



RESERVE BANK OF AUSTRALIA

# Productivity

From the Bank: Stephanie Parsons  
(Economic Analysis)

Education



*Productivity isn't everything, but in the long run it is almost everything.*

Paul Krugman, 'The Age of Diminished Expectations' (1994)



**MONEY & MARKETS**

# Why every Australian worker should care about productivity growth, in one chart



**DAVID SCUTT**   
 JUN 14, 2018, 3:51 PM

Speech

## Productivity, Wages and Prosperity

**Philip Lowe**

Governor

**Address to Australian Industry Group**

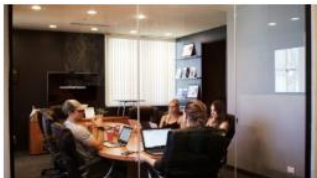
Melbourne – 13 June 2018

[Webcast](#) [Audio](#) [Download PDF](#) 376KB



**13 Things to Put on Your Daily Checklist for Increased Productivity**

Bruno Boksic



**How to Lead Team Meetings in the Most Productive Way**

Mark Pettit

# PRODUCTIVITY

Achieve more great things in less time



**How to Focus on Work Better and Boost Productivity**

Leon Ho



**The Most Effective Way to Measure Your Team's Productivity**

Deb Knobelman, PhD

LEADERSHIP

# Great Companies Obsess Over Productivity, Not Efficiency

by [Michael Mankins](#)

MARCH 01, 2017

— [Opinion](#)

# Productivity the forgotten word in modern politics



# Outline

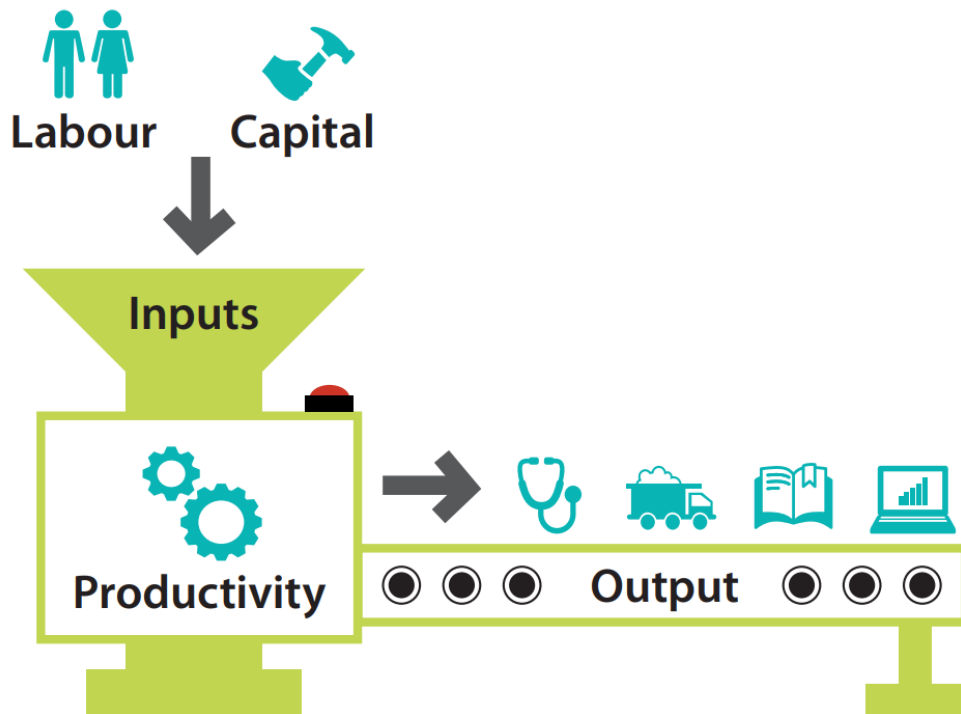
1. What is productivity?
2. Drivers of productivity growth
3. Benefits of productivity growth



# 1. What is productivity?



# A stylised production process





# Productivity concepts

1. Labour productivity: Output per worker or per hour worked

**Labour productivity**

**=**

**Output**

**Labour input**



# Productivity concepts

1. Labour productivity: Output per worker or per hour worked

**Labour productivity**

=

**Output**

**Labour input**

## Example:

Suppose a person is employed for 40 hours a week in a toy factory. In a given week, the worker produces 120 dolls. The productivity of the worker in that week is 3 dolls per hour.

