

Australia's productivity performance

**Presentation to Australian Business Economists'
Annual Forecasting Conference**

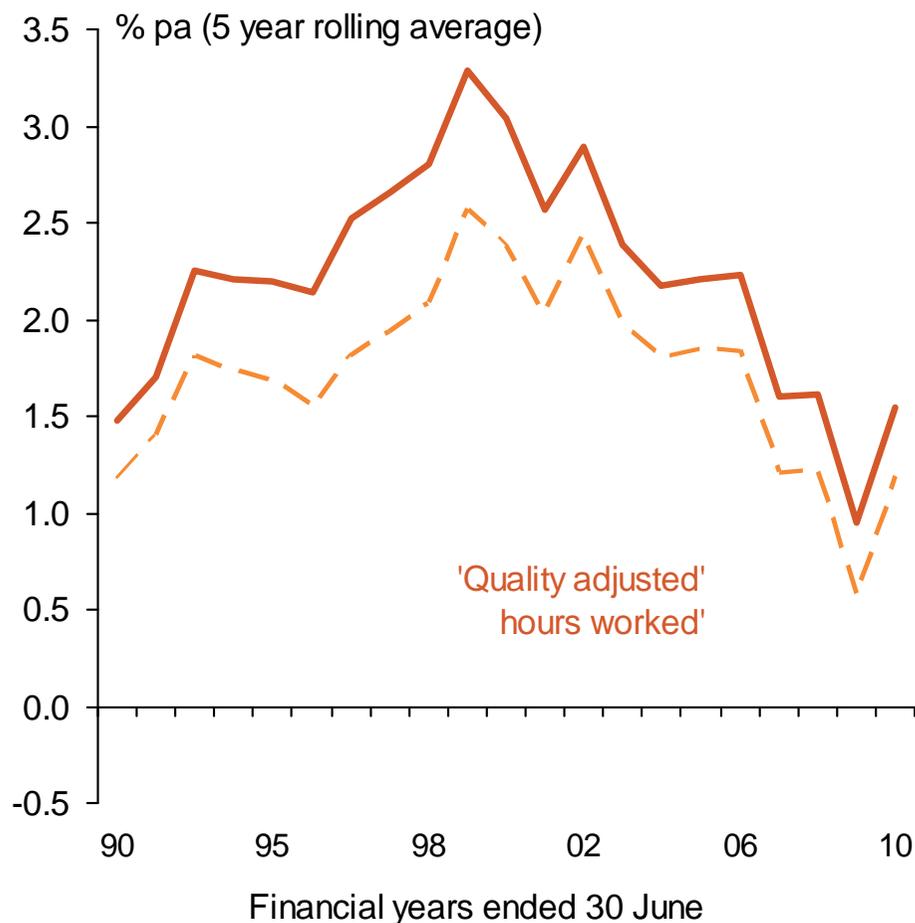
**Four Seasons Hotel, Sydney
8th December 2010**

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Program Director, Productivity Growth**

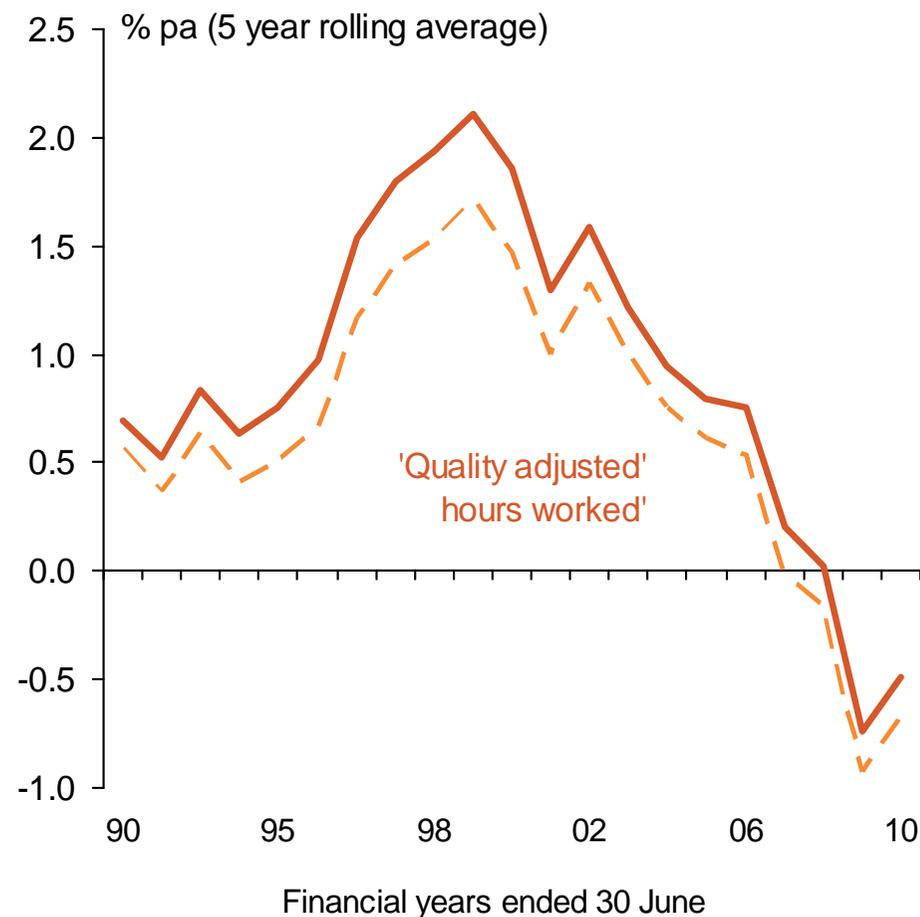
- **Demographic change**
 - which will detract from economic growth through slower population growth, lower levels of labour force participation and lower average hours worked
- **Helping non-resource trade-exposed industries survive the ‘resources boom’**
 - in particular those affected by a strong dollar (manufacturing, agriculture, tourism, higher education) and higher interest rates (construction, retailing)
- **Reconciling the looming conflict between environmental constraints on resource depletion and ongoing human aspirations for rising standards of living over time**
 - strong ‘multi-factor’ productivity growth offers the possibility of continued growth in per capita GDP with less intensive (and possibly even zero growth in) environmental resources

