

# Australia's productivity performance

**Seminar Presentation to  
Australian Treasury**

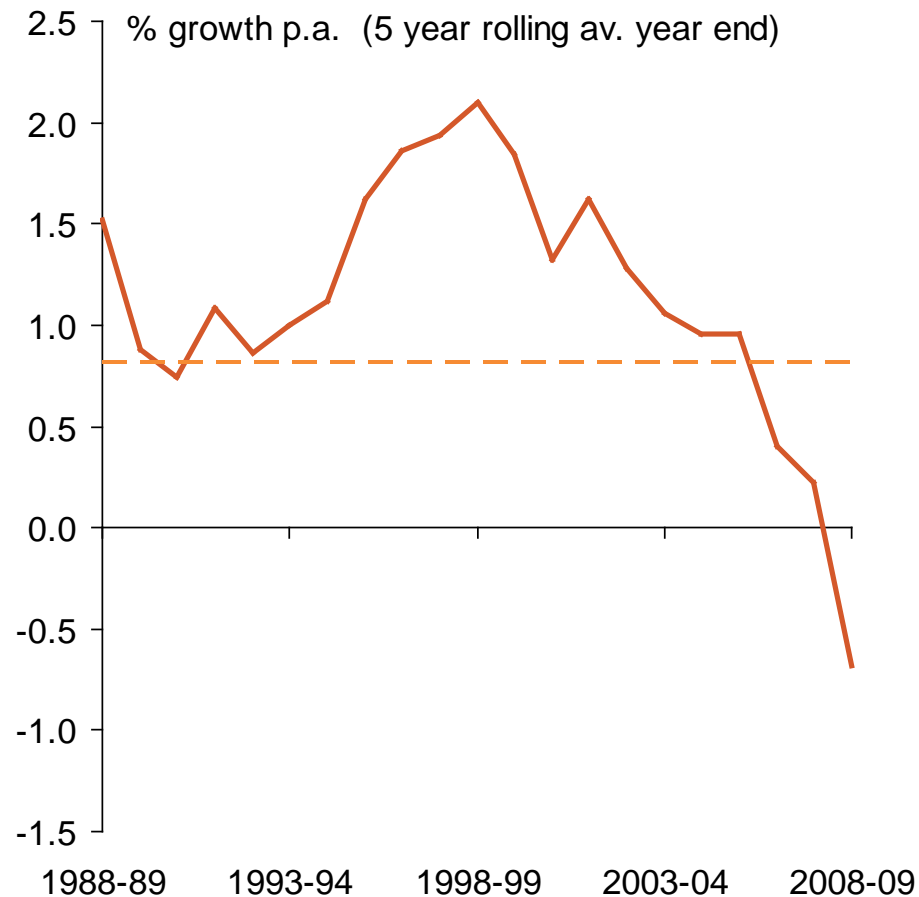
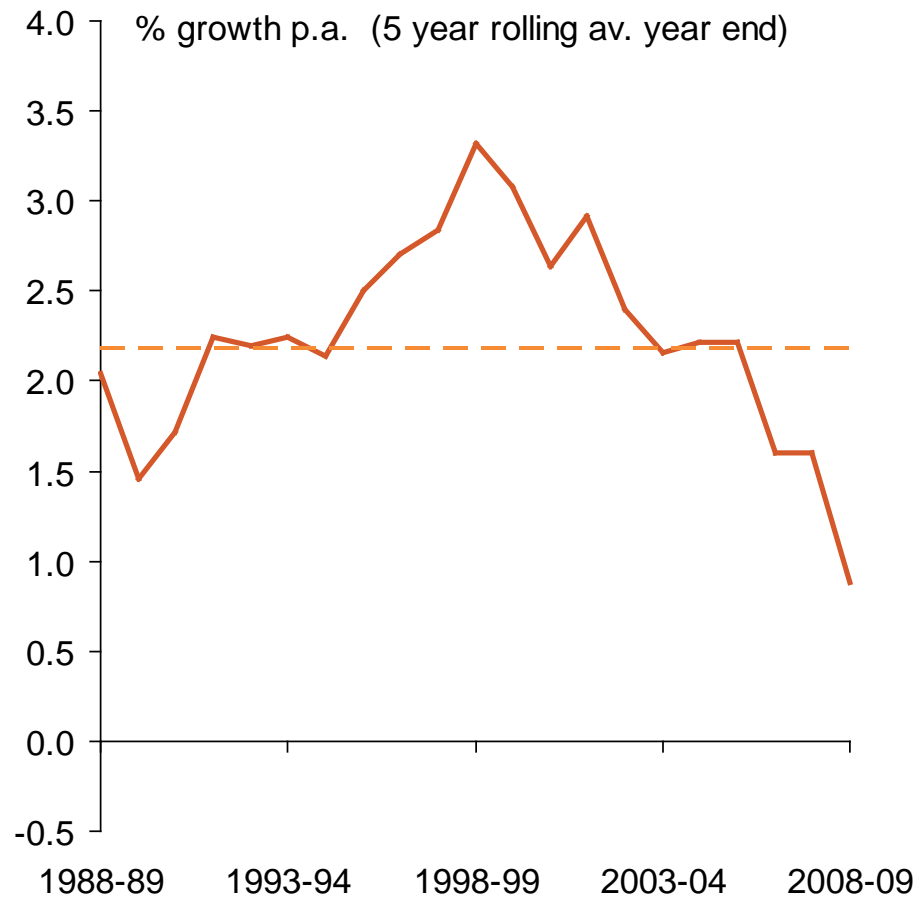
**Canberra, 22<sup>nd</sup> September 2010**

**Saul Eslake  
Grattan Institute**

# Australia's productivity growth has slowed over the last five years, after 15 years of above average growth

## Labour productivity

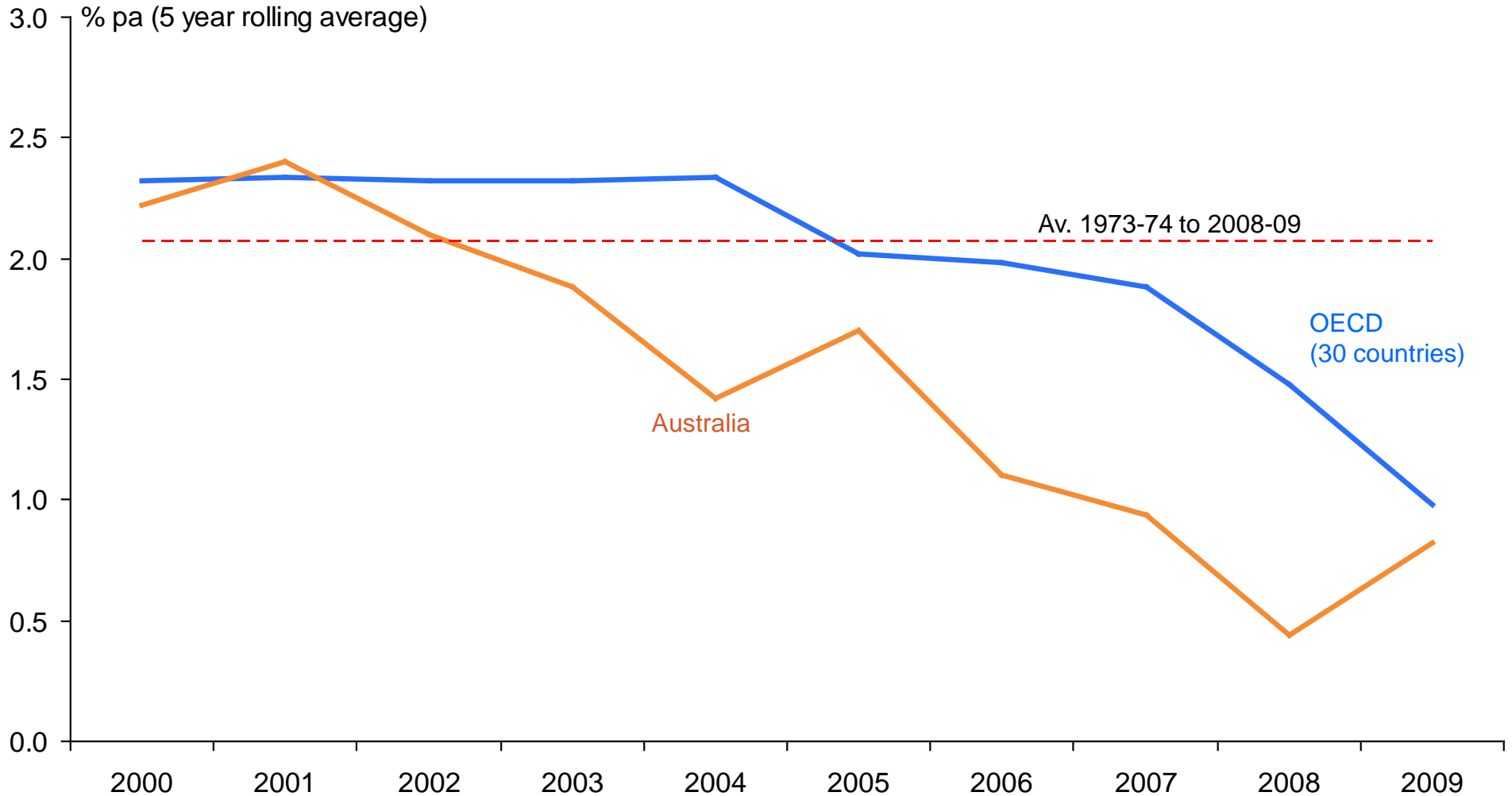
## Multi-factor productivity



----- Av. 1973-74 to 2008-09

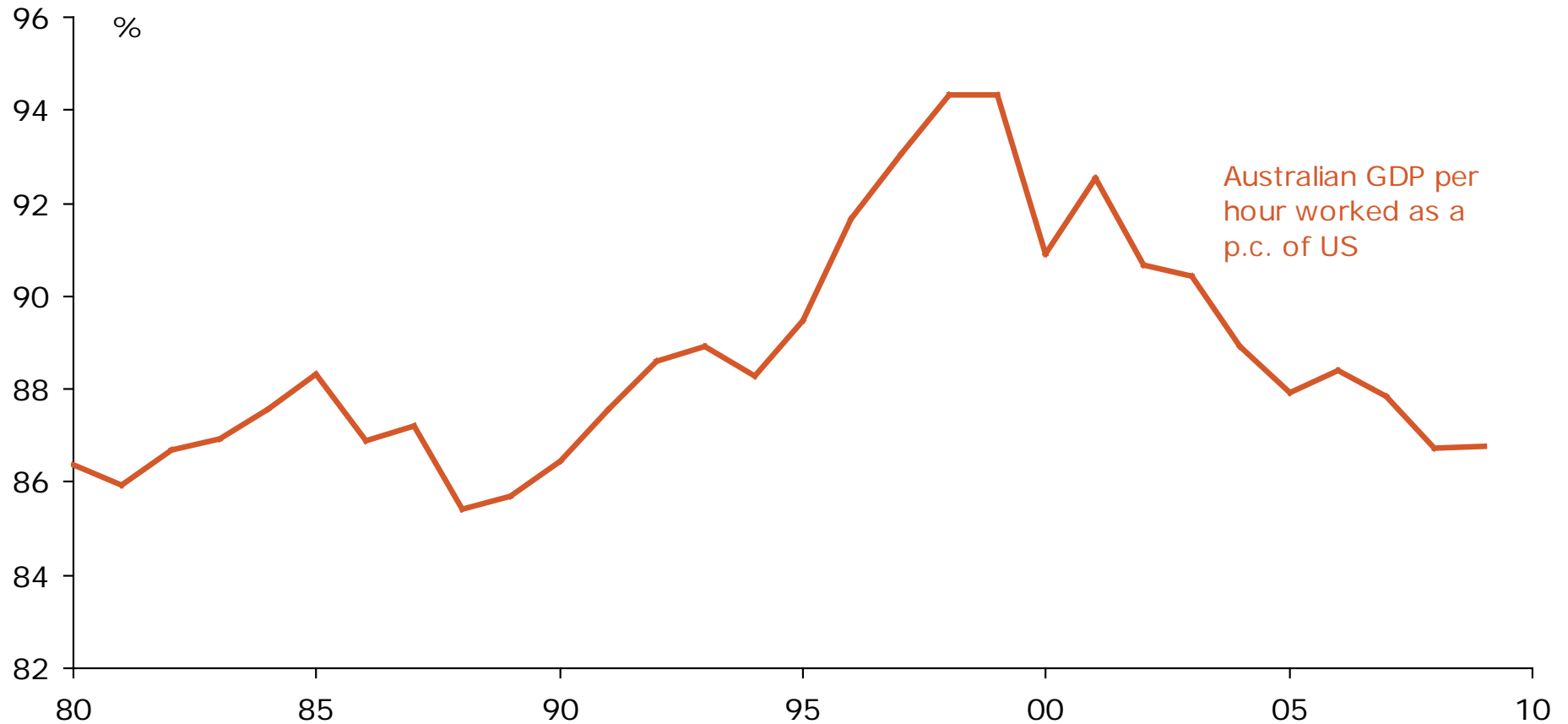
# Productivity growth has slowed in most OECD countries, but the slowdown has been more marked in Australia