**Labour productivity**

=

**Output**  
**Hours worked**

=

**120 dolls**  
**40 hours**

=

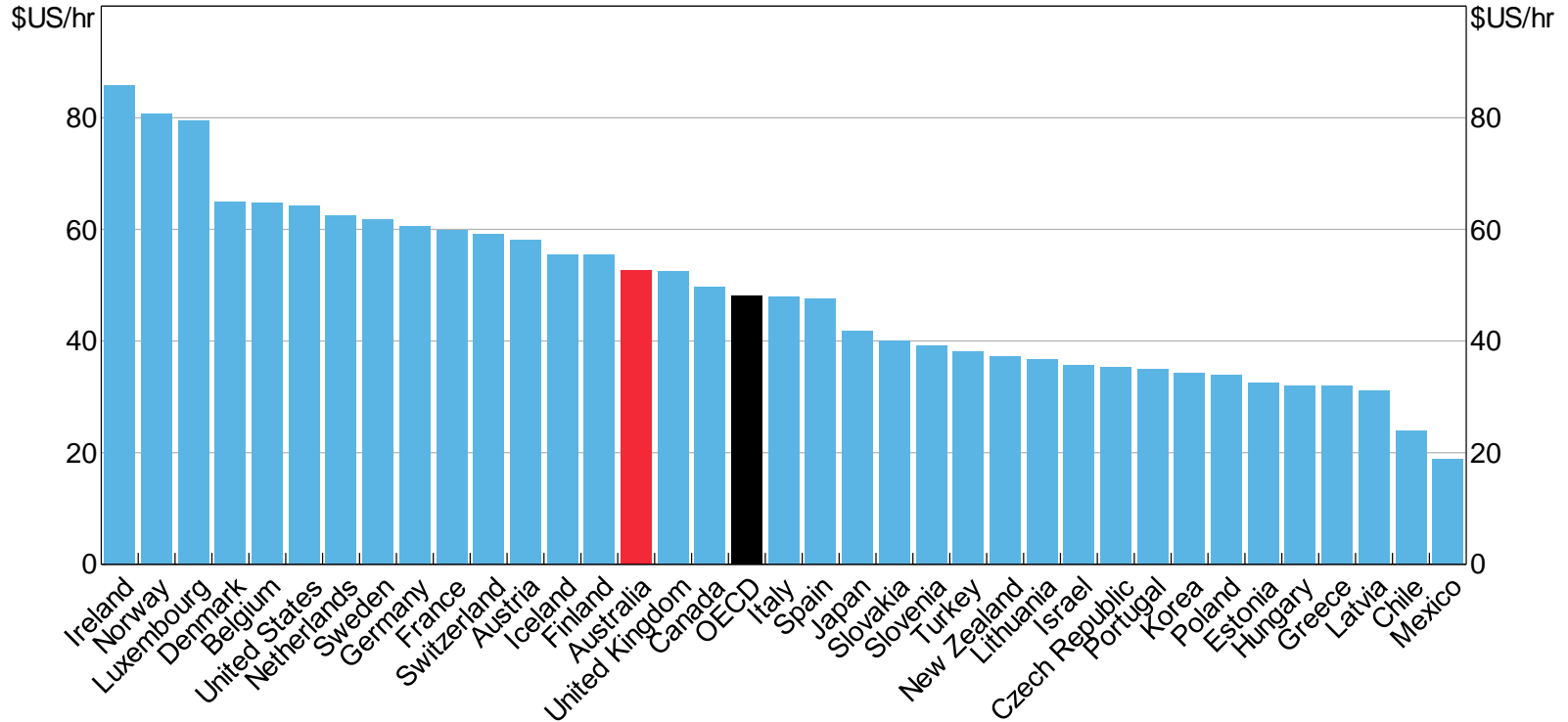
**3 dolls per hour**





# Labour Productivity – 2017

GDP per hour worked, 2010 prices, PPP-based



Source: OECD



# Productivity concepts

1. Labour productivity: Output per worker or per hour worked