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

Labour productivity

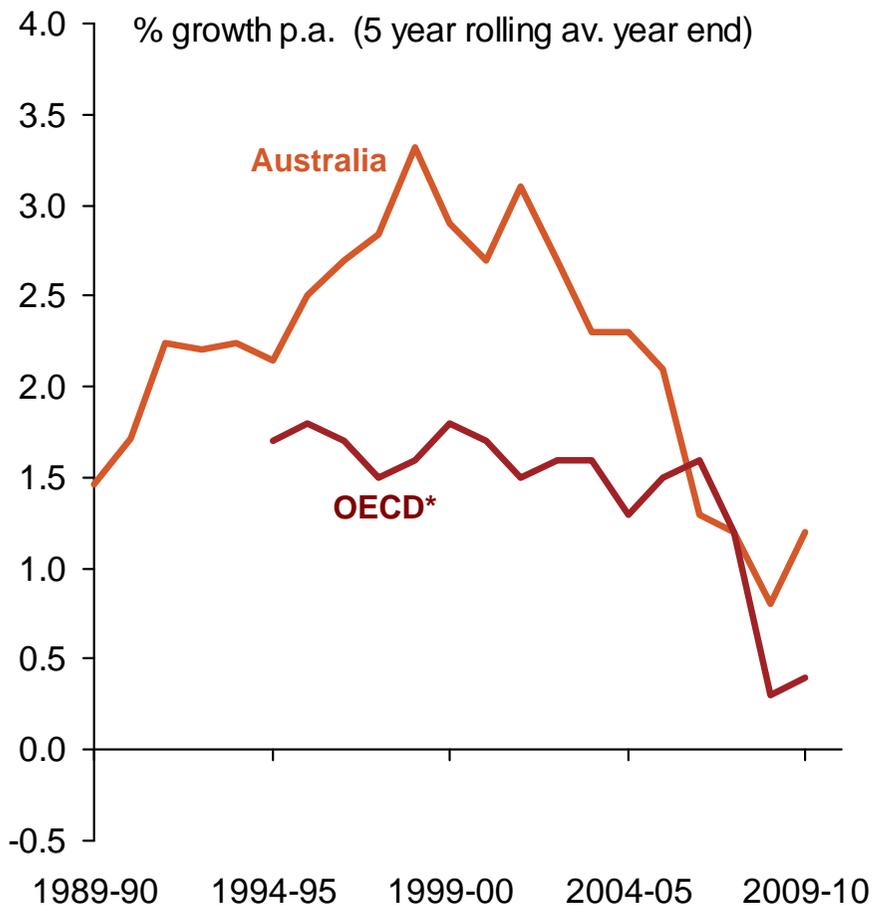


Multi-factor productivity*

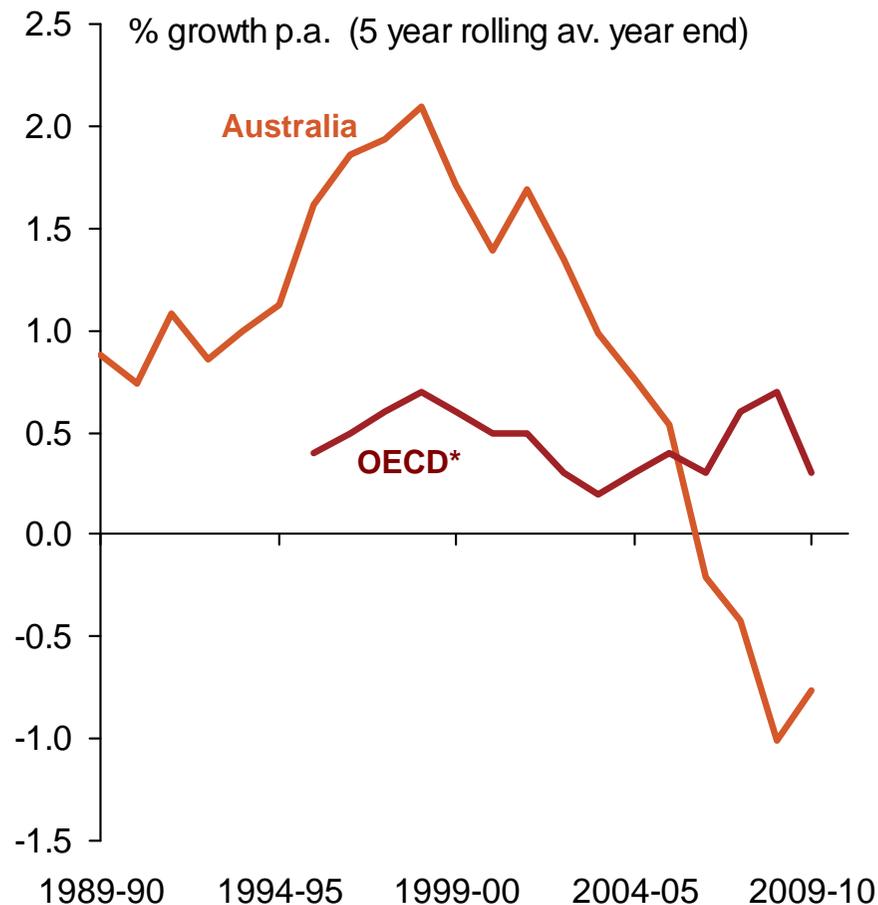


Productivity growth has slowed in most OECD countries

Labour productivity



Multi-factor productivity*



Source: Australian Bureau of Statistics & Conference Board ; Note: *OECD uses Conference Board Data. Labour productivity is GDP per capita (rather than hours for Australia). MFP (% change in market GVA divided by market GVA) is Total Factor Productivity (defined as % change in total inputs divided by % change in output. It is not apparent whether output includes non-market sectors nor whether inputs other than capital and labour have been included.

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

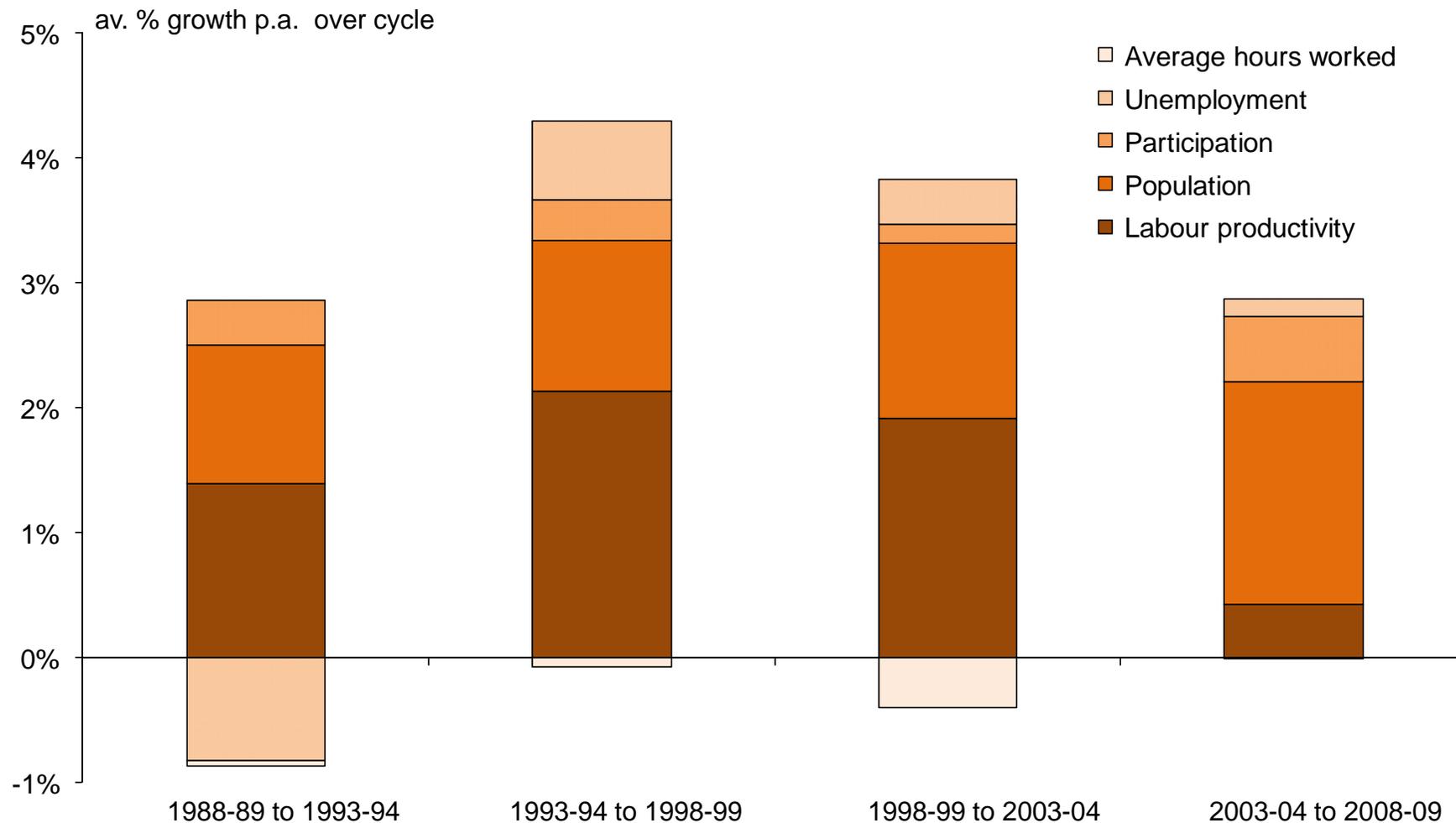
Australian labour productivity as a percentage of the US



Sources: The Conference Board *Total Economy Database 2010* (EKS PPP adjusted lab. prod.); Grattan Institute.