## Labour productivity



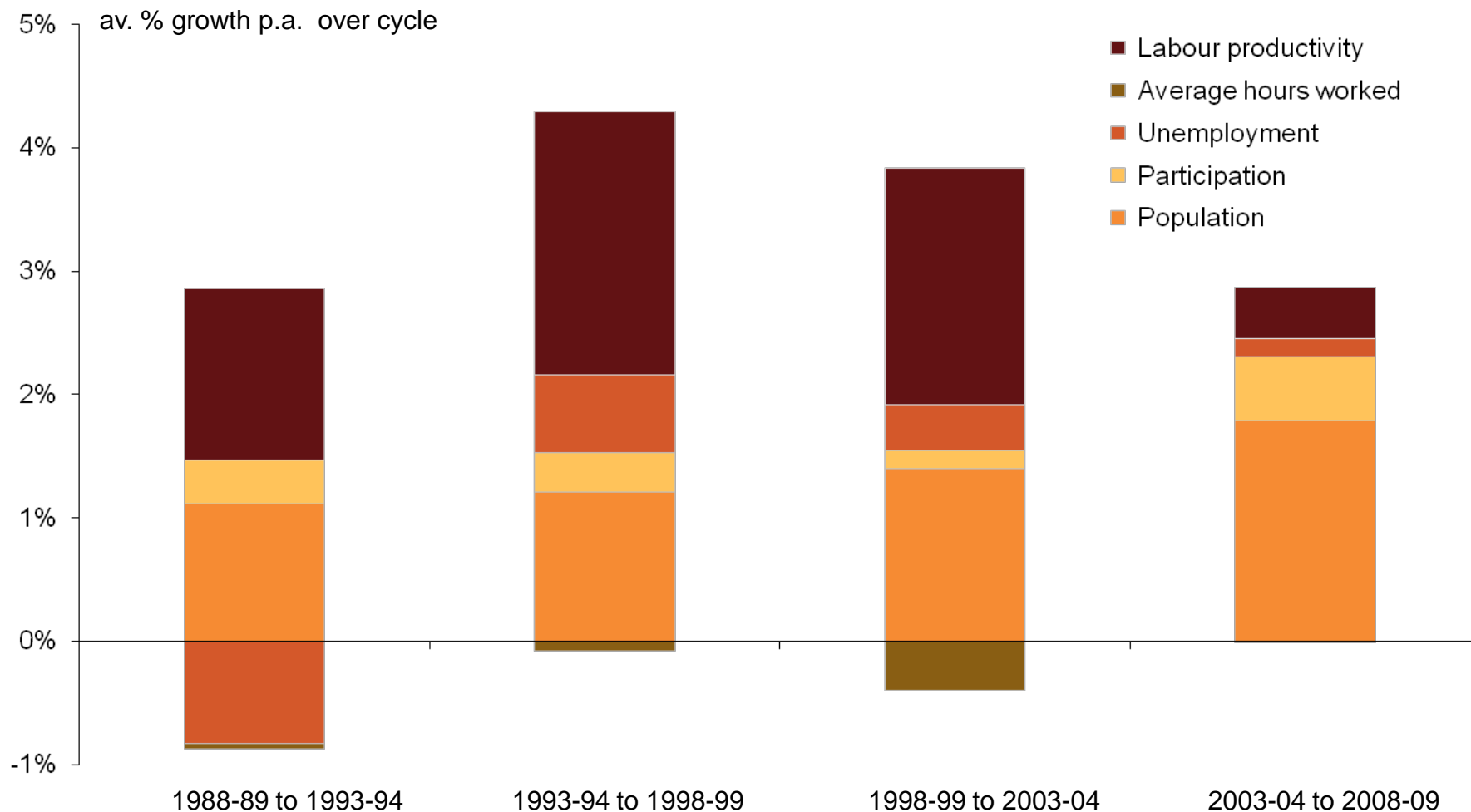
# Relative to the US, Australian labour productivity is back to where it was in 1990

## Australian labour productivity as a percentage of the US



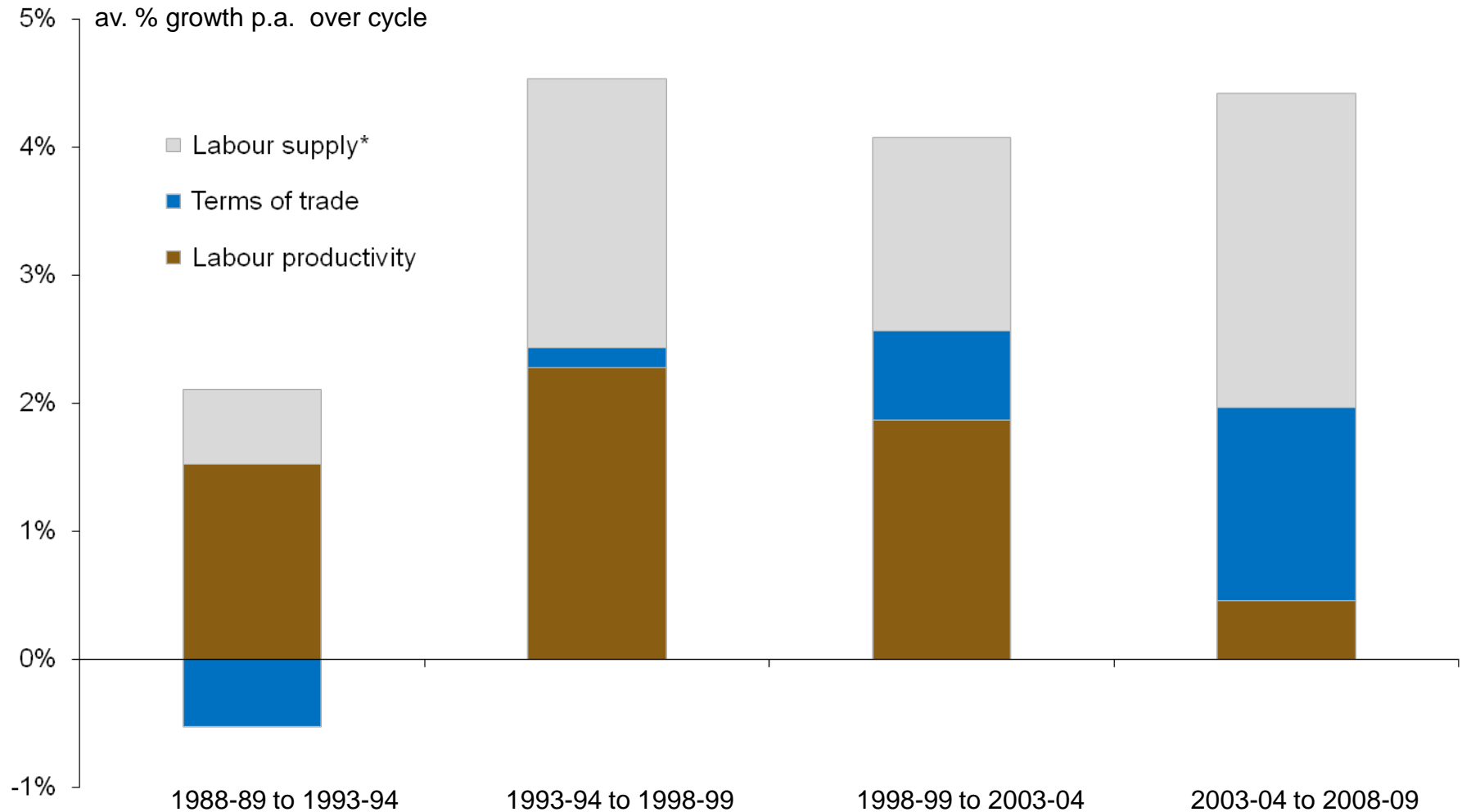
# Real GDP growth has become increasingly reliant on population growth and rising workforce participation ...

## Sources of real GDP growth (1988-89 to 2008-09)



# ... while real income growth has become increasingly dependent on favourable shifts in the 'terms of trade'

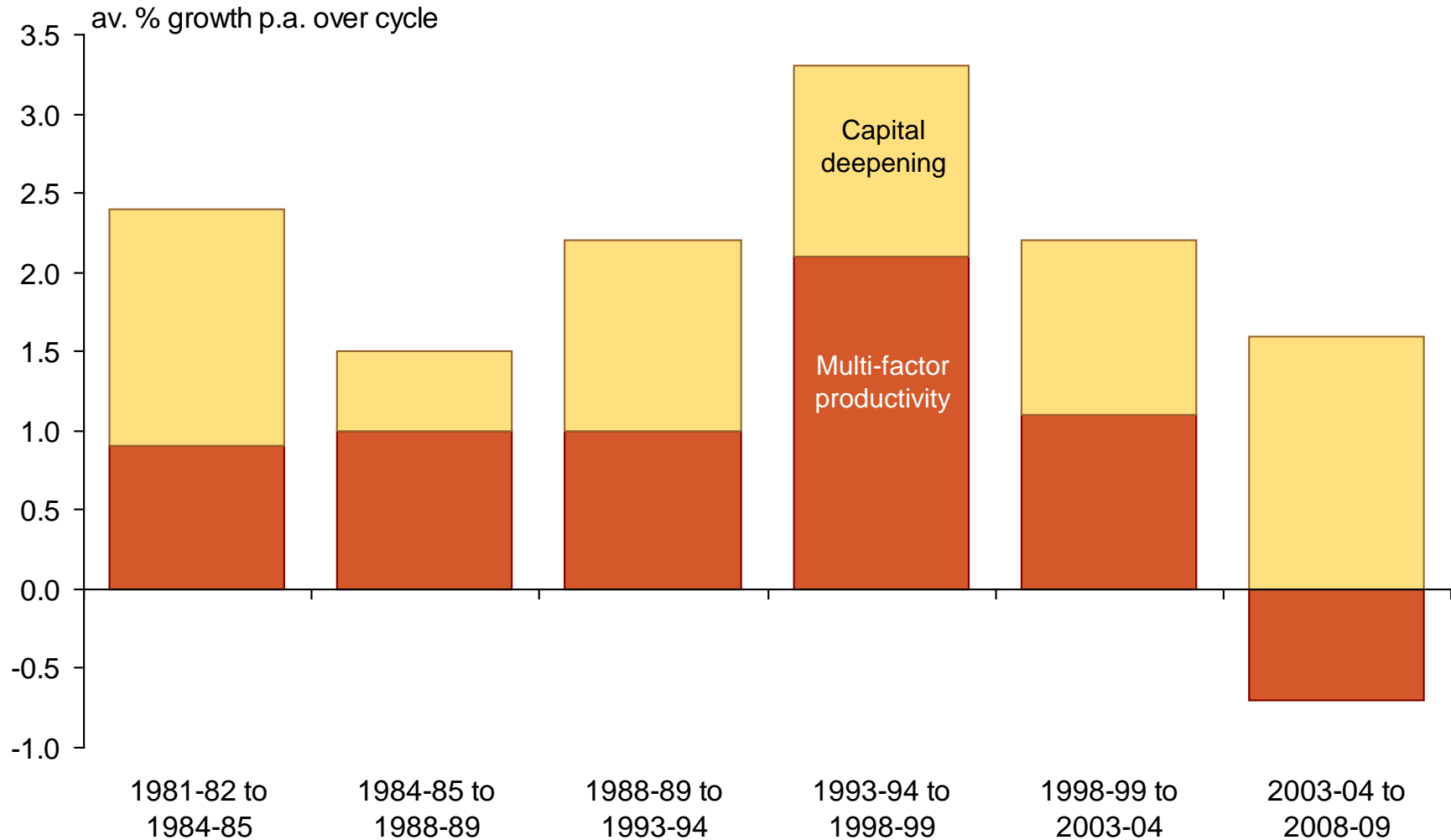
## Sources of real GDI growth (1988-89 to 2008-09)



Note: Real GDI (gross domestic income) is real GDP adjusted for changes in the terms of trade (the ratio of export to import prices). 'Labour supply' is total hours worked (ie population x participation rate x (1 - unemployment rate) x average hours worked). Sources: ABS, Grattan Institute.