Labour productivity

=

Output

Labour input

2. Multifactor productivity (MFP): Output per unit of combined inputs

MFP index

=

Output index

Combined input index

×

100

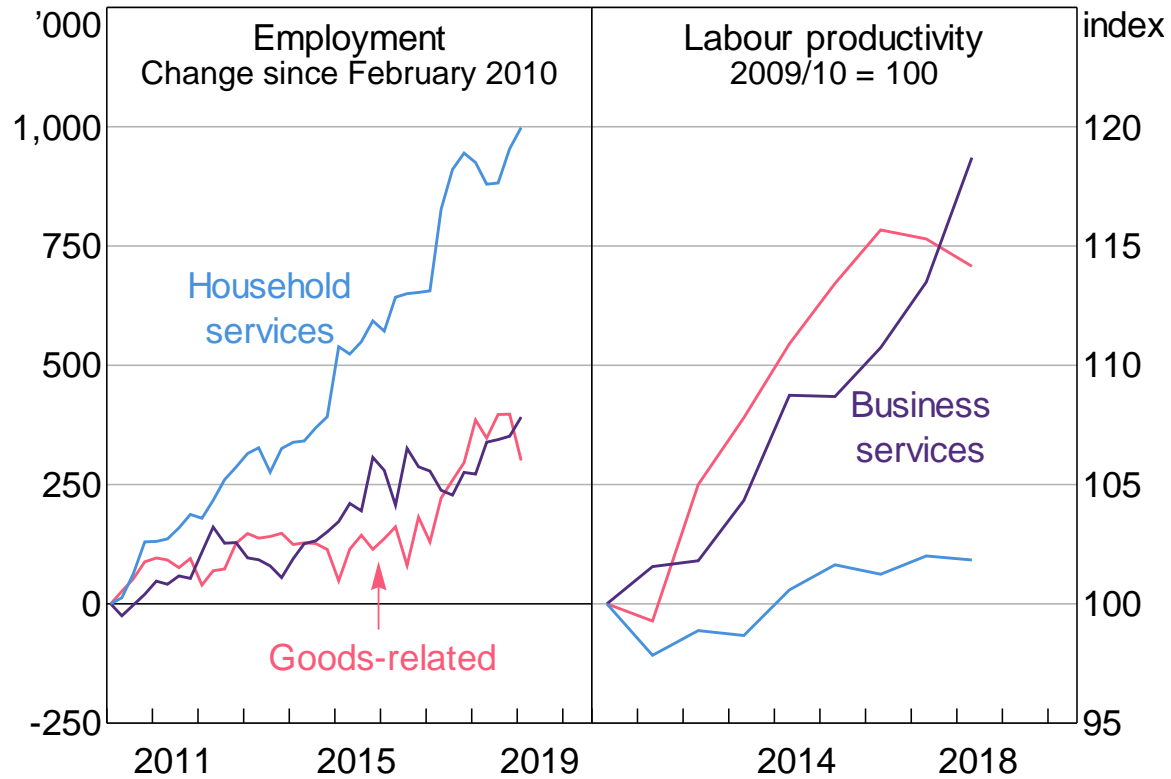


# Productivity is not the same as...

- total output
- efficiency
- labour force participation.