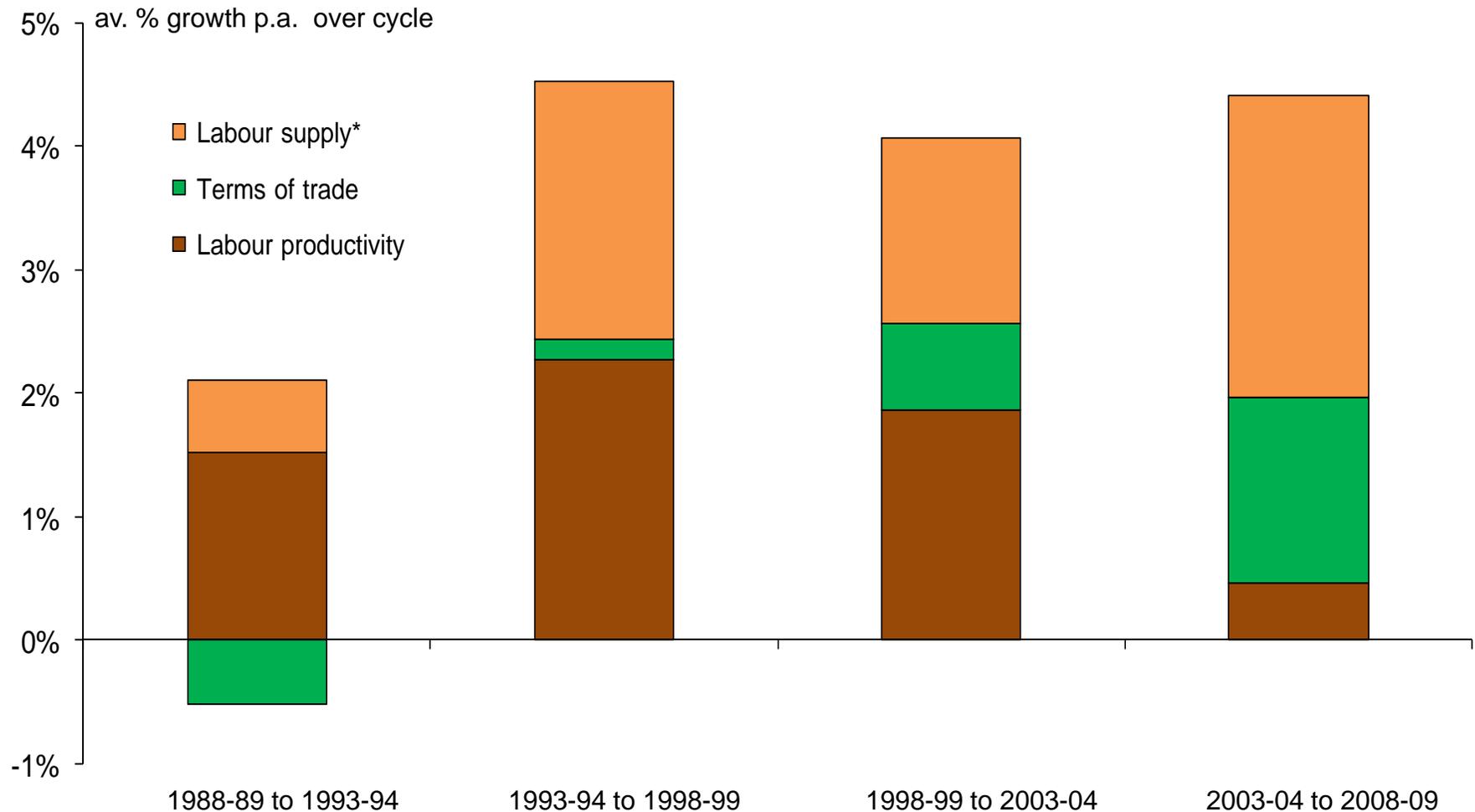
Real GDP growth has become increasingly reliant on population growth and rising workforce participation ...

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'

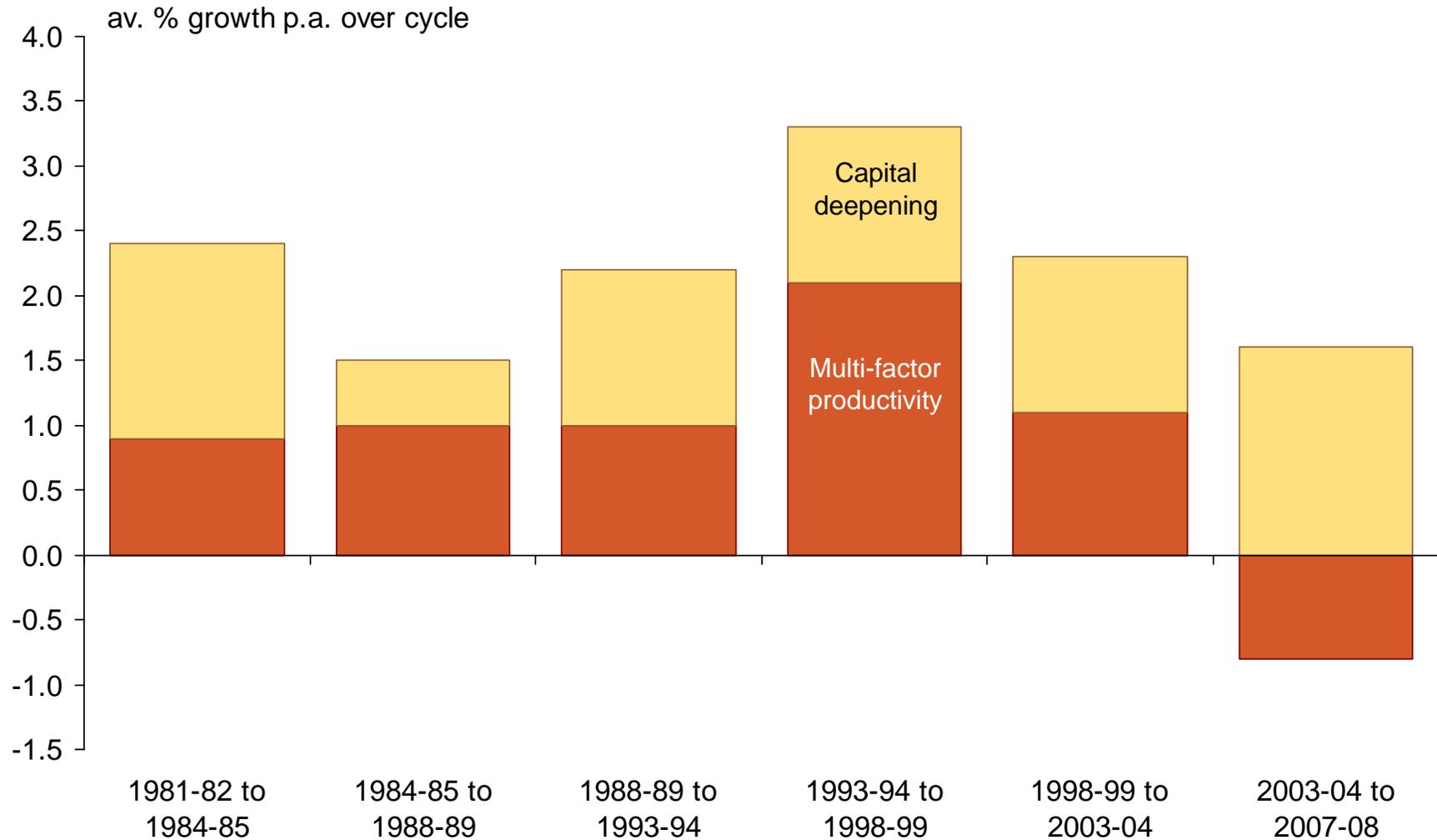
Sources of real GDI growth (1988-89 to 2008-09)



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'