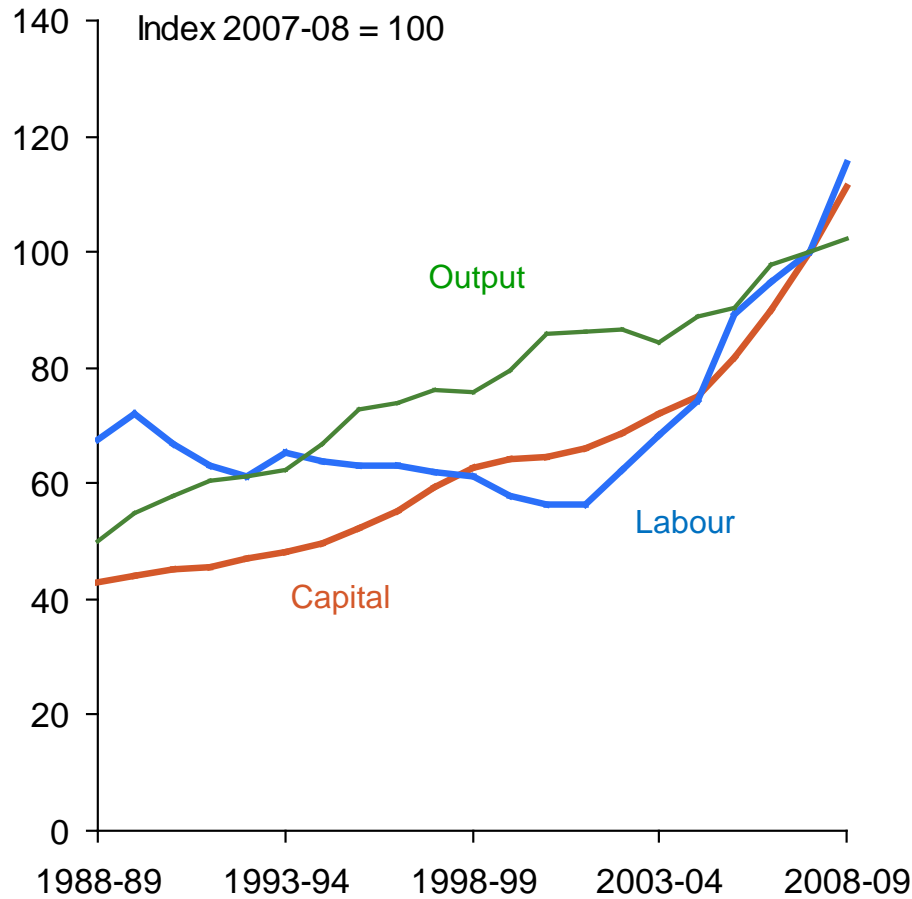
# Labour productivity growth has in turn become wholly dependent on 'capital deepening'