# Employment and Productivity



Sources: ABS; RBA



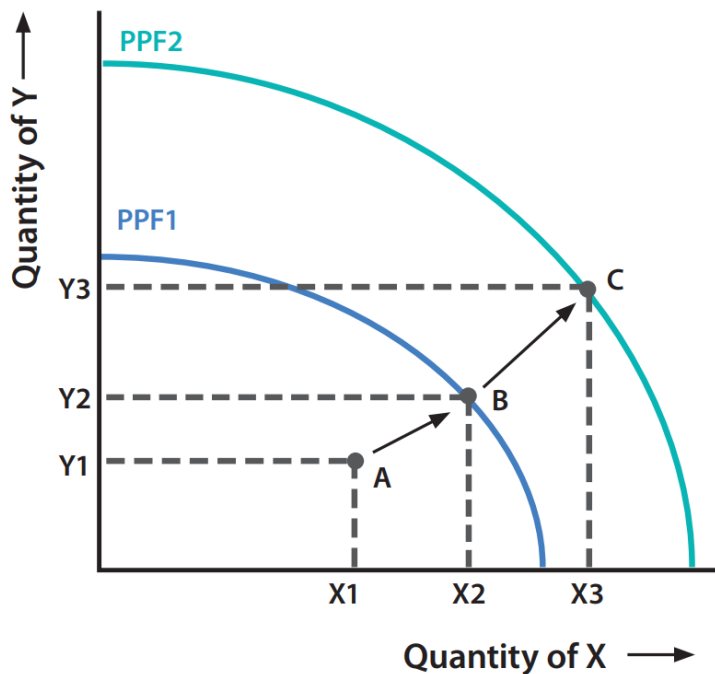
Industry	RBA sector	Market sector (12)	Market sector (16)	Non-market sector
Agriculture, forestry & fishing	N/A	✓	✓	
Mining	Goods production	✓	✓	
Manufacturing	Goods production	✓	✓	
Electricity, gas, water & waste services	Goods production	✓	✓	
Construction	Goods production	✓	✓	
Wholesale trade	Goods distribution	✓	✓	
Retail trade	Goods distribution	✓	✓	
Accommodation & food services	Household services	✓	✓	
Transport, postal & warehousing	Goods distribution	✓	✓	
Information media & telecommunications	Business services	✓	✓	
Financial & insurance services	Business services	✓	✓	
Rental, hiring & real estate services	Business services		✓	
Professional, scientific & technical services	Business services		✓	
Administrative & support services	Business services		✓	
Public administration & safety	N/A			✓
Education & training	Household services			✓
Health care & social assistance	Household services			✓
Arts & recreation services	Household services	✓	✓	
Other services	Household services		✓	



## 2. Drivers of productivity growth

# Drivers of productivity growth

## Production Possibility Frontiers



**A → B**  
Efficiency improvements

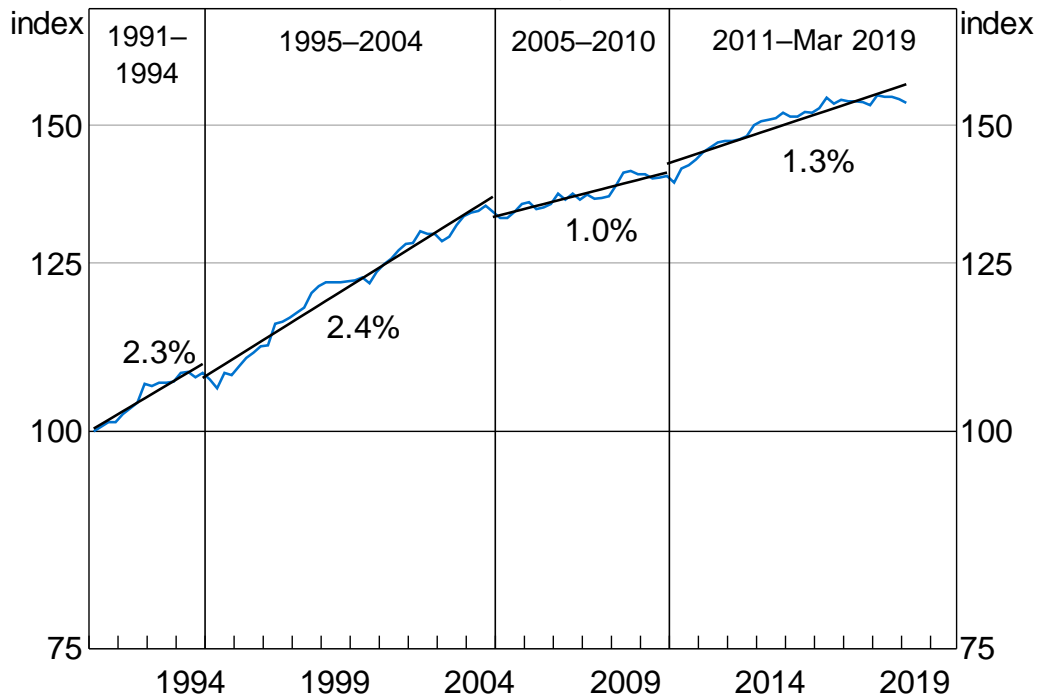
**B → C**  
Expanding productive capacity