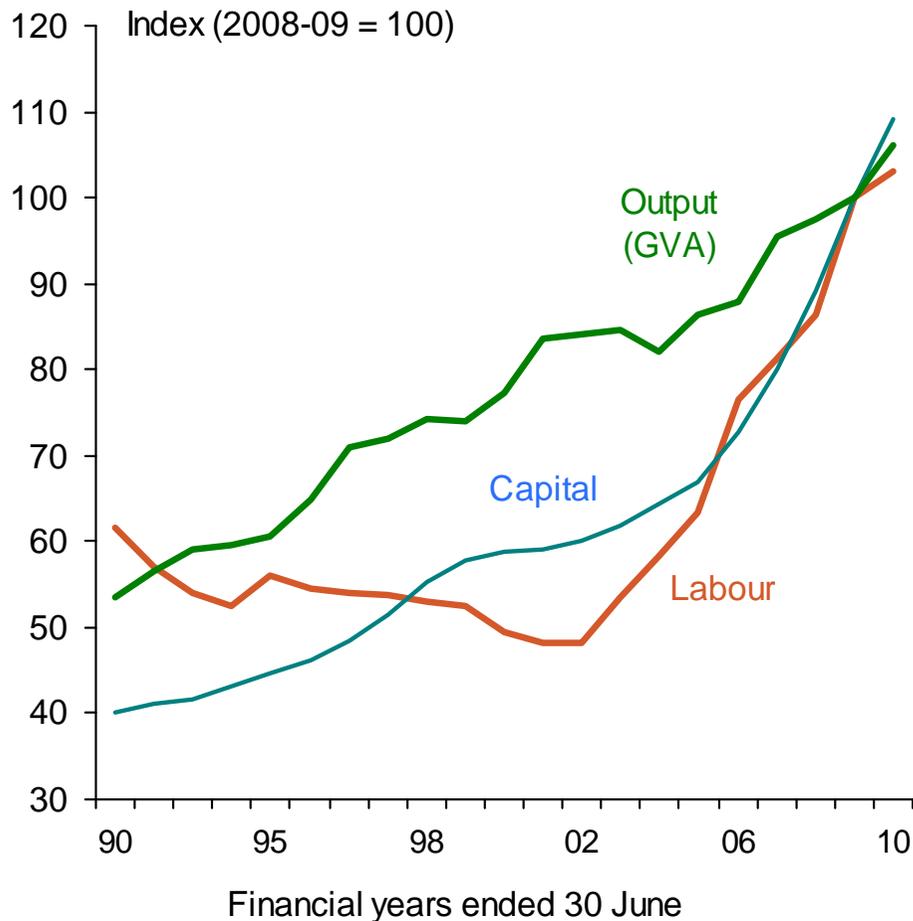
Components of labour productivity growth



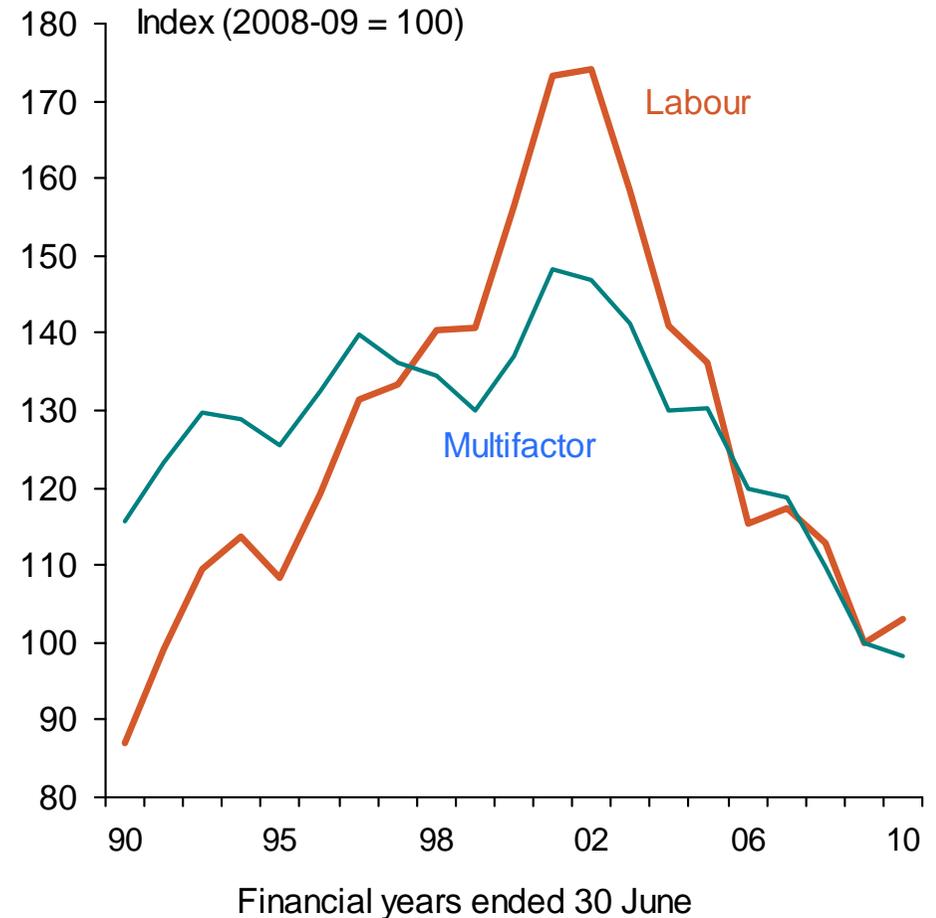
Sources: Australian Bureau of Statistics; Grattan Institute.
NB: Completed cycles only (2008-9 to 2009-10 are therefore excluded).

Perverse trends in mining sector productivity have detracted from Australia's overall performance ...

