-11	16	110	60	19	34
2011-12	20	116	75	19	37
2012-13	20	123	96	15	36
2013-14	21	135	128	14	34

* WEF global competitiveness scores and rankings are constructed from 12 sets of indicators, 4 of which are shown here.

Source: WEF *Global Competitiveness Report*, 2013-14.

Challenge: “Australian exporters are finding it harder to compete in global markets”

WEF Global Enabling Trade Indicators: Australia’s rankings, 2008 to 2014*

Year	Overall enabling trade ranking	Market access (imports & exports)	Border administration efficiency	Trade infrastructure (transport & ICT)	Trade operating environment
2008	17	44	11	17	21
2009	14	97	17	14	14
2010	15	63	14	19	19
2012	17	54	14	23	18
2014	23	74	22	20	19

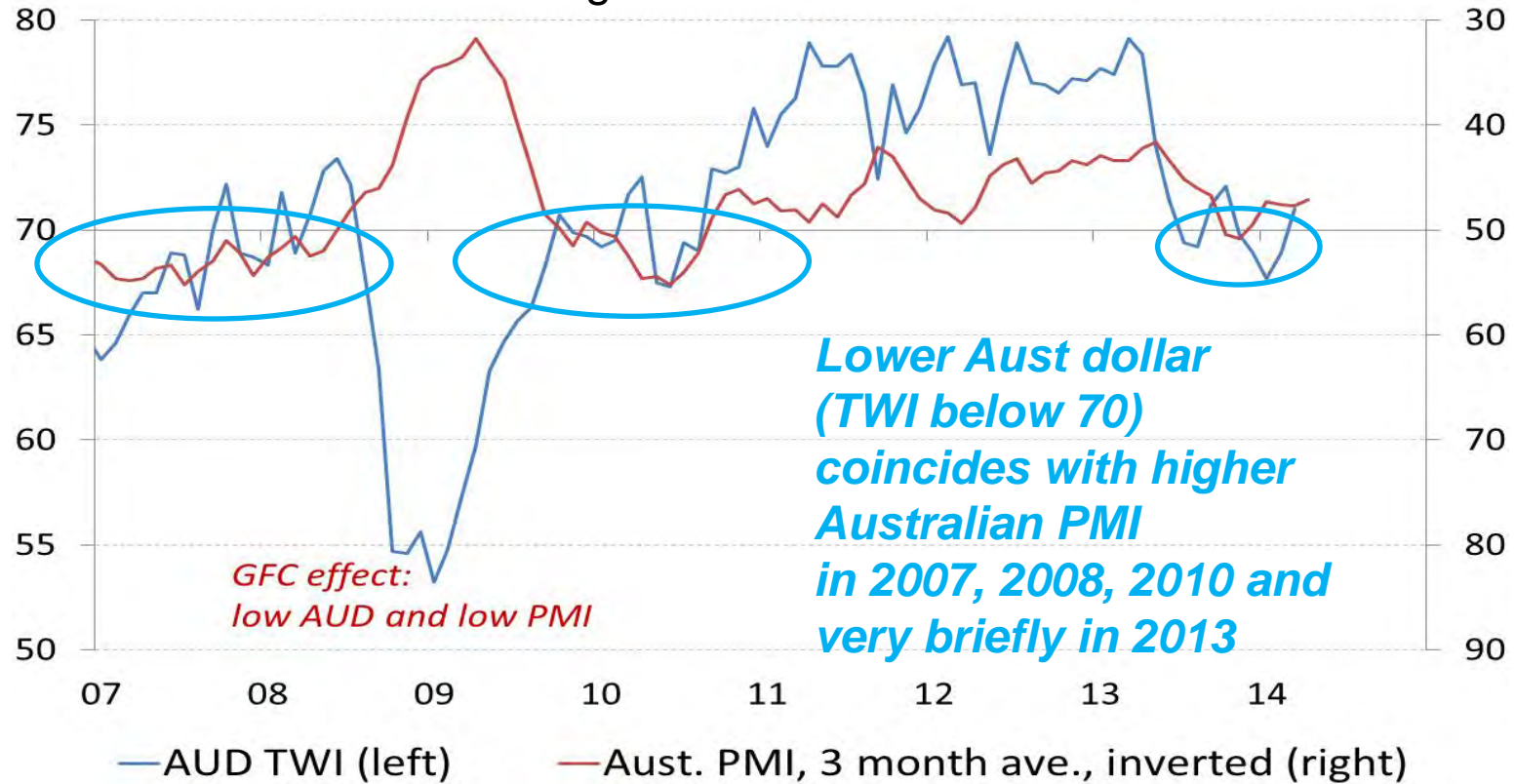
* WEF global competitiveness scores and rankings are constructed from 12 sets of indicators, 4 of which are shown here.

Source: WEF *Global Enabling Trade Report*, 2014.