+ *Spillovers between firms*



# Labour Productivity\*

March 1991 = 100, log scale, quarterly



\* GDP per hour worked; black lines denote linear trend; labels show average annual growth

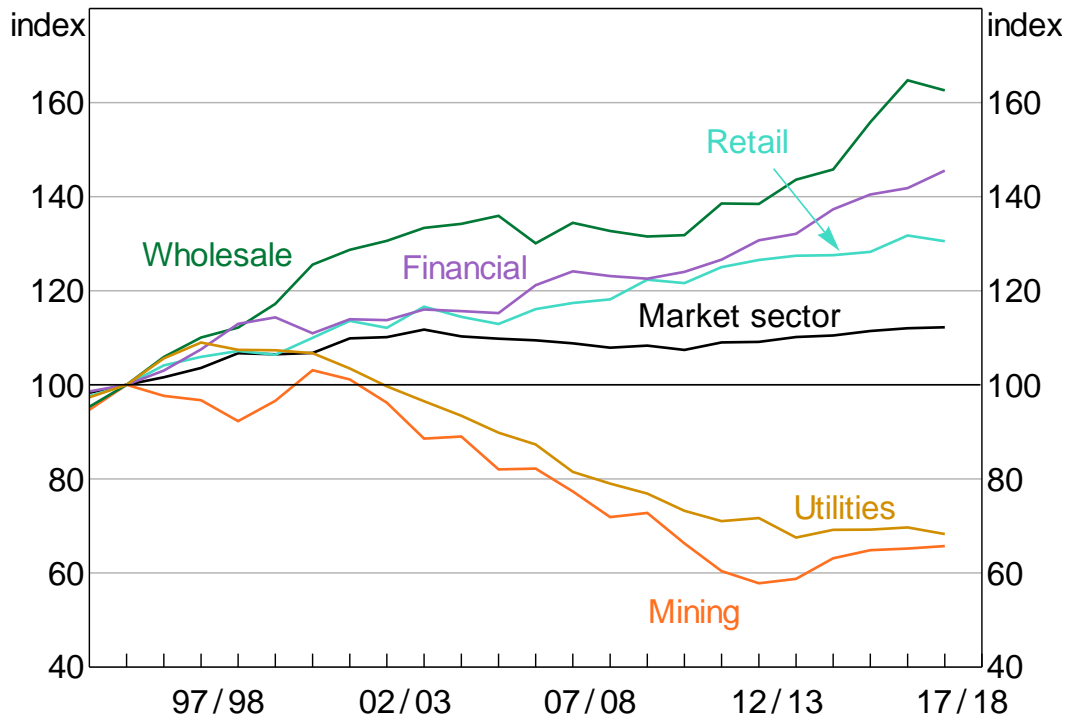
Sources: ABS; RBA





# Multifactor Productivity by Industry\*

Selected industries, 1995/96 = 100



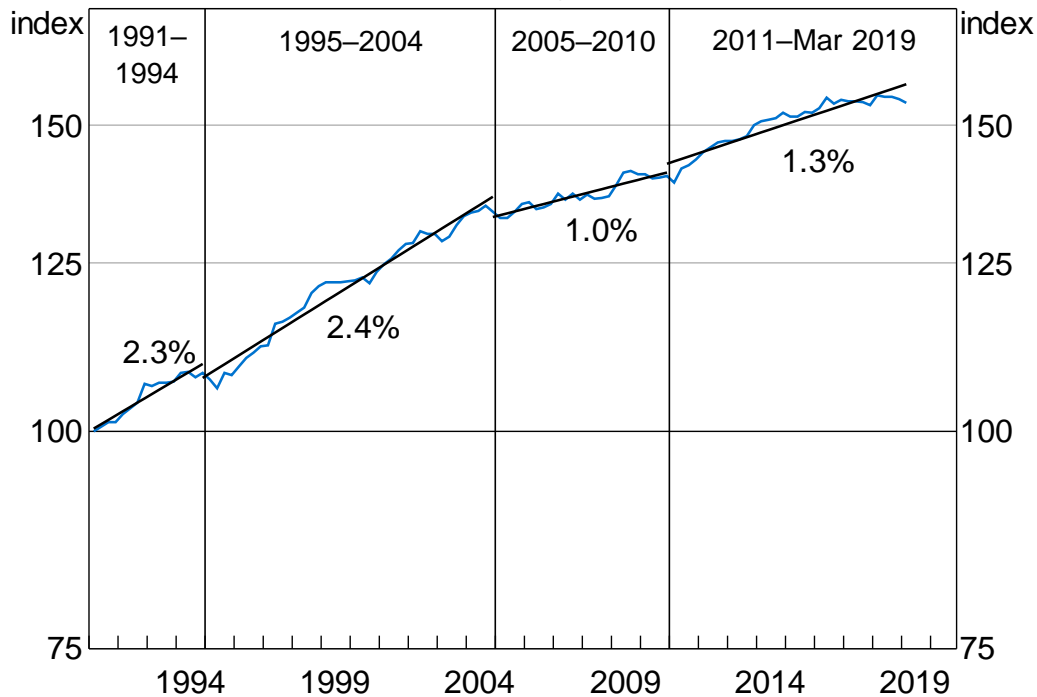
\* Quality-adjusted hours basis

Sources: ABS; RBA



# Labour Productivity\*

March 1991 = 100, log scale, quarterly



\* GDP per hour worked; black lines denote linear trend; labels show average annual growth

