ACCC Regulation & Competition Conference
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Australia’s Productivity Surge:
An Outcome of Microeconomic Reforms?

Dean Parham
Motivation for this session

- Strong productivity surge in the 1990s

<table>
<thead>
<tr>
<th></th>
<th>1980s</th>
<th>1990s</th>
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<tbody>
<tr>
<td>Labour productivity growth (%pa)</td>
<td>1.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Multifactor productivity growth (%pa)</td>
<td>0.7</td>
<td>1.8</td>
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- Productivity growth — the usual suspects
  - technological change (ICTs)
  - better use of resources (micro policy reforms)
  - mismeasurement and misidentification (skills, cyclical effects, work intensity)

- What factor(s) promoted Australia’s productivity surge?
  Have policy reforms played a role? If so, what are the key features of reforms?
Outline

- Background
  - An international/historical perspective
  - Australia’s failure to turn up at the ‘Convergence Club’

- The 1990s experience
  - record productivity growth
  - implications for living standards

- Who dunnit?
  - Clues: What has to be explained?
  - Elimination of some suspects
  - Investigation of others

- The case for reforms

- Conclusions
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Australia was not part of post-war convergence

GDP per hour (US$PPP)
Australia’s comparative performance
(Labour productivity - GDP per hour worked)

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<tbody>
<tr>
<td>Australia’s rank</td>
<td>4</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>% of US level</td>
<td>81</td>
<td>75</td>
<td>74</td>
<td>77</td>
<td>83</td>
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</tbody>
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<tr>
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</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2.74</td>
<td>2.4</td>
<td>1.5</td>
<td>2.3</td>
</tr>
<tr>
<td>USA</td>
<td>3.5</td>
<td>2.6</td>
<td>1.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Europe</td>
<td>4.1</td>
<td>5.0</td>
<td>2.4</td>
<td>1.7</td>
</tr>
<tr>
<td>OECD</td>
<td>3.6</td>
<td>4.4</td>
<td>2.0</td>
<td>1.7</td>
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</tbody>
</table>
Why did Australia perform relatively poorly?

■ Symptoms — structural weaknesses

- lack of specialisation and scale
- manufacturing focus on domestic market with dependence on agricultural and mining commodities for export earnings
- poor investment decisions and excess manning in large areas of infrastructure
- poor work practices, labour relations, management
- outdated or inappropriate technologies, combined with low innovation and skill development
- a culture that resisted change rather than rose to meet it.
Causes — (unintended?) consequences of development and redistribution strategies

- highly regulated product and capital markets
- highly regulated labour markets with centralised bargaining (one size fits all)
- political imperatives impinging on the provision of economic infrastructure (energy, transport, water, roads)
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Australia’s actual and trend MFP
Underlying rates of productivity growth over productivity cycles

Average annual rates of growth (per cent)

<table>
<thead>
<tr>
<th>Period</th>
<th>MFP growth</th>
<th>Capital deepening</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964-65 to 1968-69</td>
<td>2.5</td>
<td>1.3</td>
</tr>
<tr>
<td>1968-69 to 1973-74</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>1973-74 to 1981-82</td>
<td>2.4</td>
<td>1.4</td>
</tr>
<tr>
<td>1981-82 to 1984-85</td>
<td>2.2</td>
<td>1.4</td>
</tr>
<tr>
<td>1984-85 to 1993-94</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td>1988-89 to 1999-00</td>
<td>2.0</td>
<td>1.3</td>
</tr>
<tr>
<td>1993-94 to 1999-00</td>
<td>3.0</td>
<td>1.2</td>
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The 1990s productivity surge gives Australia comparatively strong growth in average income.
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Clues: What has to be explained?

- Record rates of underlying productivity growth
- Longest period (9 years) of continuous increase
- MFP acceleration, rather than increased capital deepening
Acceleration in trend multifactor productivity growth in the 1990s in OECD countries
Productivity take off around 1992

Output per hour worked

Capital-labour ratio

Indexes 1999-2000 = 100

1960s
1970s
1980s
1990s

(1982-83)
(1990-91)
Industry MFP growth over last two productivity cycles

Average annual rates of growth (per cent)
Clues: What has to be explained?