Mining sector factor inputs and outputs

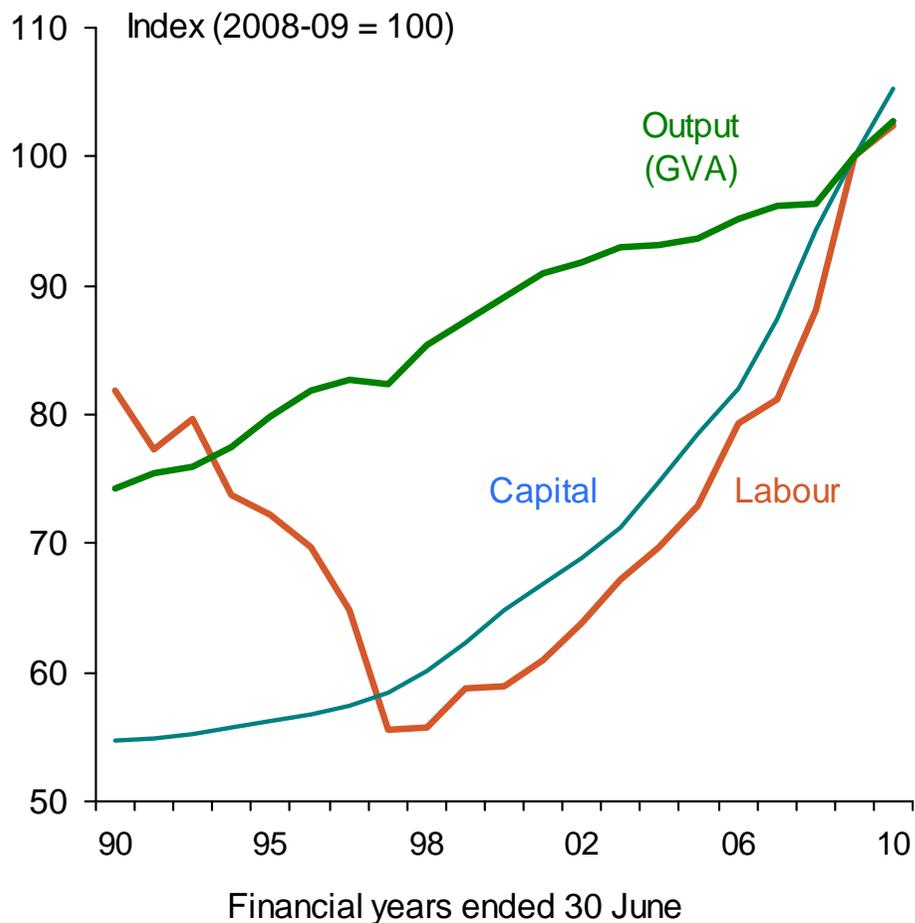


Mining sector productivity

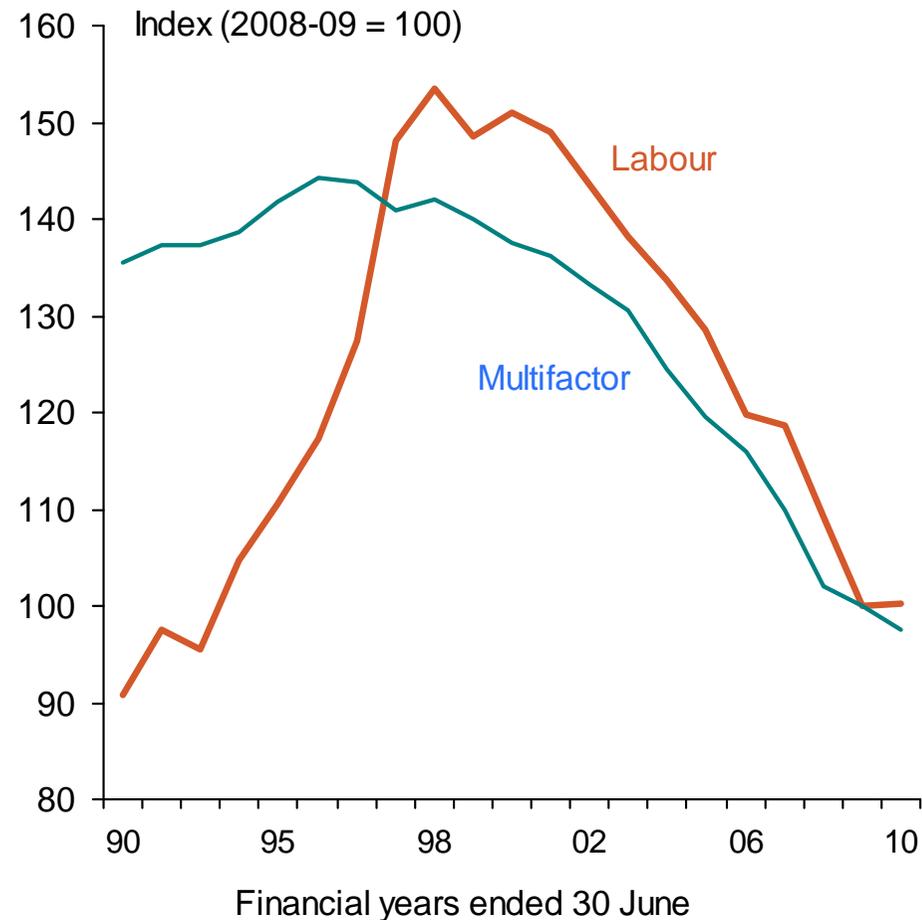


... as have, to a lesser extent, similar developments in the utilities sector

Utilities sector factor inputs and outputs



Utilities sector productivity

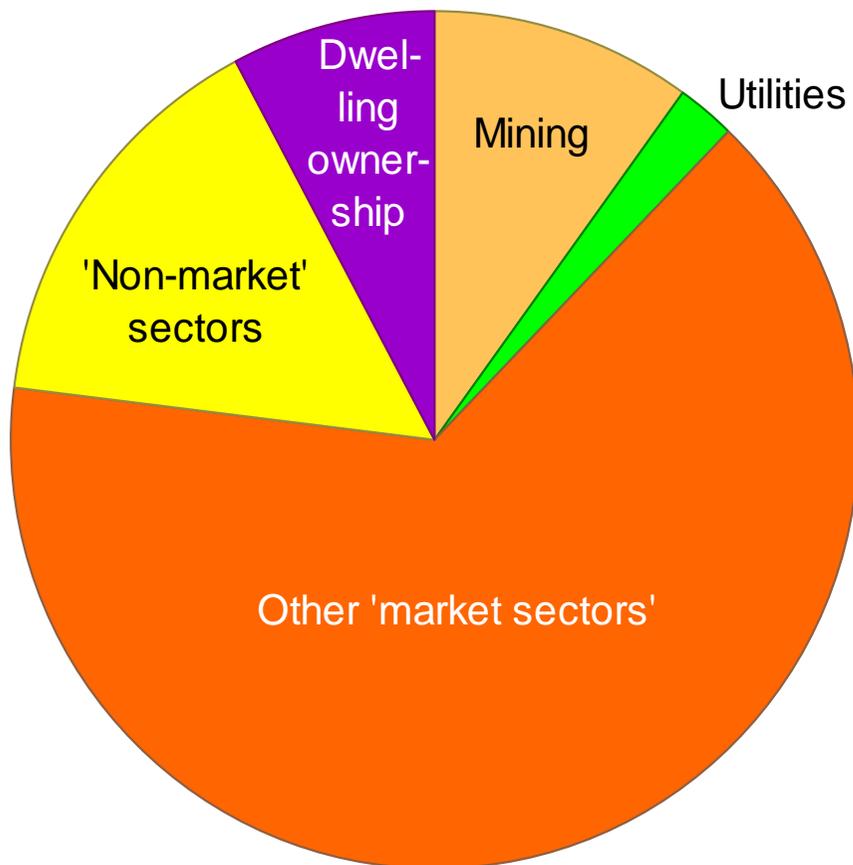


Note: 'utilities' refers to the electricity, gas, water and waste services sector.

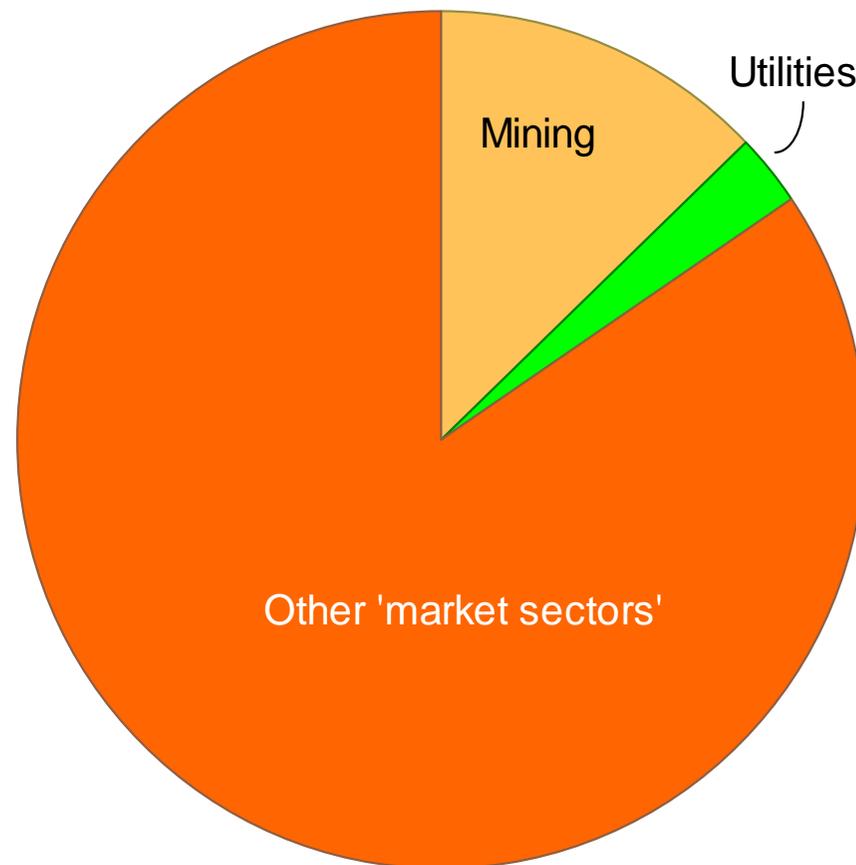
Source: ABS, *Experimental Estimates of Industry Multi-factor Productivity, Australia* (5260.0.55.002). December 2010.