Sources: ABS; RBA

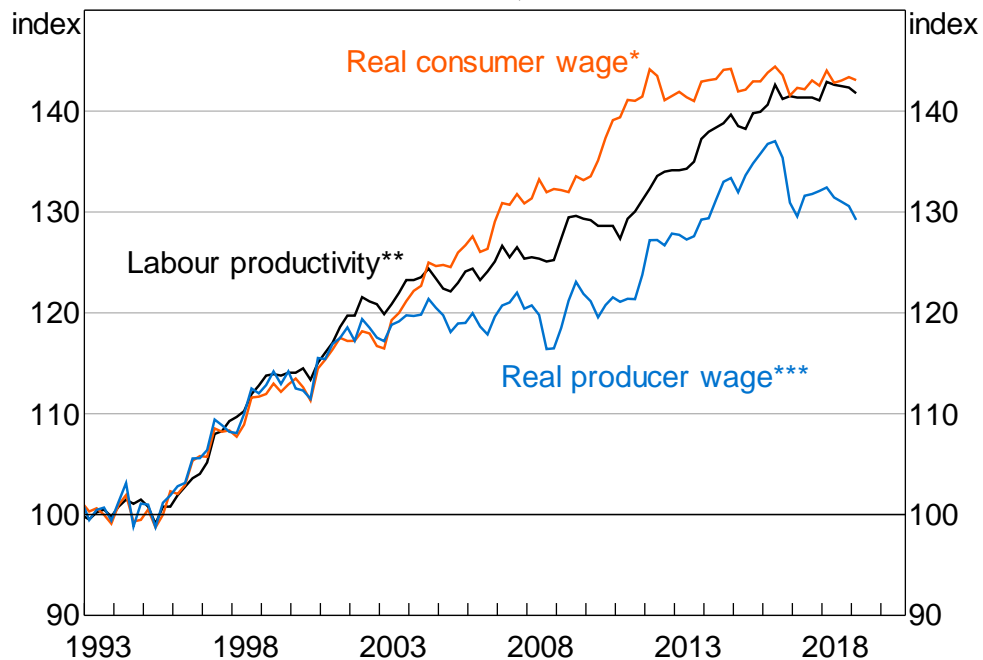


# 3. Benefits of productivity growth



## Productivity and Real Wages

Non-farm sector, 1993 = 100



\* Ratio of average hourly earnings to the household consumption deflator

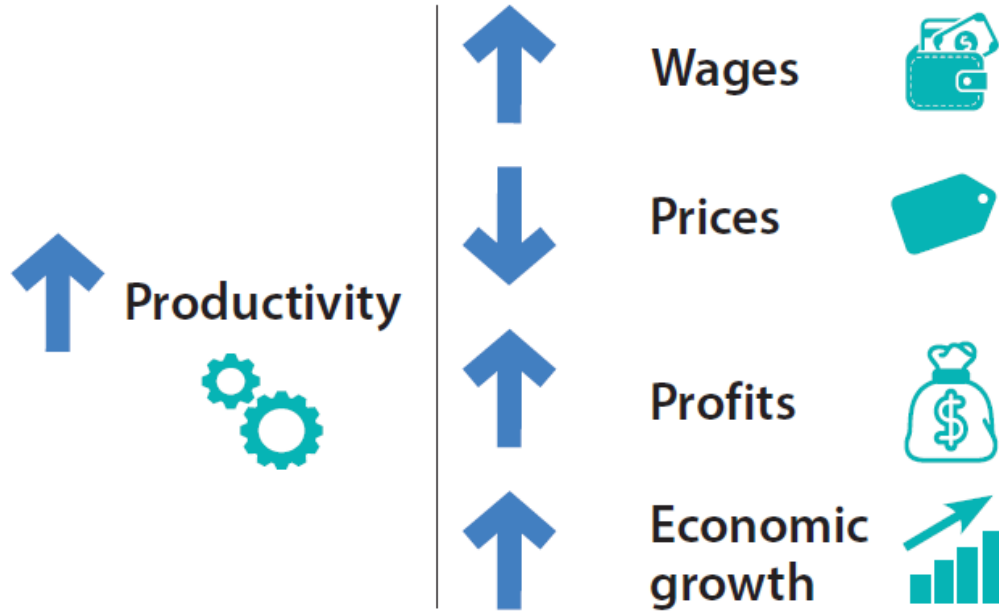
\*\* Real GDP per hour worked

\*\*\* Ratio of average hourly earnings to the GDP deflator