## Components of labour productivity growth

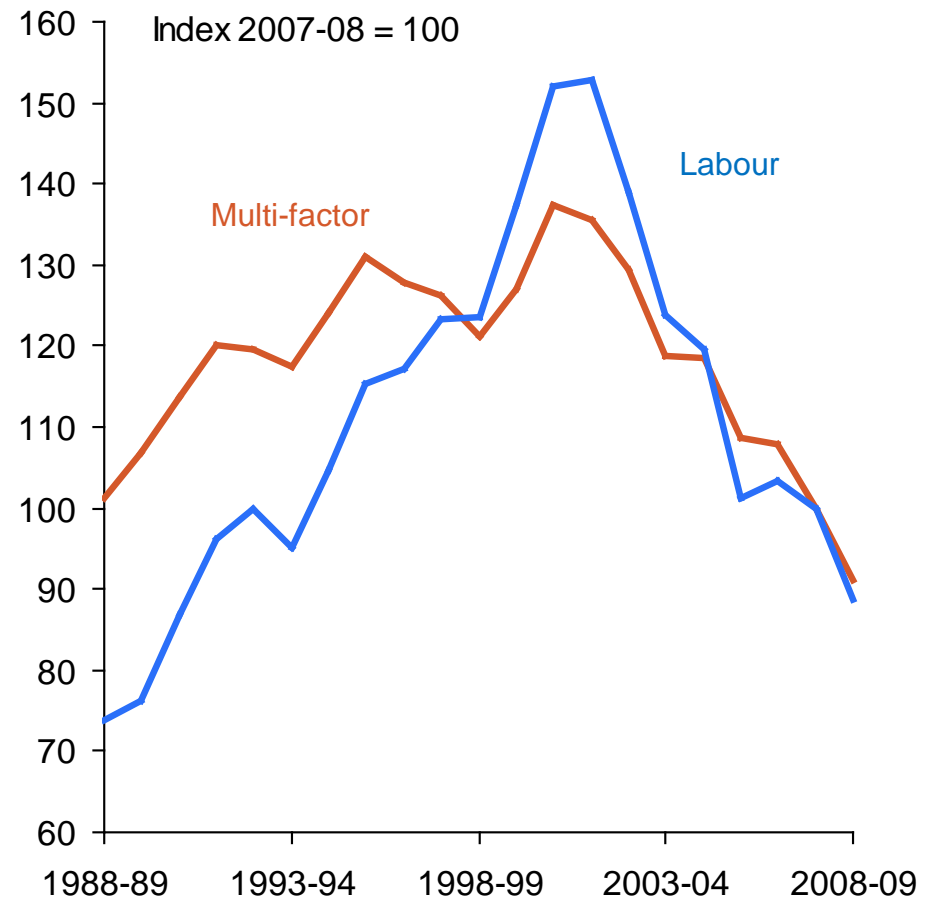


# In the mining sector, substantial increases in factor inputs are yet to be reflected in commensurate output gains ...

## Mining sector factor inputs and outputs

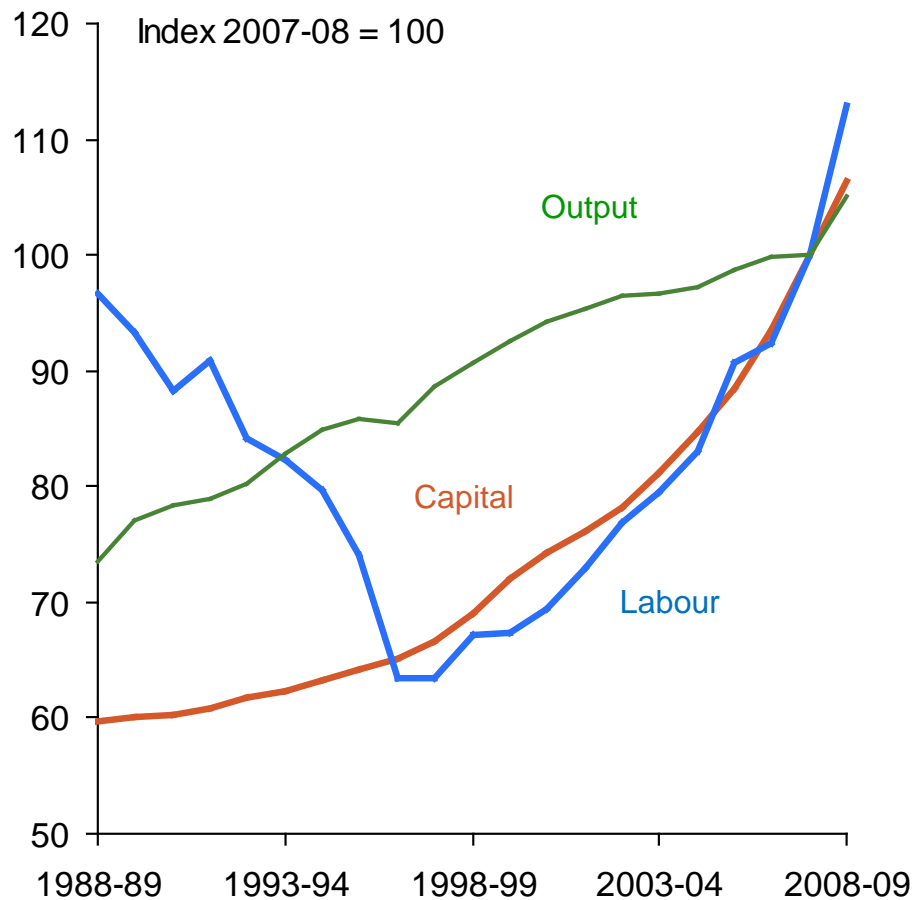


## Mining sector productivity

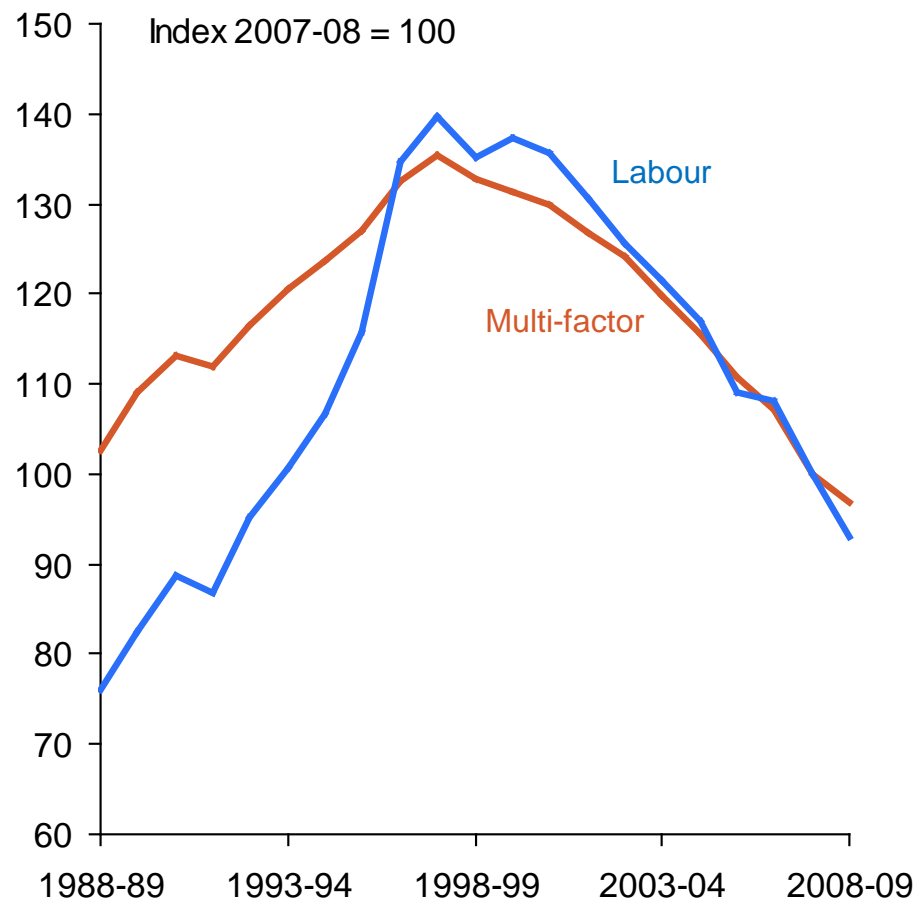


# ... and for different reasons much the same has occurred in the utilities sector

### Utilities sector factor inputs and outputs



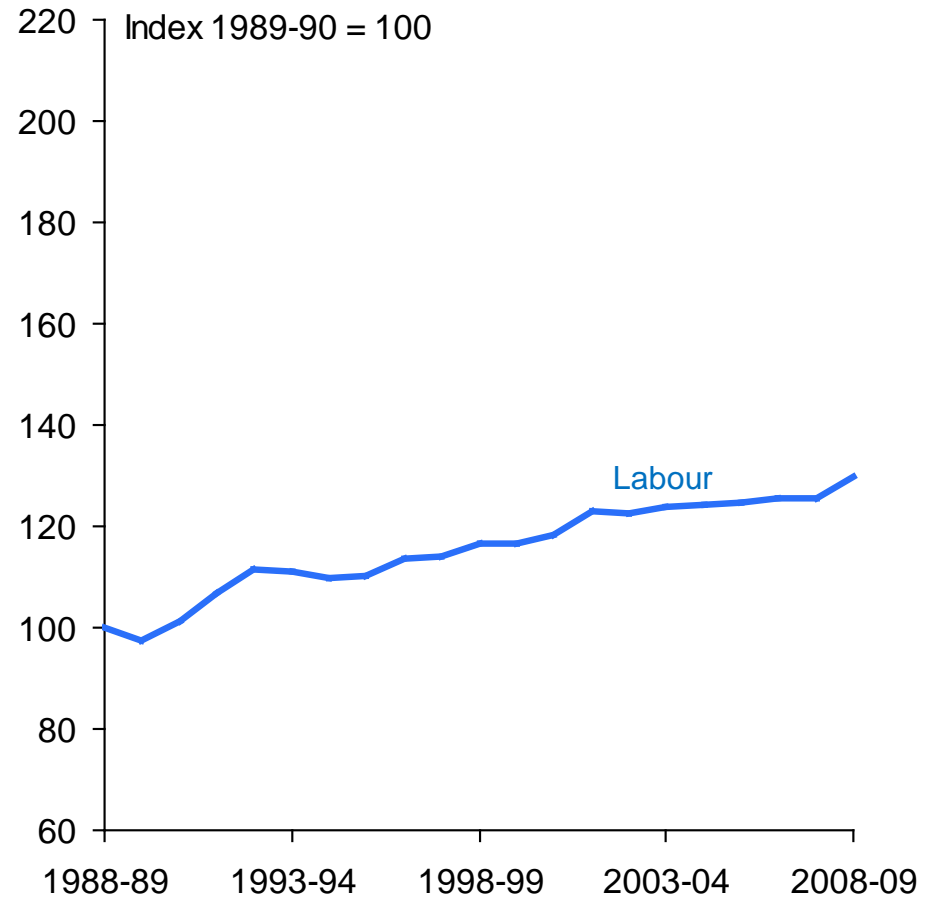
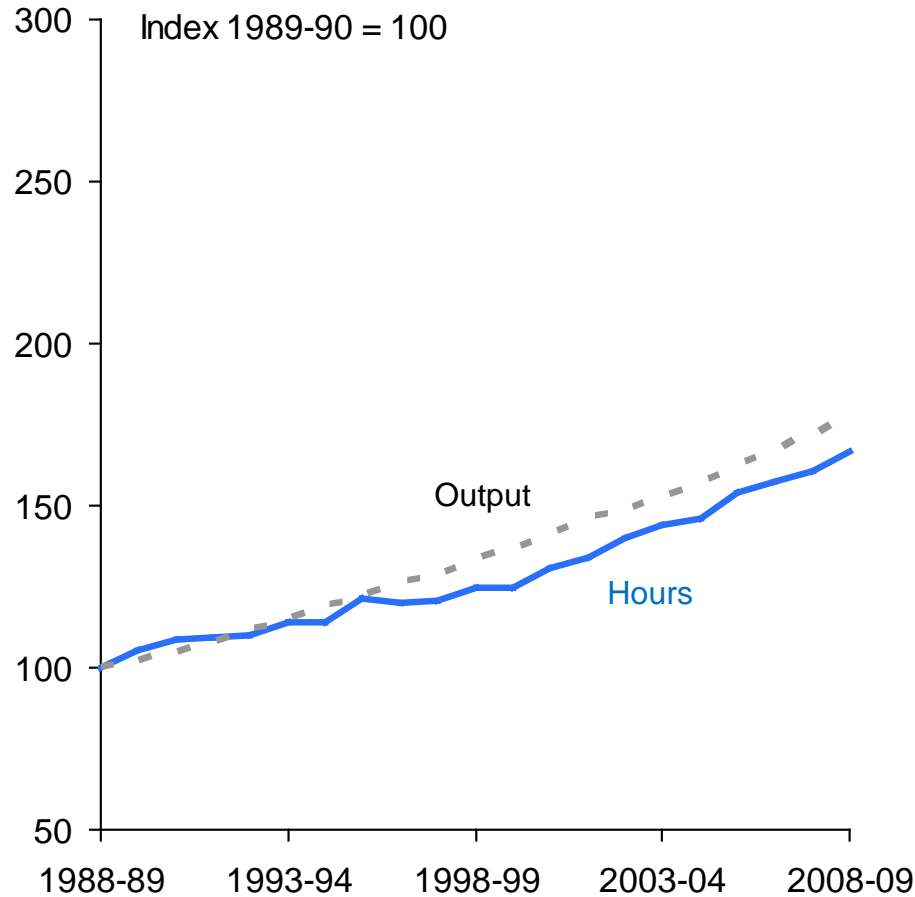
### Utilities sector productivity



# Slow growth in public sector productivity partly reflects difficulty in measuring output

## Inputs and outputs

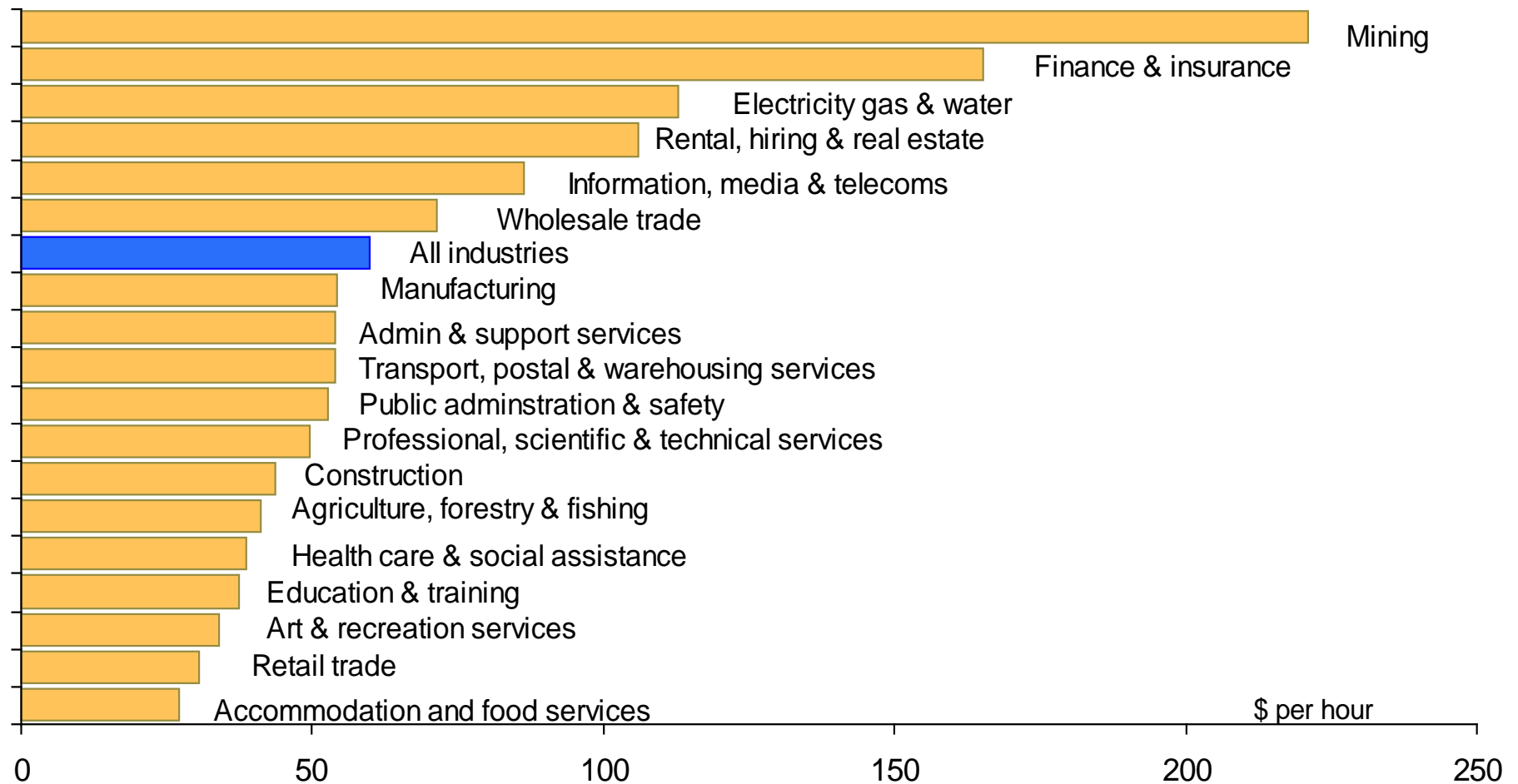
## Productivity



**In many parts of the public sector, perceptions of 'service quality' are inversely related to conventional measures of labour productivity**

# ABS national accounts & hours worked data can be used to construct 'additive' measures of labour productivity

## Estimates of the dollar value of output per hour worked, 2008-09

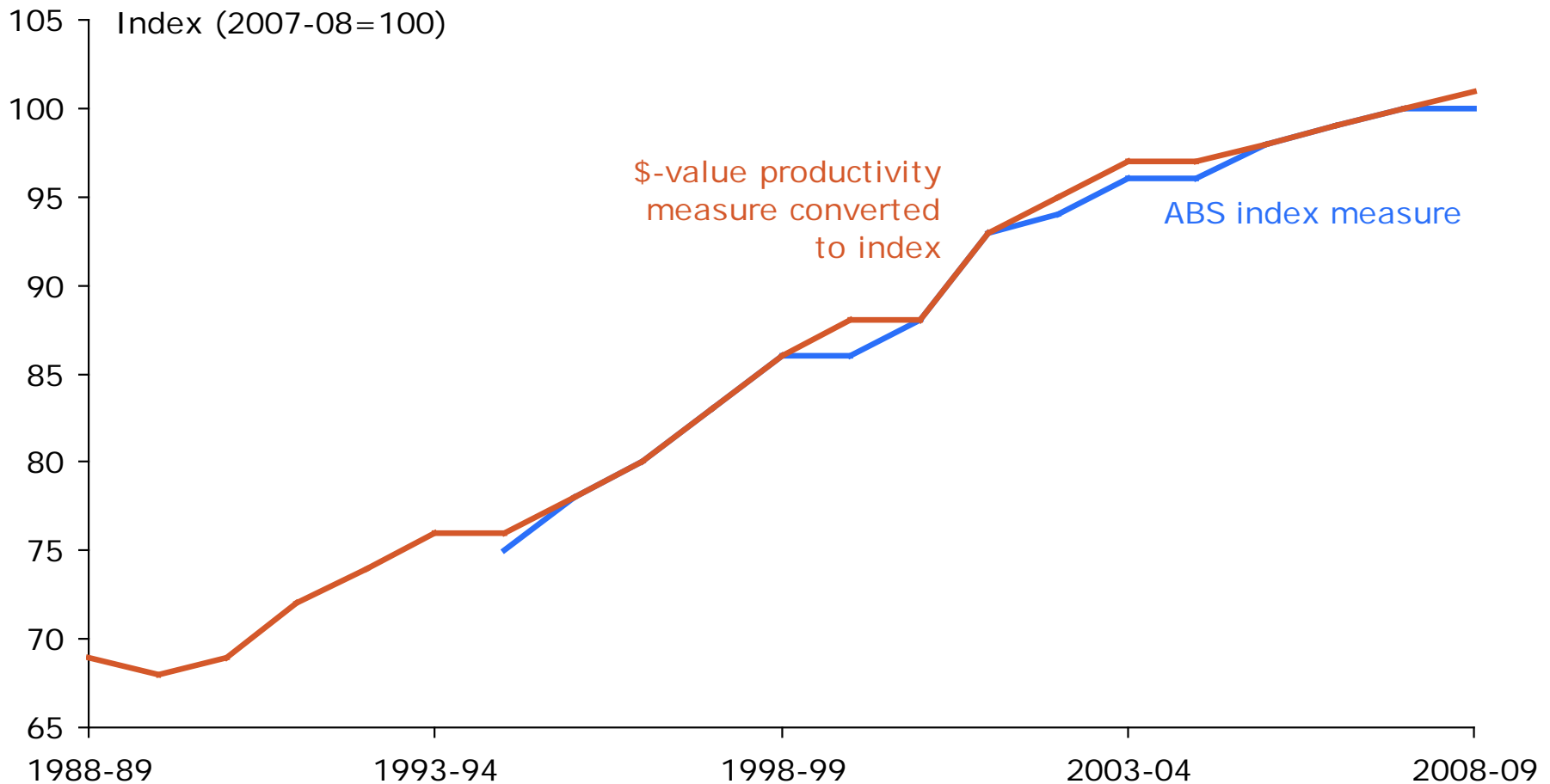


Note: Aggregate hours worked for each sector derived by 'grossing up' estimates of average hours worked in the survey week for the middle month of each quarter in 2008-09. 'Output' is gross value added.

Sources: Australian Bureau of Statistics; Grattan Institute.