- Record rates of underlying productivity growth
- Longest period (9 years) of continuous increase
- MFP acceleration, rather than increased capital deepening
- Strength of Australia’s surge in the midst of mixed productivity results elsewhere
- Commencement in the early 1990s
- Acceleration in a new set of service industries
- Why Australia’s catch-up delayed until the 1990s
Elimination of some suspects

- Recovery from recession
  - record continuous rise, peak-to-peak rates
- Worldwide productivity boom
  - only few countries with strong acceleration
- Work intensity
  - longer hours measured, beyond ‘jobless’ recovery, industry locus (wholesale etc)
- Mismeasurement
  - accelerations (mismeasurements need to get worse), growth in services → underestimation
Four remaining explanations

- Macro policy settings
- Education and skills
- Technology
  - information and communications technologies (ICTs)
- Micro policy reforms
Education and skills

- Direct and indirect effects
- Experimental ‘quality-adjusted’ labour input
  - gender, educational attainment, potential workforce experience
- Relative increase in skills in the 1980s
  - around 0.3 pp of MFP growth
- But deceleration in the 1990s
  - around 0.05 pp from 1993-94
- Suggests no direct effect on the 1990s productivity acceleration, but growth in skills in the 1980s and 1990s could still have affected technology absorption and innovation
Technology

- Information and communications technologies (ICTs)
- ICTs in Australia
  - low production
  - high use
  - from technology laggard (1970s, 1980s) to forefront of uptake (1990s)
- Potential productivity gains associated with ICT use
  - capital deepening (ICT, total)
  - MFP gains (spillovers, other)
Contributions of ICT capital deepening to labour productivity growth in the USA and Australia, 1961 to 2001

(percentage points)
## Contributions to 1990s acceleration in US and Australian labour productivity growth

(percentage point)

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<tr>
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<tr>
<td>Capital deepening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- ICT capital</td>
<td>0.3</td>
<td>0.4</td>
</tr>
<tr>
<td>- Other capital</td>
<td>-0.2</td>
<td>-0.5</td>
</tr>
<tr>
<td>MFP contribution</td>
<td>0.3</td>
<td>1.1</td>
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Productivity accelerators

- Similar industries in USA and Australia
  - USA : Wholesale, Retail, FIRE, Business services
  - Australia : Wholesale, Finance & insurance
- Above-average ICT users
No strong ICT/MFP link across industries

- Links concentrated in distribution and financial intermediation
- Factors other than ICTs important to productivity growth
- Even in ICT intensive industries, productivity gains depend on other (complementary) innovations
  - *ICTs as general purpose technologies*
  - *platform for other product and process innovation, which are the source of productivity gains*
- Not widespread network spillover effects (yet)
  - *internalised gains due to disembodied innovations*
- In Australia, ICTs part of a more general process of restructuring and transformation (catch up)
- Examples (banking, wholesaling)
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The case for policy reforms

- Progressive implementation since the mid-1980s
- Wide-ranging
  - capital, labour, trade & investment, government business enterprises, domestic competition
  - aimed at Australia’s structural weaknesses
- Key influences on productivity growth
  - sharper competition as an incentive
  - openness to trade and investment (specialisation, technology)
  - flexibility to adjust and innovate
- Underlying drivers and enablers
  - example — ICT and wholesale
- Competition, productivity and inflation
Does the case explain the clues?

✔ Record rate and length of productivity growth (accord with expectations)

✔ MFP acceleration

✔ Australia-grown explanation

✔ Timing (roughly)

✔ Acceleration in new service industries

✔ Delay in Australia’s catch-up and transition from technology laggard to the forefront of technology uptake
Other evidence

- Case studies
- Trends in ‘proximate’ determinants
  - specialisation, increasing trade (including manufactured exports), foreign investment, technology uptake, innovation
- Econometric analyses
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Key messages

- Growth in Australia’s productivity and living standards had been languishing for decades compared with other countries.
- Policy reforms were introduced in large part to raise Australia’s productivity performance.
- Productivity growth reached record highs in the 1990s.
- This has translated into much stronger growth in average incomes.
- Policy reforms are a major factor in explaining the improved performance.
- Competition, openness and flexibility are key elements

- Reforms, education, ICTs not ‘competing’ explanations
  - ICTs part of the ‘dynamic’ effects of reforms
  - Increased education likely to enhance uptake application and enhancement of technologies

- There are important gains from reforms and effective pro-competition regulation
References