But mining and utilities account for less than 12½% of gross value added, and less than 15% of 'market' GVA

Shares of total gross value added, 2009-10

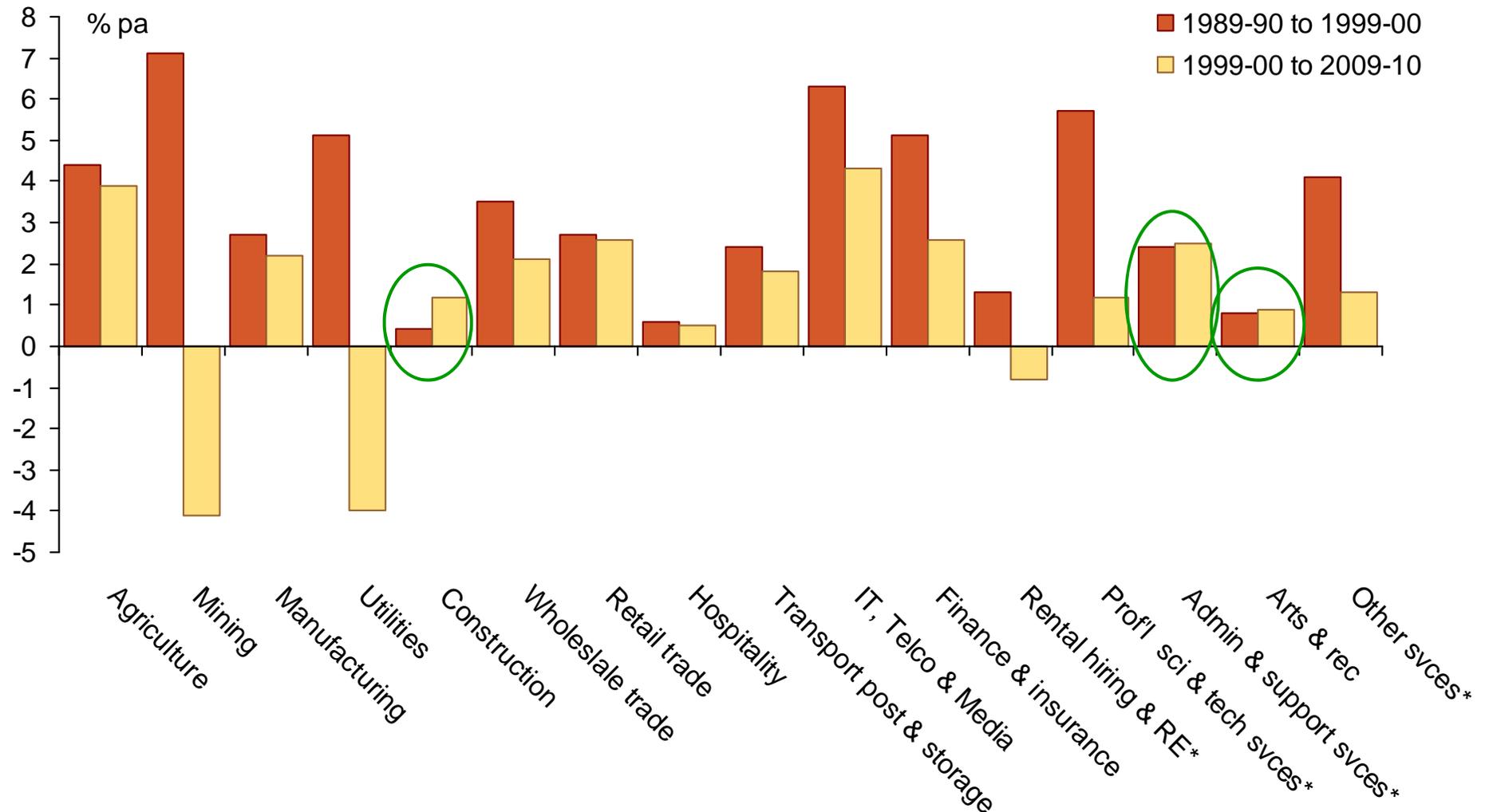


Shares of 'market sector' gross value added, 2009-10



Labour productivity growth has slowed in all but three of the market sectors over the past decade

Labour productivity growth by sector over past two decades

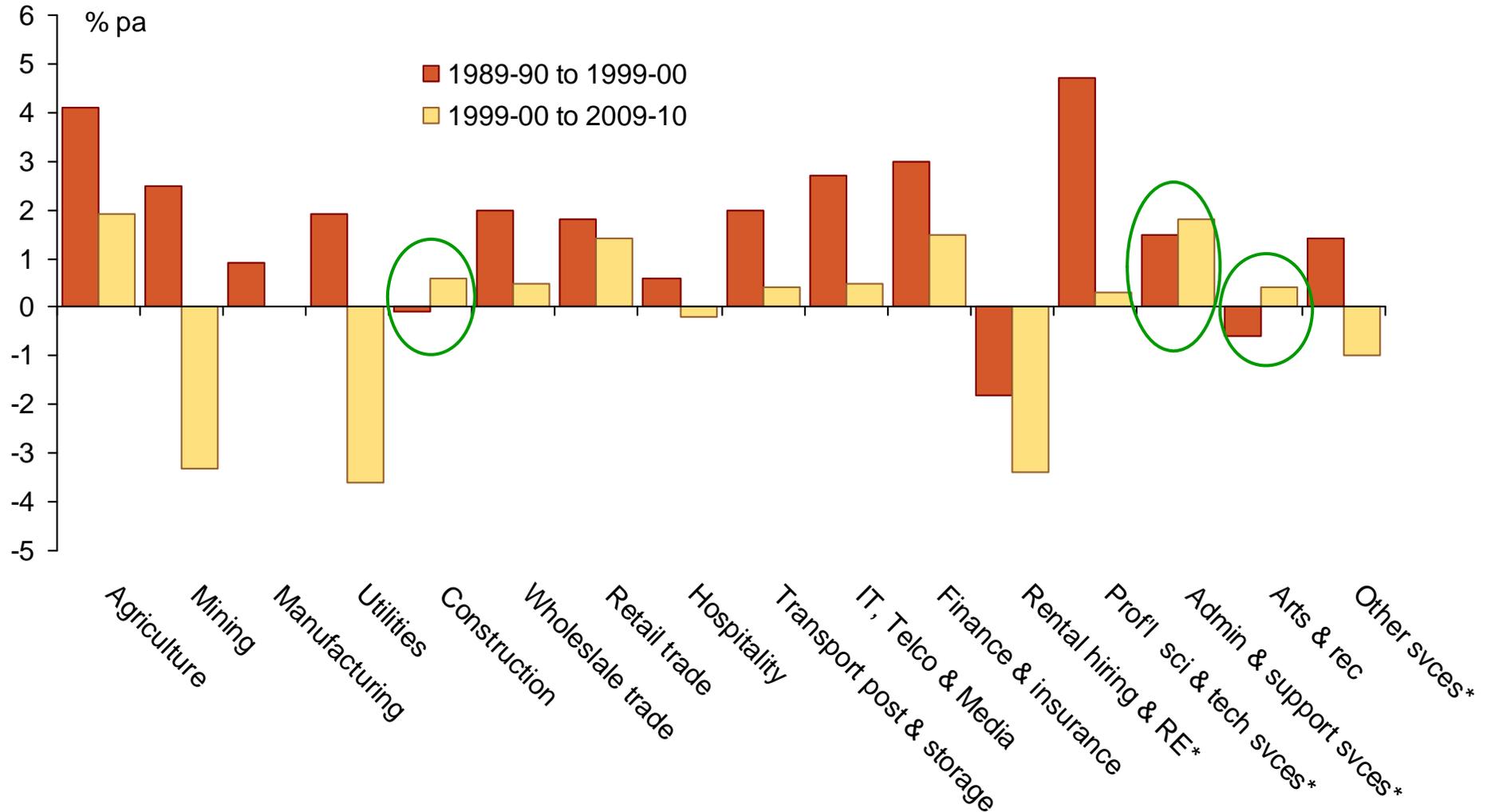


* 1990s productivity is calculated from 1994-95 through 1990-00.

Source: ABS, *Experimental Estimates of Industry Multi-factor Productivity, Australia* (5260.0.55.002). December 2010.