# These estimates produce quite similar estimates of aggregate productivity growth to those compiled by ABS

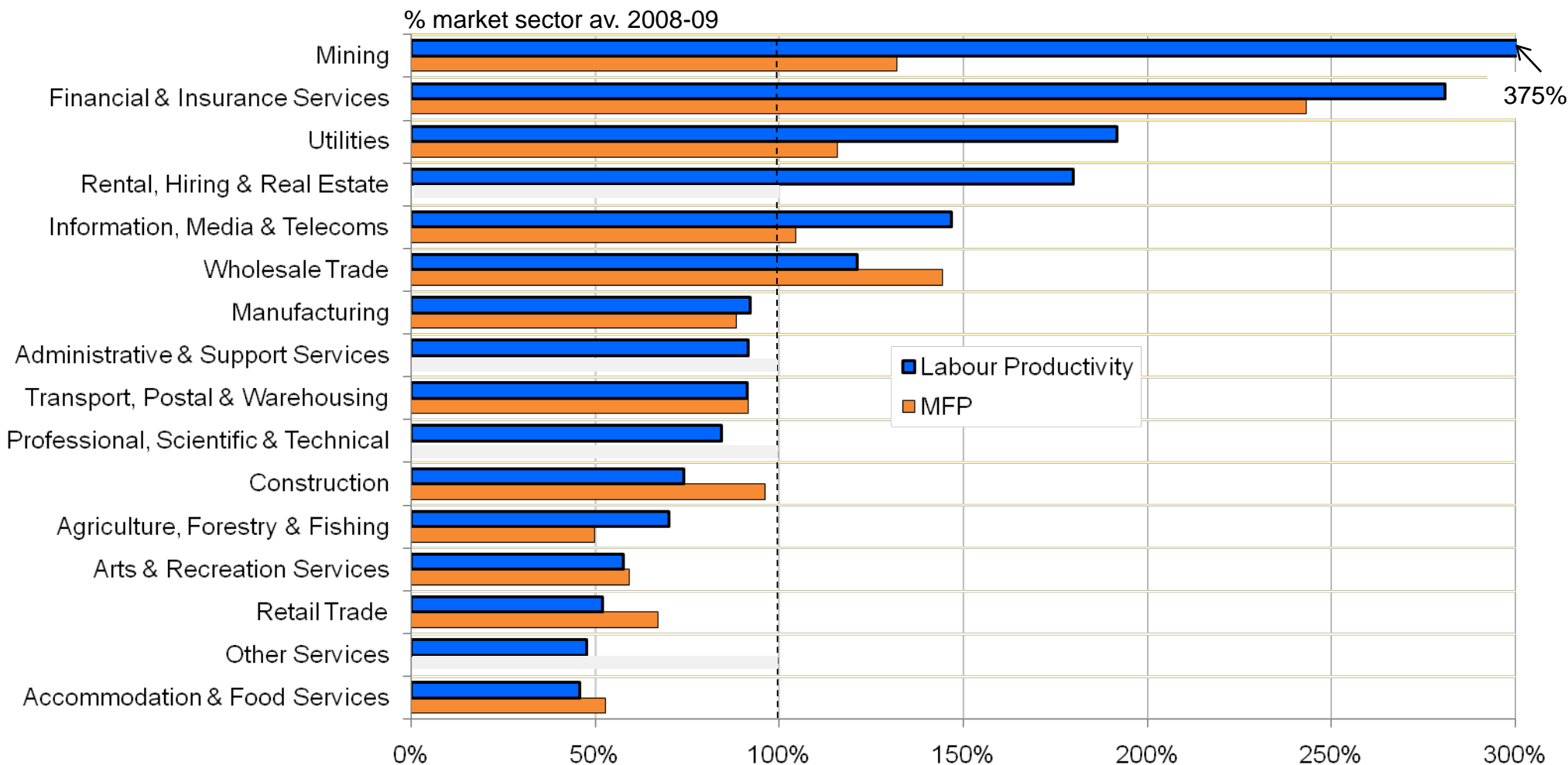
## Estimates of market sector labour productivity compared



Grattan is GVA (val. add.) per hour worked (weighted by industry excl. taxes & dwellings). ABS from Cat. 5260.0. Differences stem from excluding dwellings and internal ABS revision of selected industry hours worked data.

# It's also possible to construct estimates of MFP for most industries

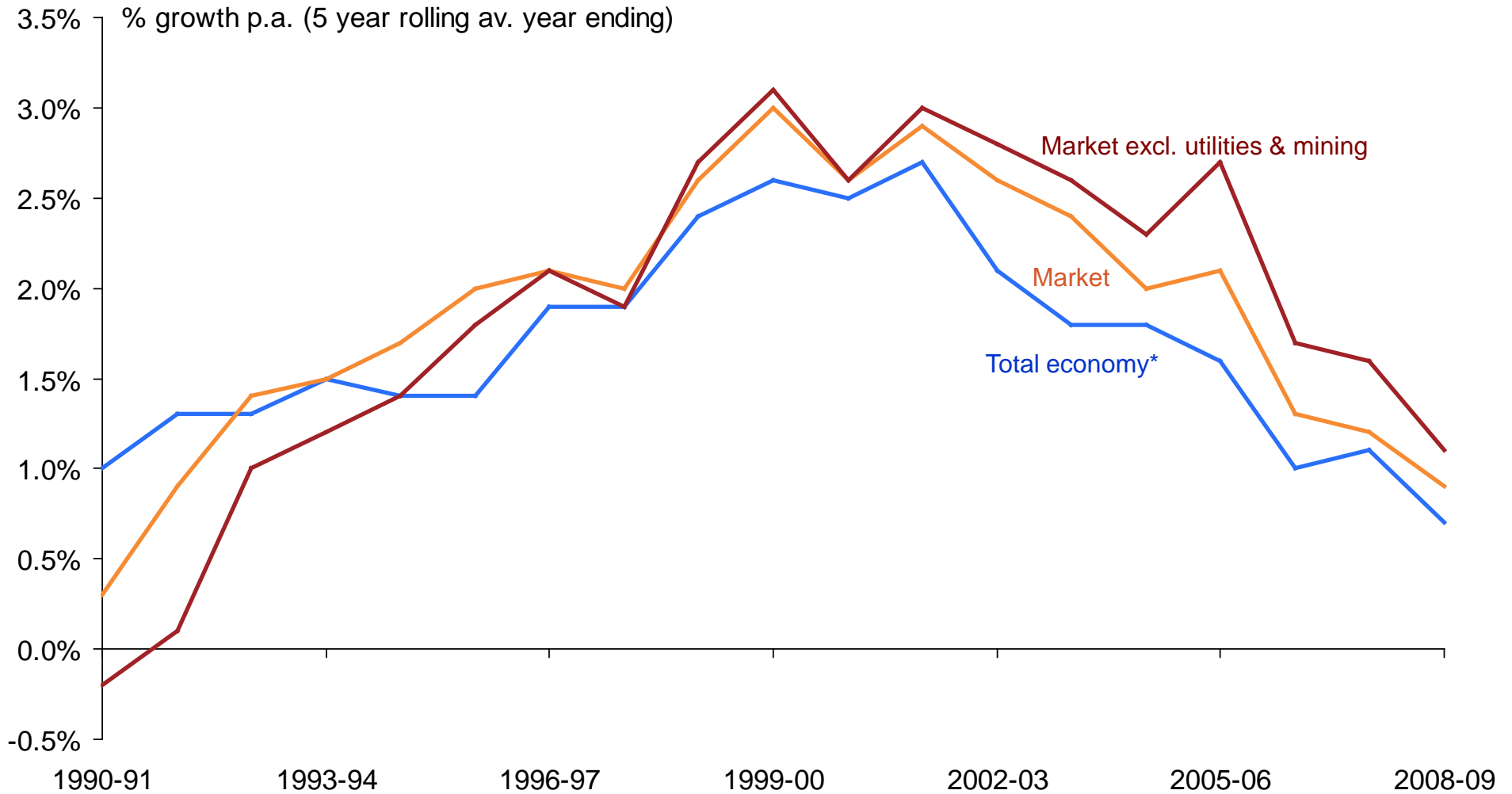
## Productivity Levels of Australian Industries



Note: MFP industry levels = GVA per hour of labour and capital, where capital hours equals hours worked times the capital and labour income shares ratio (implicitly assumes equivalence of an hour worked in each industry). This data is not available for some industries.