Challenge: the Aust dollar is the elephant in the room, especially for manufacturing

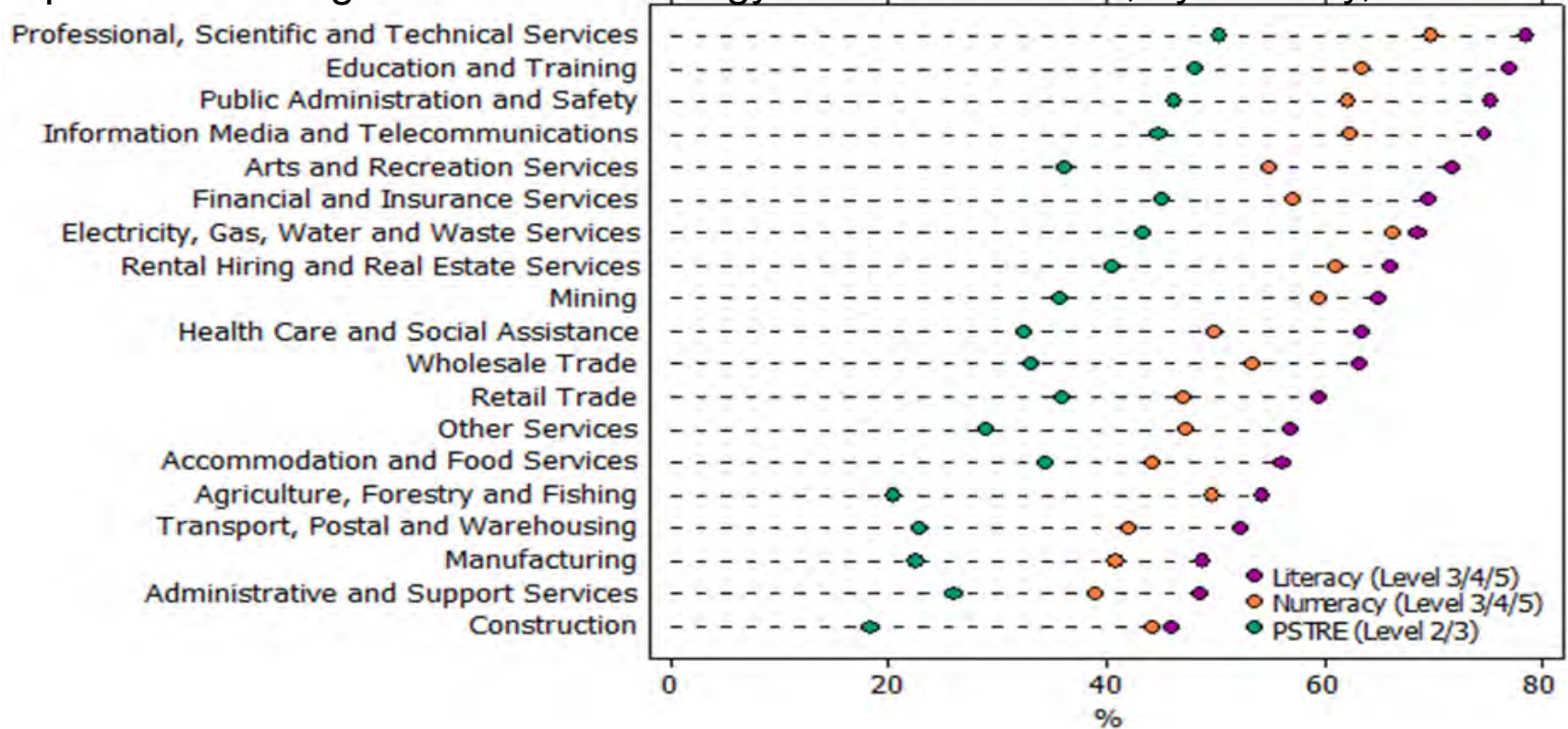
AUD Trade Weighted Index and the Australian PMI®



Sources: RBA and Ai Group

Challenge: Literacy, numeracy and problem-solving skills are still relatively low in manufacturing

Australian adult literacy, numeracy and 'problem solving skills in a technology-rich environment', by industry, 2011-12



Source: ABS 4228.0, Programme for the International Assessment of Adult Competencies, Australia, 2013.

Policy priorities: Ai Group's 10 point plan

Why?

The Australian economy urgently requires rebalancing as it digests the effects of the 'supercycle' in mining investment and mining output growth. Investment, employment, production and productivity need to lift in other parts of our economy if we are to improve our incomes and living standards across the community.

How?

Successful rebalancing requires Government to address **10 key policy areas:**

1. Consolidation of Government **Budgets**
2. Investing in **Infrastructure**
3. Removing Key **Workplace Relations** Roadblocks
4. Boosting Workforce **Skills**
5. Building **Innovation** and Business Capabilities
6. Lifting Manufacturing **Performance**
7. Successful **Transition for Automotive** Manufacturing
8. Reducing **Regulatory Burdens**
9. Reforming **Energy** Markets
10. Reducing **Emissions** and Meeting the Renewable Energy Target at Least Cost

Source: Ai Group, March 2014