Multi-factor productivity growth has slowed in all but three of the market sectors over the past decade

Multi-factor productivity growth by sector over past two decades

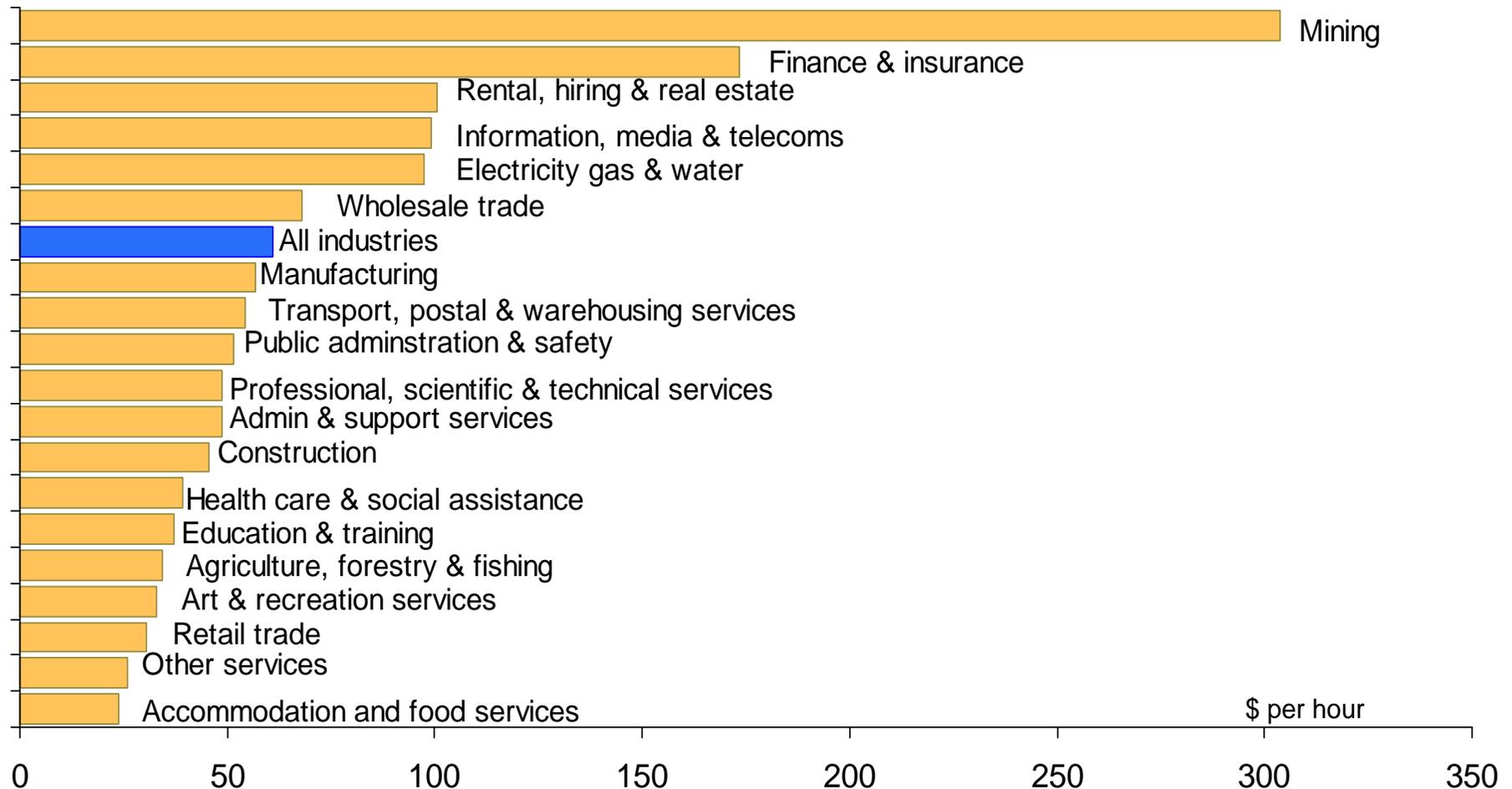


* 1990s productivity is calculated from 1994-95 through 1990-00.

Source: ABS, *Experimental Estimates of Industry Multi-factor Productivity, Australia* (5260.0.55.002). December 2010.

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

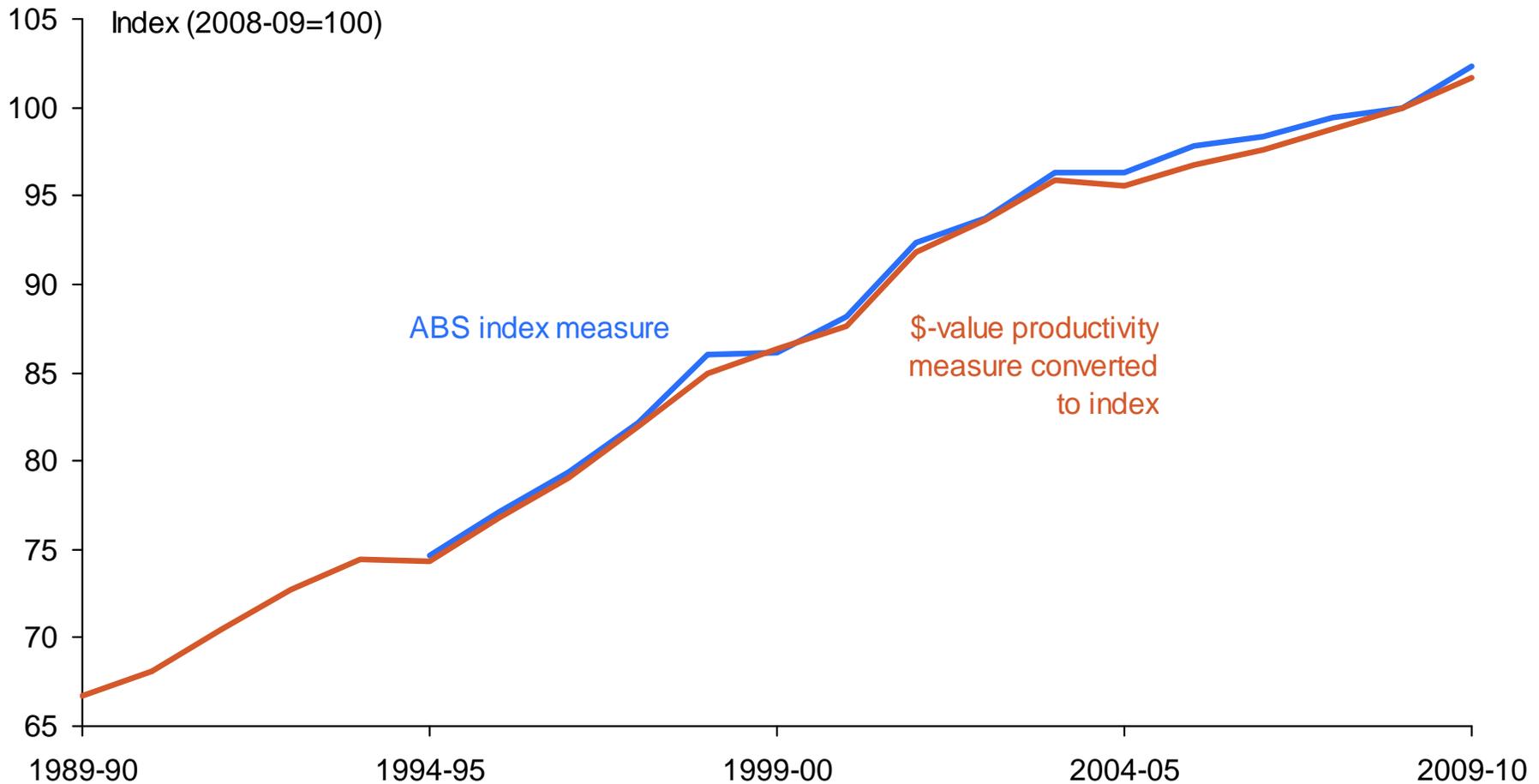
Estimates of the dollar value of output per hour worked, 2009-10



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. 'Output' is gross value added. Sources: ABS Australian System of National Accounts 2009-10 (5204.0) and Labour Force Australia, Detailed, Quarterly August 2010 (6291.0.55.003); Grattan Institute.