# Labour productivity growth has slowed significantly even after excluding mining, utilities and non-market sectors

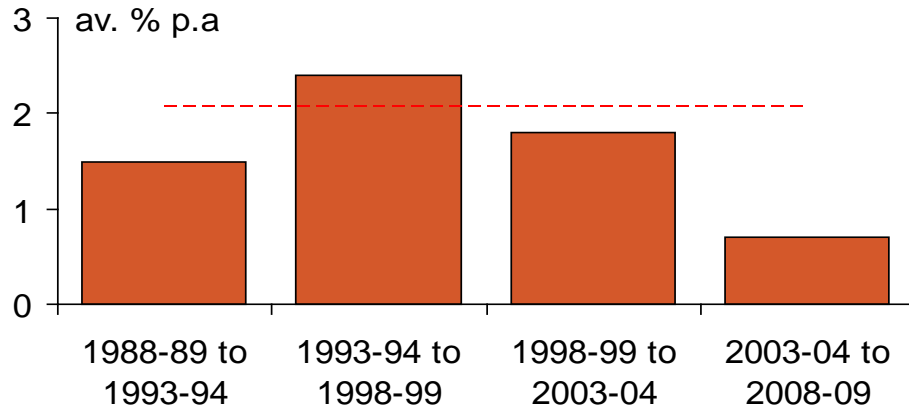
## Labour productivity



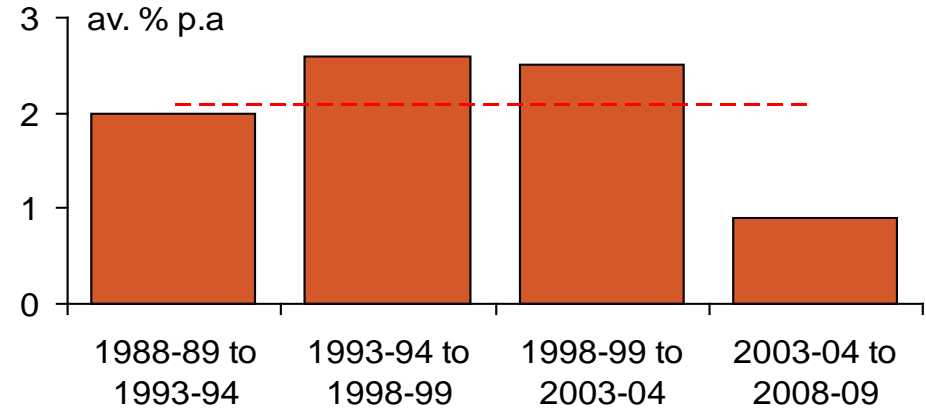
\* GDP per hour worked

# Labour productivity growth has slowed significantly even after excluding mining, utilities and non-market sectors

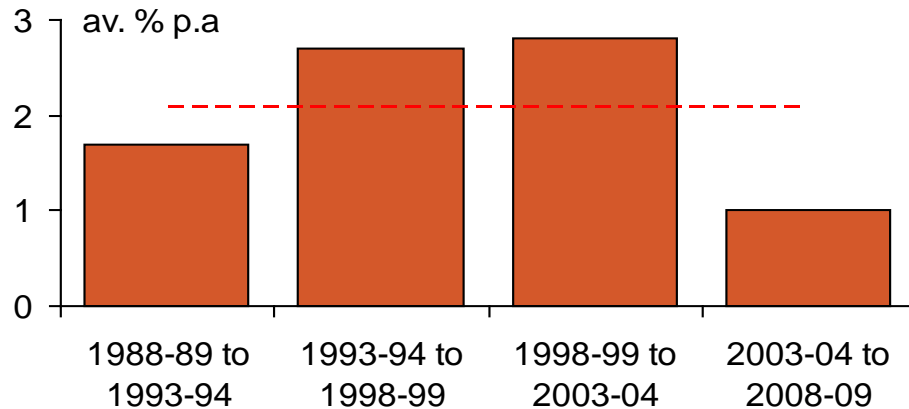
### Total economy



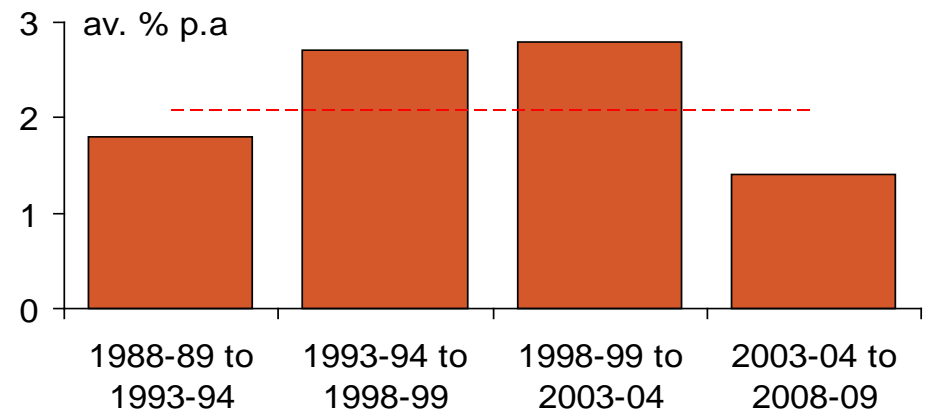
### Market economy



### Market economy (excl. mining & utilities)

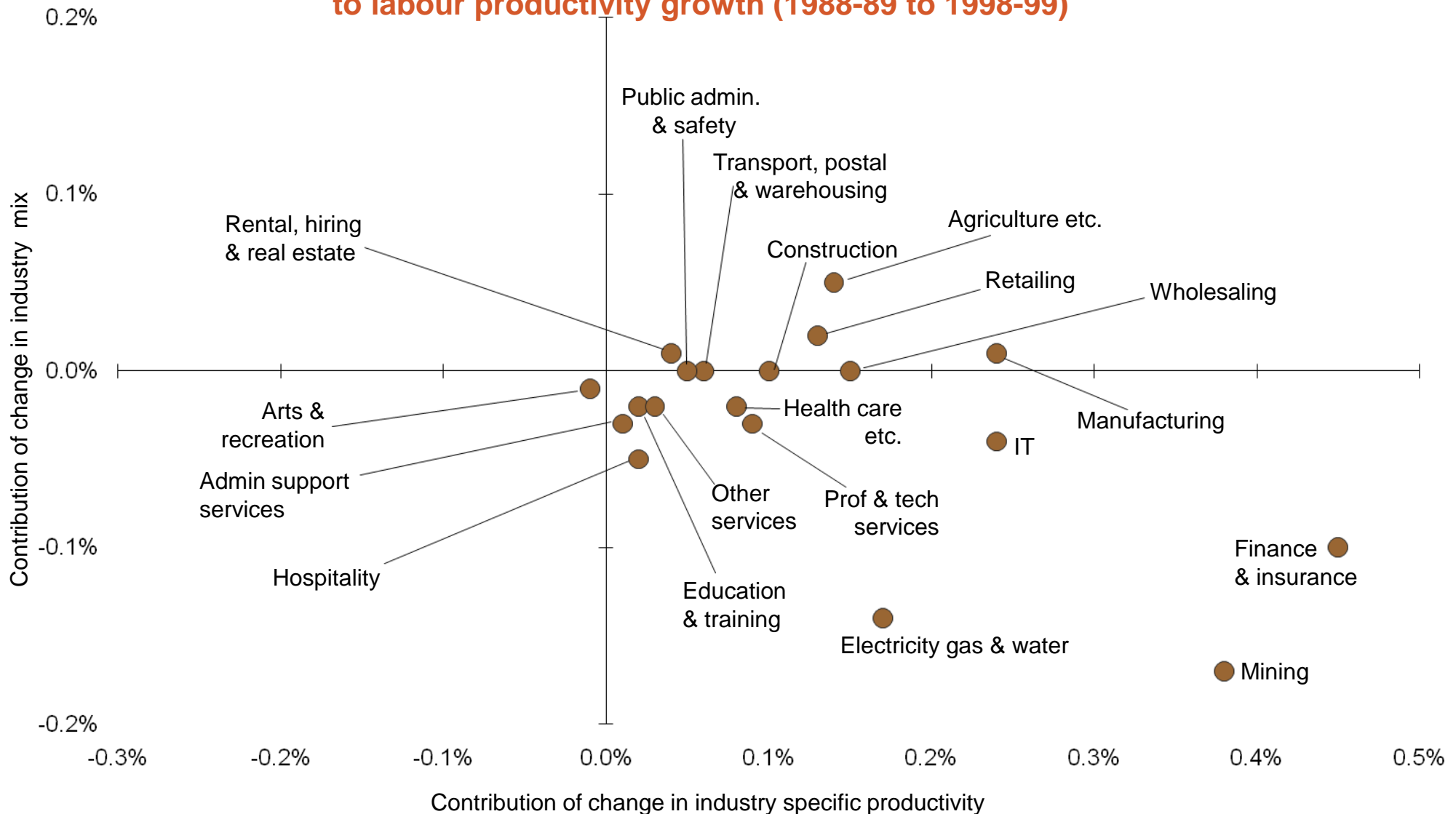


### Services



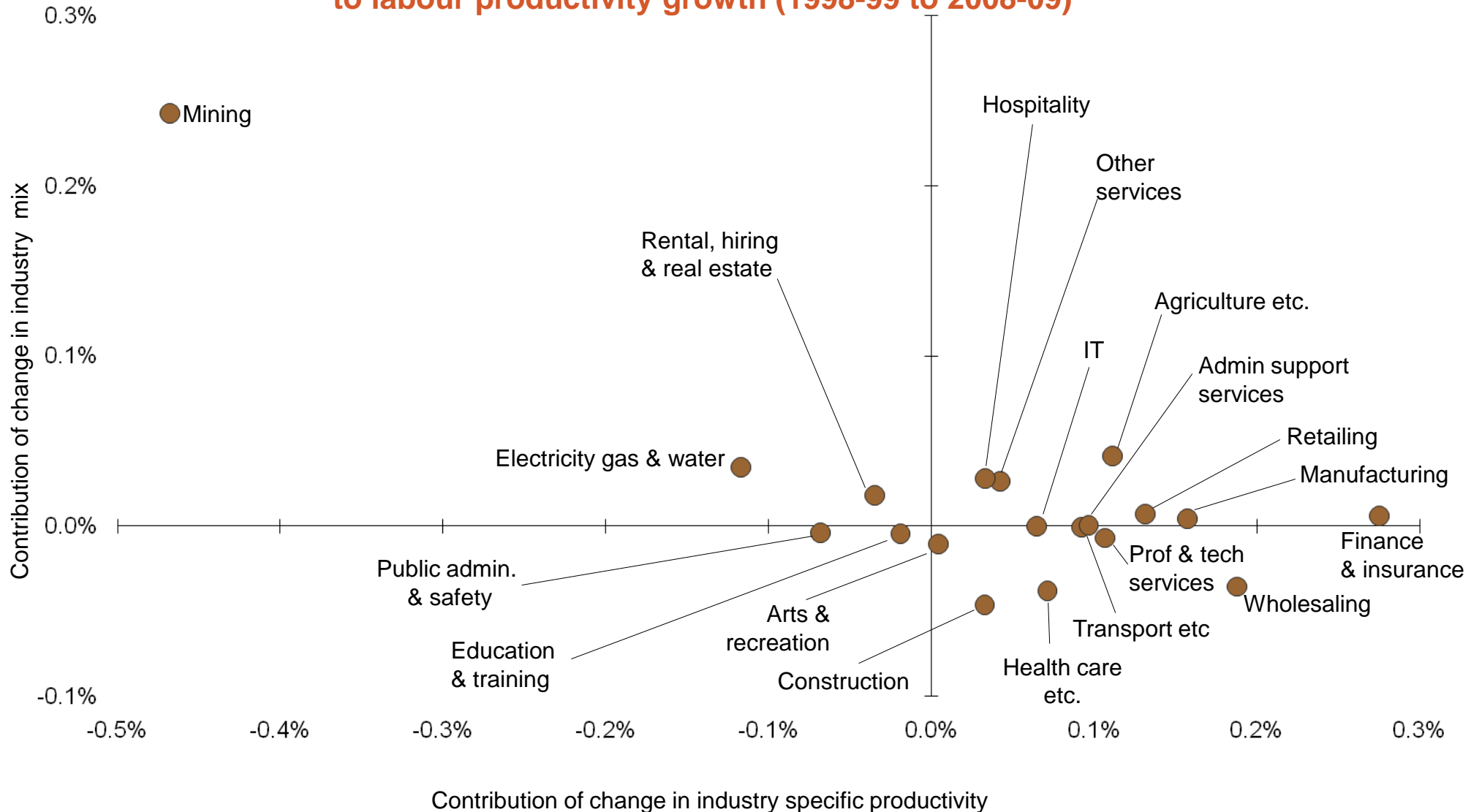
# Labour productivity gains in the 1990s were largely the result of improvements in sector-specific productivity ...

## Contributions of industry-mix and industry-specific productivity performance to labour productivity growth (1988-89 to 1998-99)



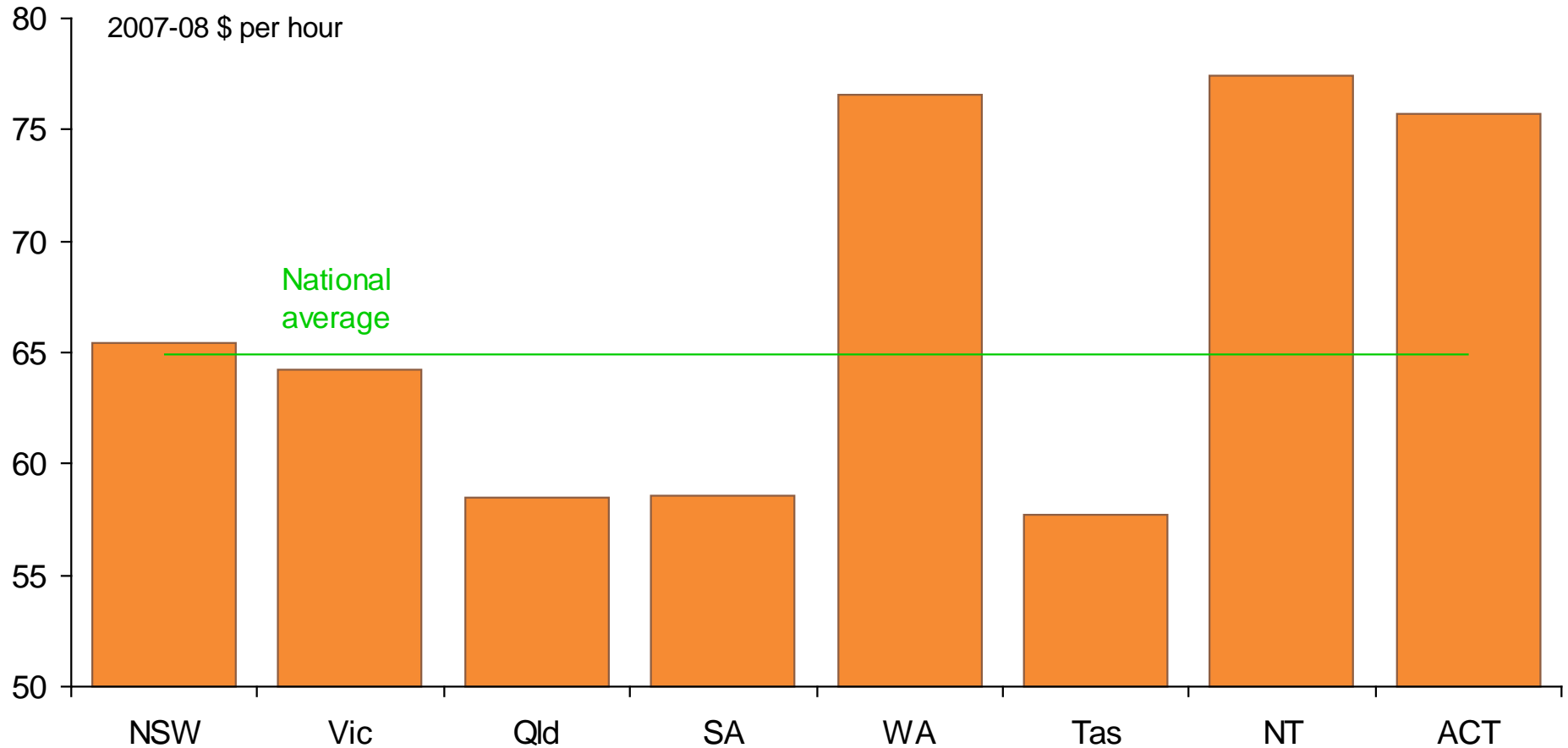
# ... whereas in the past decade sector-specific productivity slowdowns have offset the impact of structural change

## Contributions of industry-mix and industry-specific productivity performance to labour productivity growth (1998-99 to 2008-09)



# The same methodology can also be used to derive estimates of State and Territory labour productivity ...

## Labour productivity (gross product per hour worked), 2008-09



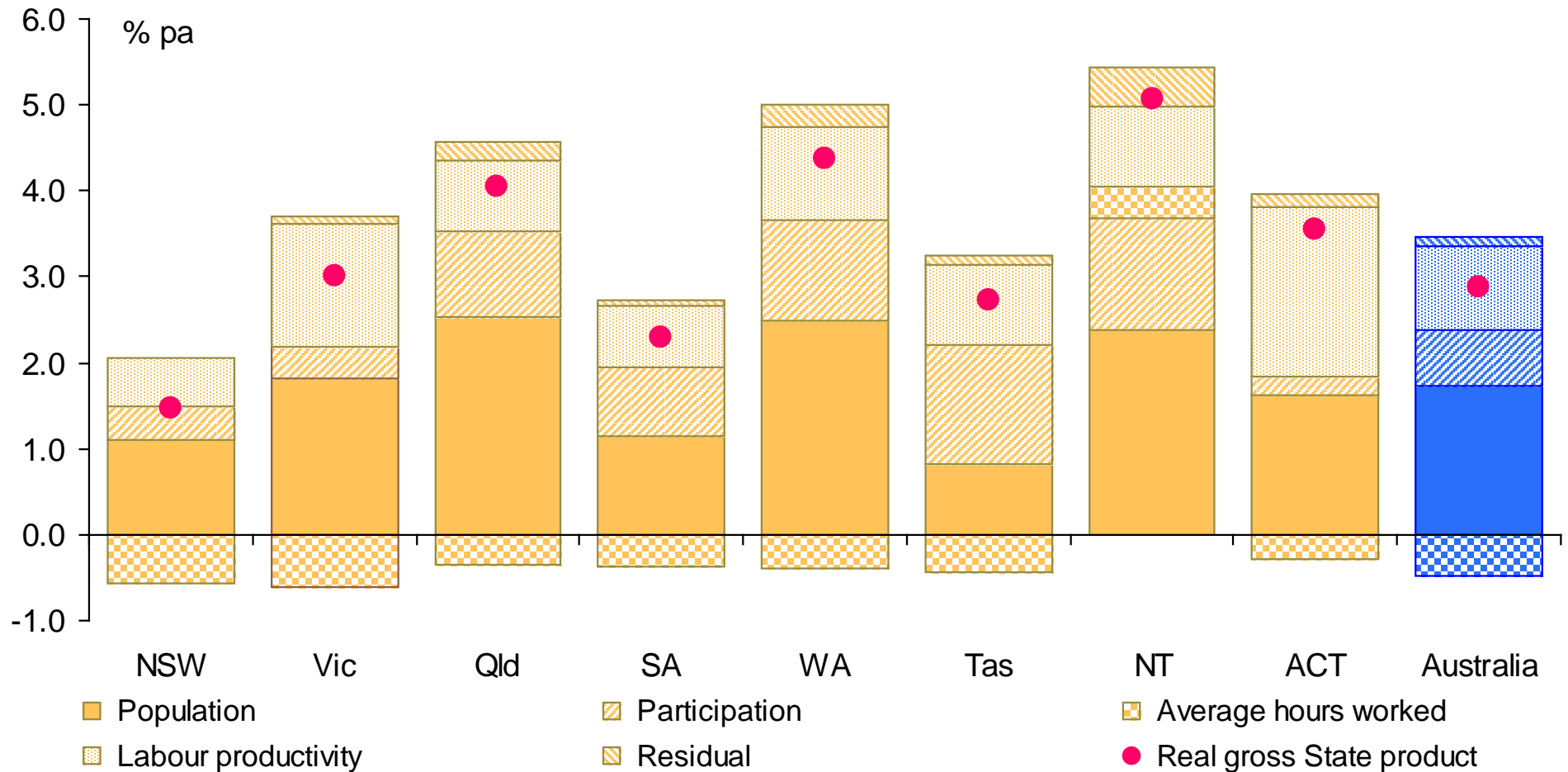
# ... which in turn explain a large part of the variation in per capita income among the States and Territories ...