Sources: ABS; RBA



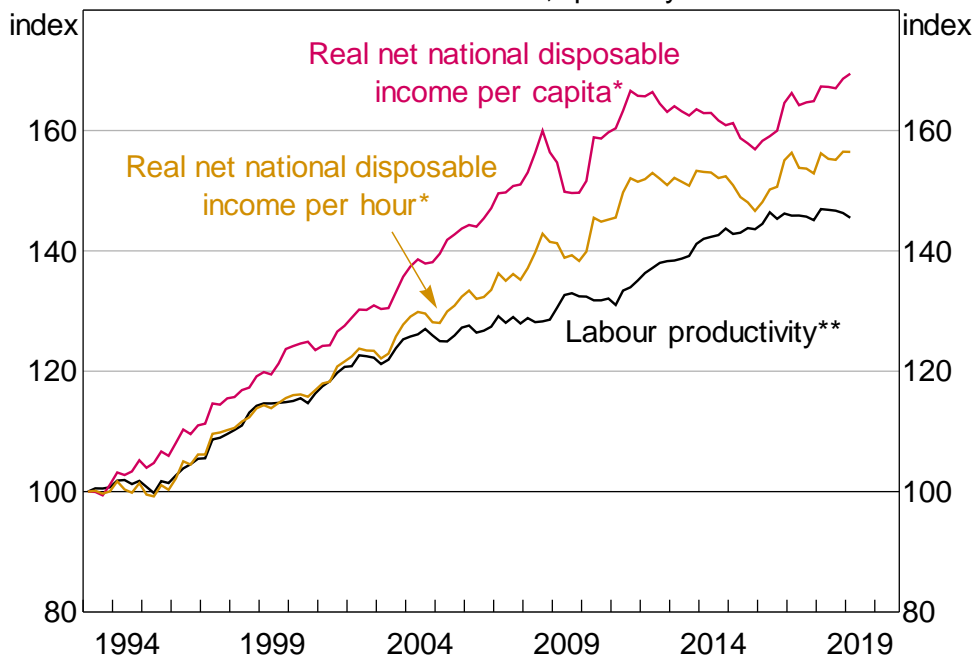
# Benefits of productivity growth





## Productivity and Real Income

March 1993 = 100, quarterly



\* Real GDP adjusted for the purchasing power effects of changes to the terms of trade, depreciation of the capital stock and net income transfers to the rest of the world

\*\* Real GDP per hour worked

Sources: ABS; RBA