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

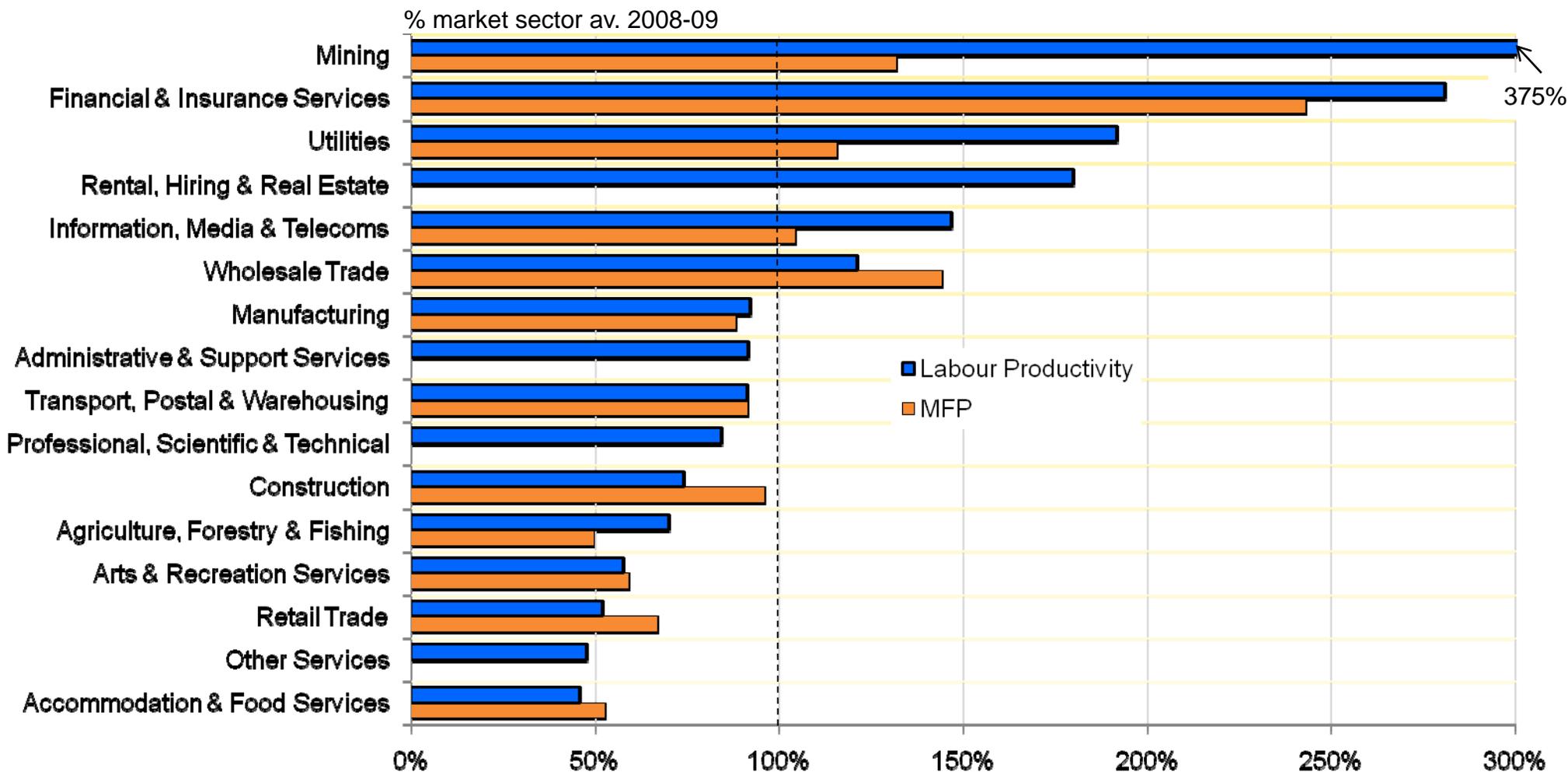
Estimates of market sector labour productivity compared



Grattan is GVA (val. add.) per hour worked (weighted by industry excl. taxes & dwellings). ABS from Cat. 5240.0. Difference reflects taxes less subsidies and ABS revision of selected industry hours worked data.

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

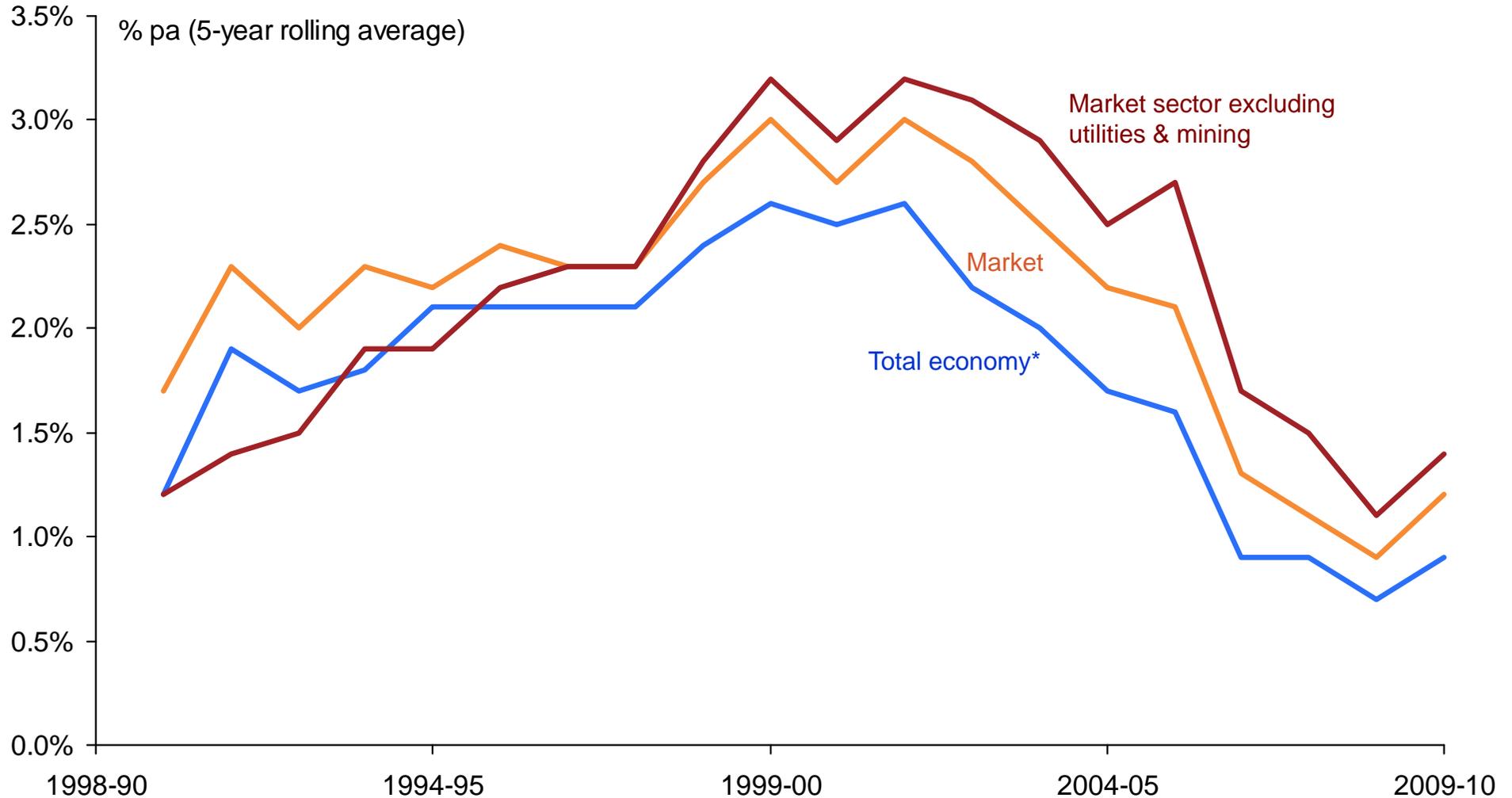
Labour and multi-factor productivity estimates for 'market sector' industries



Note: MFP level estimates should be considered indicative only. Estimates are calculated using income shares to convert capital services and hours worked into common input terms. This implicitly assumes the marginal rate of substitution of capital for labour is equal, meaning MFP levels equal relative wages. This is not observed in practice due to different production technologies and imperfect markets for labour and capital. 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



* Excludes taxes & dwellings

What could explain the general 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?

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- **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)
 - and achieving real progress in COAG regulatory reform agenda
 - **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**