## Sources of difference between per State or Territory GSP per capita and the national average, 2008-09



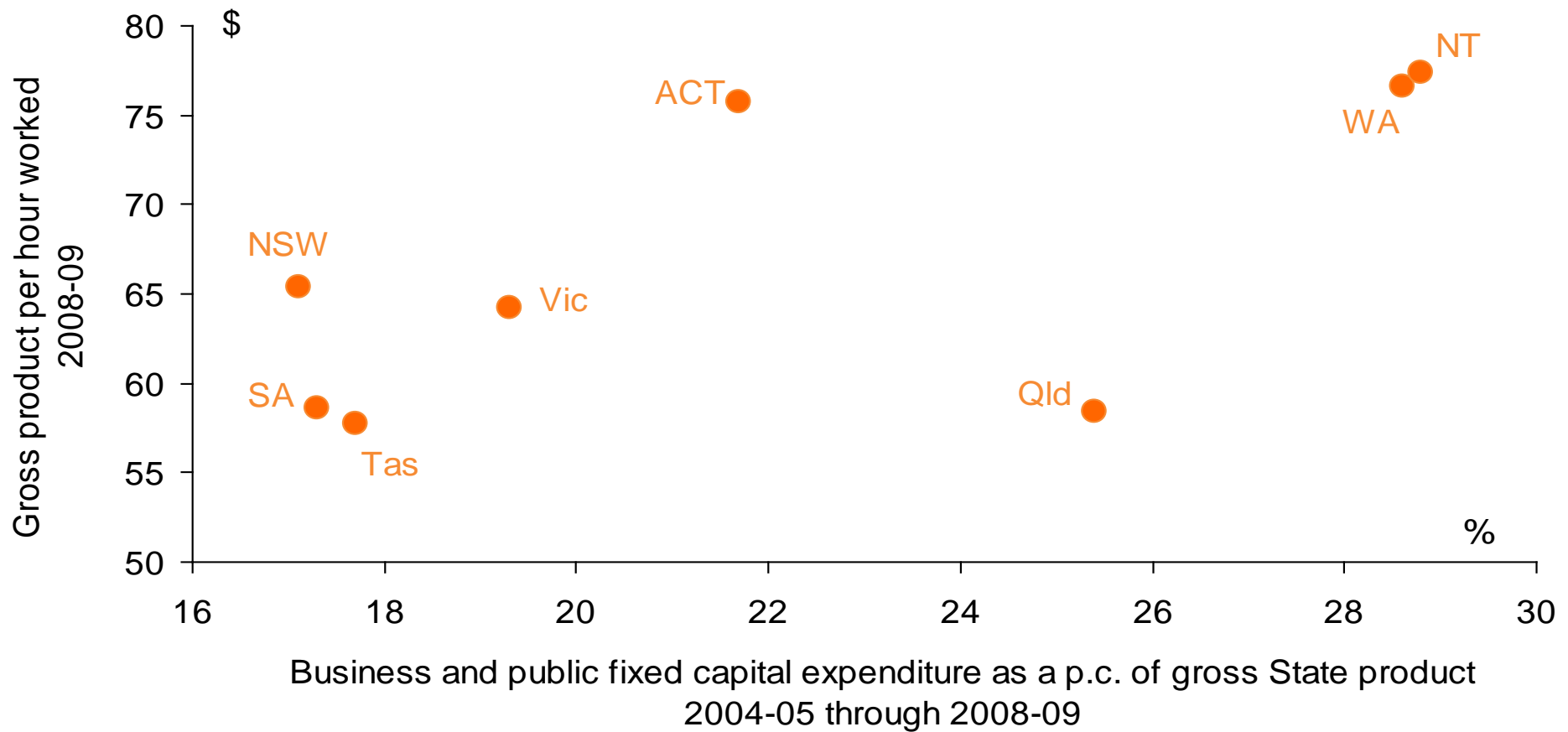
# ... and some of the variations in State and Territory economic growth in recent years

## Contributors to growth in real gross State product, 2003-04 through 2008-09



# There's a positive association between capital investment and labour productivity across States and Territories ...

## Non-residential investment and labour productivity by State and Territory



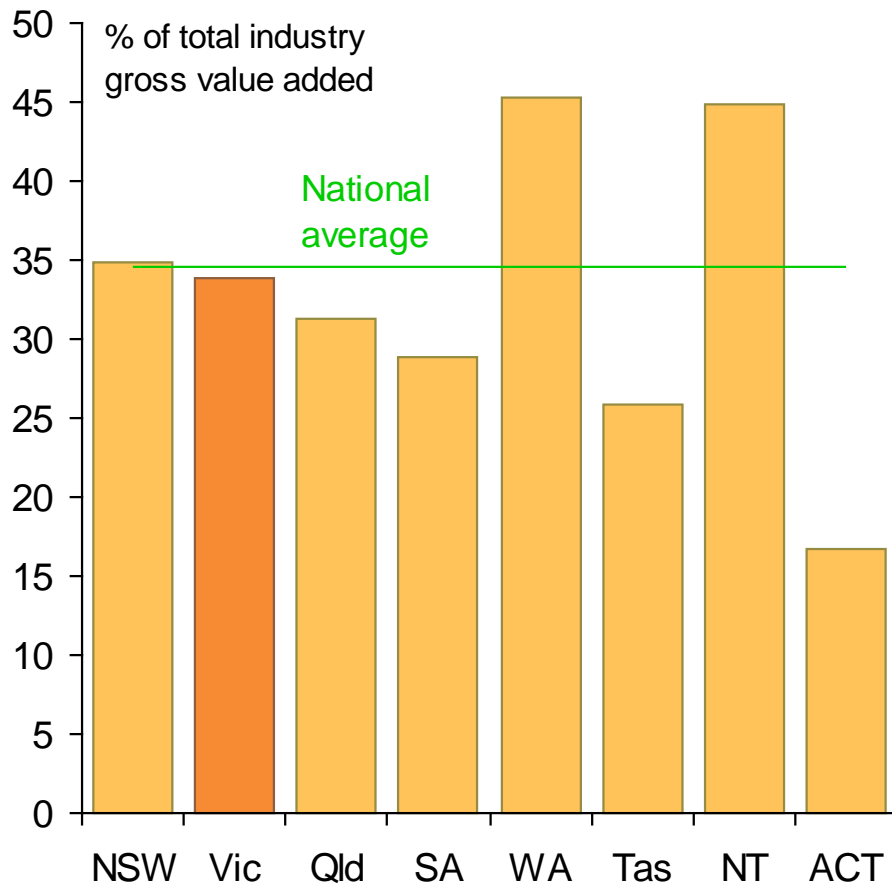
# ... and between educational attainment and labour productivity

## Labour productivity and educational attainment, 2008-09

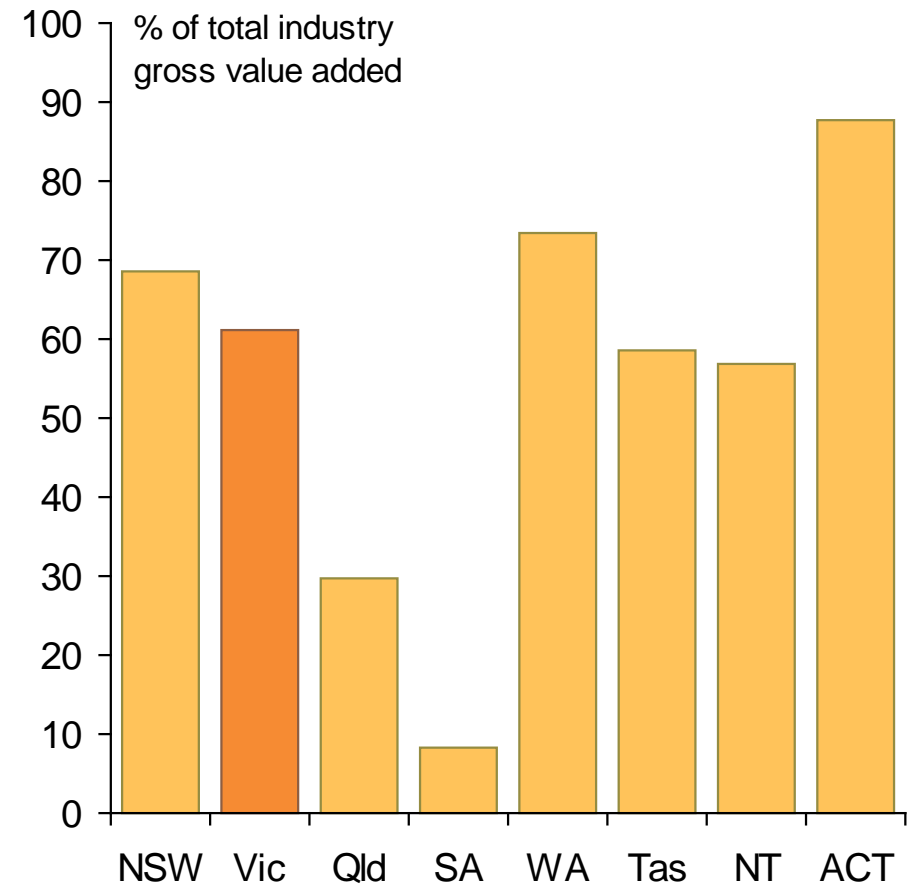


# Differences in productivity reflect differences in sector composition and in sectoral productivity performance

## Proportion of total gross value added derived from 'high productivity' industries



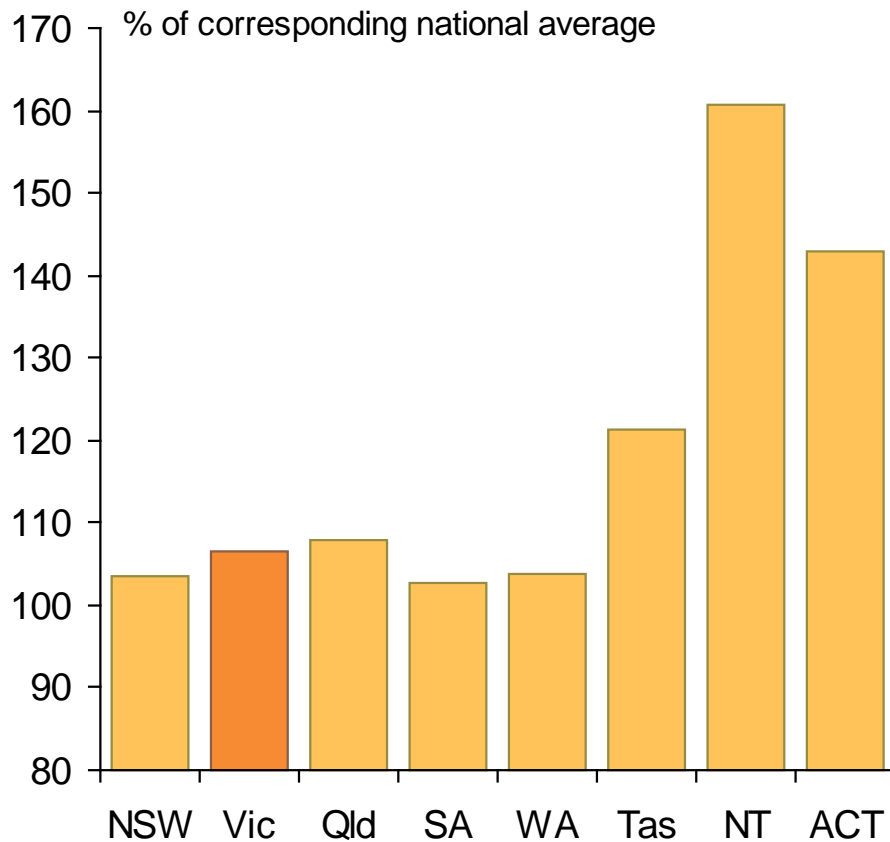
## Proportion of total gross value added derived from industries where productivity exceeds the national average for that industry



Sources: ABS State Accounts (5220.0) 2008-09; and *The Labour Force, Australia, Detailed, Quarterly* (6291.0.55.003); and Grattan Institute calculations. 'High productivity' industries are mining, finance & insurance, electricity gas & water, rental hiring & real estate services, information media & telecommunications services, and wholesale trade.

# And there are considerable differences in productivity in the same industries in different States

Labour productivity of sectors in which productivity was above the corresponding national average in 2008-09



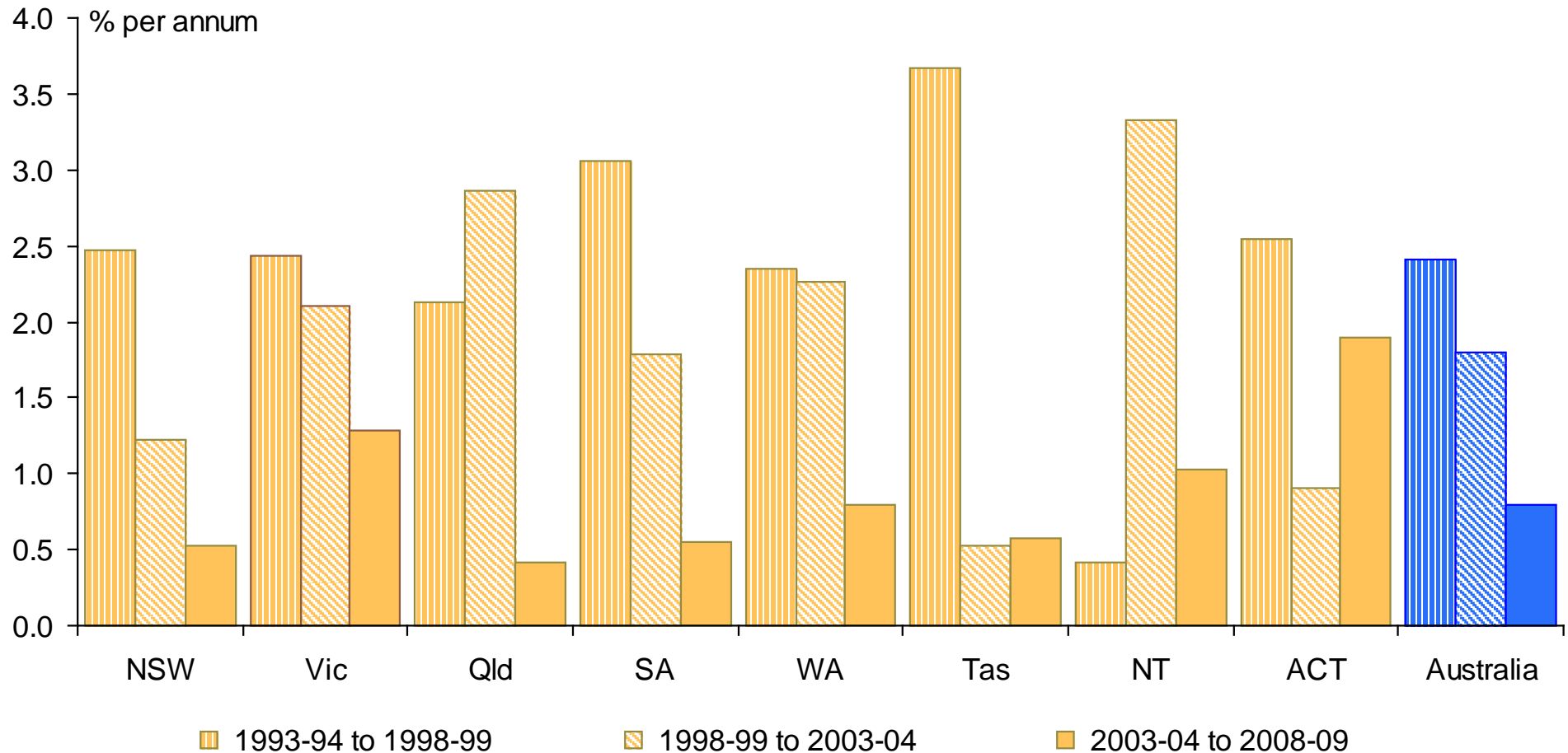
Labour productivity of sectors in which productivity was below the corresponding national average in 2008-09



Sources: ABS State Accounts (5220.0) 2008-09; and *The Labour Force, Australia, Detailed, Quarterly* (6291.0.55.003); and Grattan Institute calculations. 'High productivity' industries are mining, finance & insurance, electricity gas & water, rental hiring & real estate services, information media & telecommunications services, and wholesale trade.

**Note that the slowdown in productivity growth over the past 5 years has been broadly based across the nation**

**Labour productivity (GSP per hour worked) growth, 1993-94 to 2008-09**



# What could explain the slowdown in labour productivity growth over the past decade?

- As the Australian economy moved closer to ‘full employment’ (prior to the recent slowdown), additional labour and capital inputs are likely to have been increasingly less productive
  - and ‘labour hoarding’ during the recent downturn probably further detracted from productivity (a reminder, perhaps, that productivity “isn’t everything”)
- Capacity constraints – shortages of skilled labour, infrastructure bottlenecks etc. – resulted in increasing amounts of ‘down time’ detracting from productivity
- Generally buoyant corporate profitability may have diminished the importance to management of seeking out productivity improvements
  - according to a survey by Telstra, only 42% of Australian organizations measure productivity, have a target for it and know what it is
- Dearth of productivity-enhancing ‘micro-economic’ reforms since around 2000
  - most of the ‘low hanging fruit’ have been picked, and the political appetite for reform has faded
- Instead there’s been an increase in regulation directed at, eg ‘national security’ and corporate governance, which has adversely affected productivity
- There’s been some slowing in the rate of diffusion of productivity-enhancing technologies since the late 1990s
  - and Australia doesn’t rank as highly on these measures as it did at that time

# What could be done to improve Australia's productivity performance?

- 
- **Re-invigorated commitment to productivity-enhancing reforms**
    - some sectors have previously been exempted from such reforms (health insurance, international aviation, agricultural marketing, pharmacies, newspaper distribution)
  - **Taxation reform**
    - with a view to reducing the extent to which provisions in the tax system distort decision-making
  - **Further promotion of education and skills acquisition**
    - focussing in particular on engineering and science, skilled trades
    - and on students from lower socio-economic backgrounds, and on young people in neither employment nor training
    - may require significant reform of vocational education system and funding
  - **Targeted infrastructure investment**
    - need mechanisms to ensure the 'right infrastructure in the right places' with sensible pricing and access
  - **Serious effort to improve Australia's innovation effort**
    - not simply about R&D spending but about access to risk finance, linkages with research institutions, relevant skills and commercialization
  - **Greater awareness of productivity impact of policies pursued with other objectives in mind**

# Possible productivity-enhancing reforms identified by the Productivity Commission and COAG

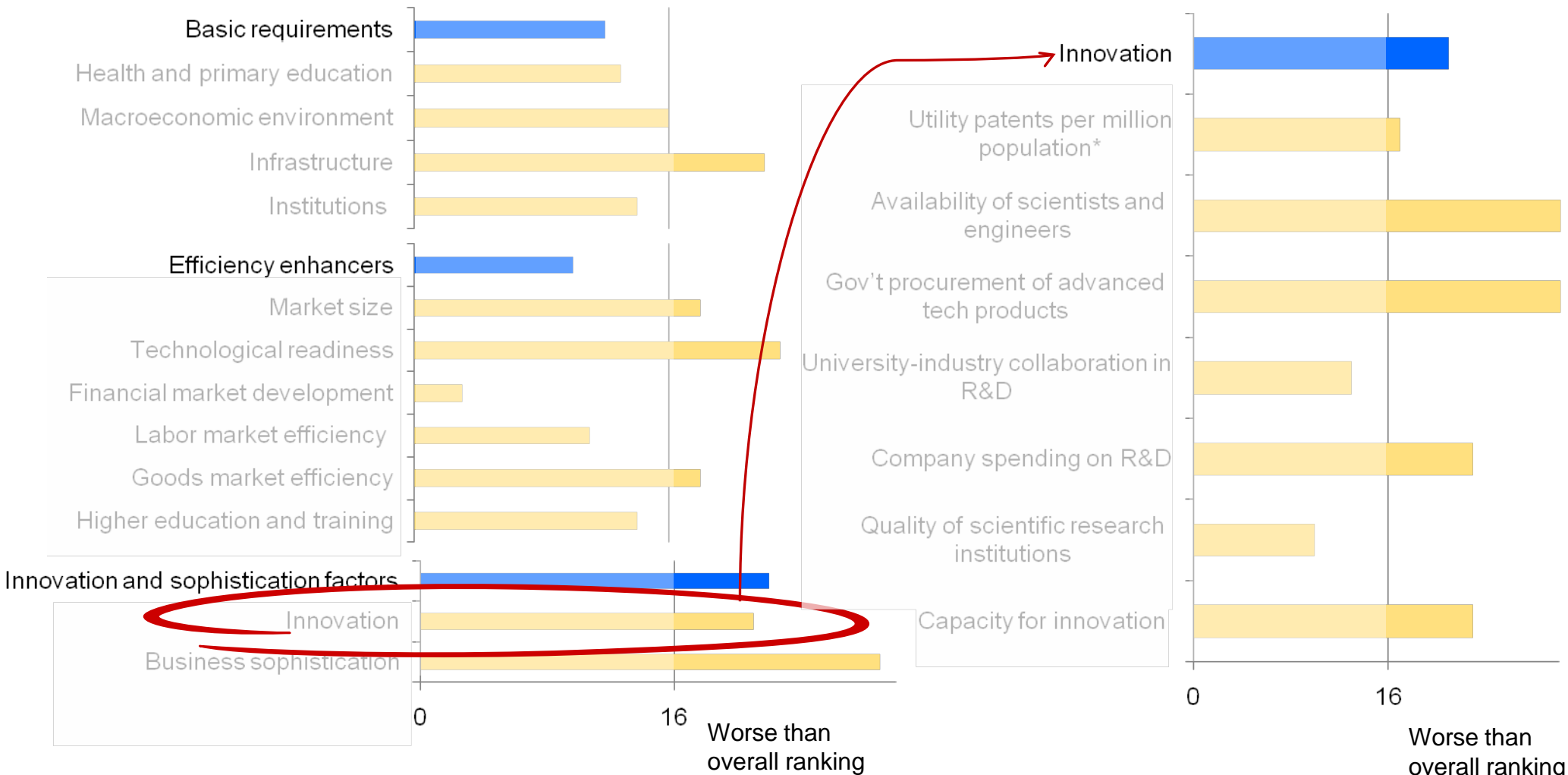
## Gains from various reforms (PC estimated gains, various reforms)

Recommendation	Impact*	Year
Competition and regulation reforms COAG NRA), including <ul style="list-style-type: none"> <li>• Regulatory compliance costs</li> <li>• Competition in electricity and gas</li> <li>• Improved ports, road rail infrastructure</li> </ul>	2.0% GDP (\$17bn in 2005-06 \$). <ul style="list-style-type: none"> <li>• 1.1%</li> </ul>	2007
Education and training (COAG NRA), including: <ul style="list-style-type: none"> <li>• Transitions from school</li> <li>• Literacy and numeracy</li> <li>• Adult learning</li> <li>• Participation (from above)</li> </ul>	~2.4% GDP (by 2030), including: <ul style="list-style-type: none"> <li>• 0.45%</li> <li>• 0.27%</li> <li>• 0.43%</li> <li>• 0.69%</li> </ul>	2007
Health Services (COAG NRA)	0.4% GDP (\$4bn in 2005-06 \$)	2007
TCF assistance <ul style="list-style-type: none"> <li>• Current assistance reduction plan</li> </ul>	\$70 million (p.a till 2015 )	2008
Auto assistance <ul style="list-style-type: none"> <li>• Removing all forms of current assistance</li> </ul>	0.2% GDP	2008
Other <ul style="list-style-type: none"> <li>• Taxation reform</li> <li>• Improved consumer protection policies</li> </ul>	Not provided	Various

\* Modeling of some reforms do not fully capture costs

# Australia's innovation rankings are below those on other competitiveness factors

## Australia's global competitiveness rankings (2010-11)



# Australian firms have relatively low levels of R&D spending, collaboration & commercialisation

## Australia's science and innovation performance (2008, cf OECD)

