



Australian Government
Australian Bureau of Agricultural and
Resource Economics and Sciences



Farming in a changing climate: Australian experience

Jammie Penm

Chief Commodity Analyst

Assistant Secretary, Agricultural Commodities and Trade

www.abares.gov.au

Outline

Impact of recent climate events on Australian agriculture

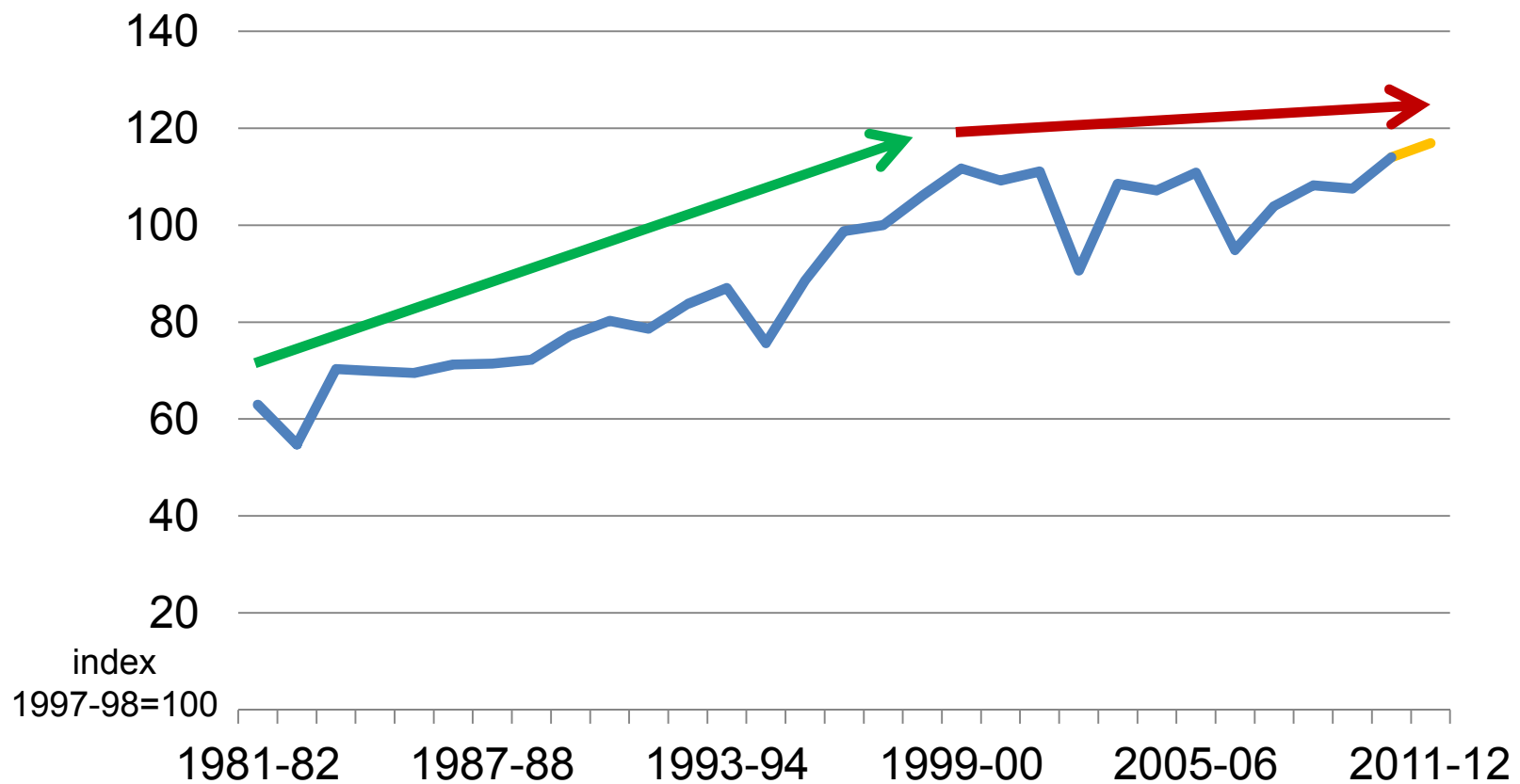
Importance of agricultural productivity

Framework for productivity growth

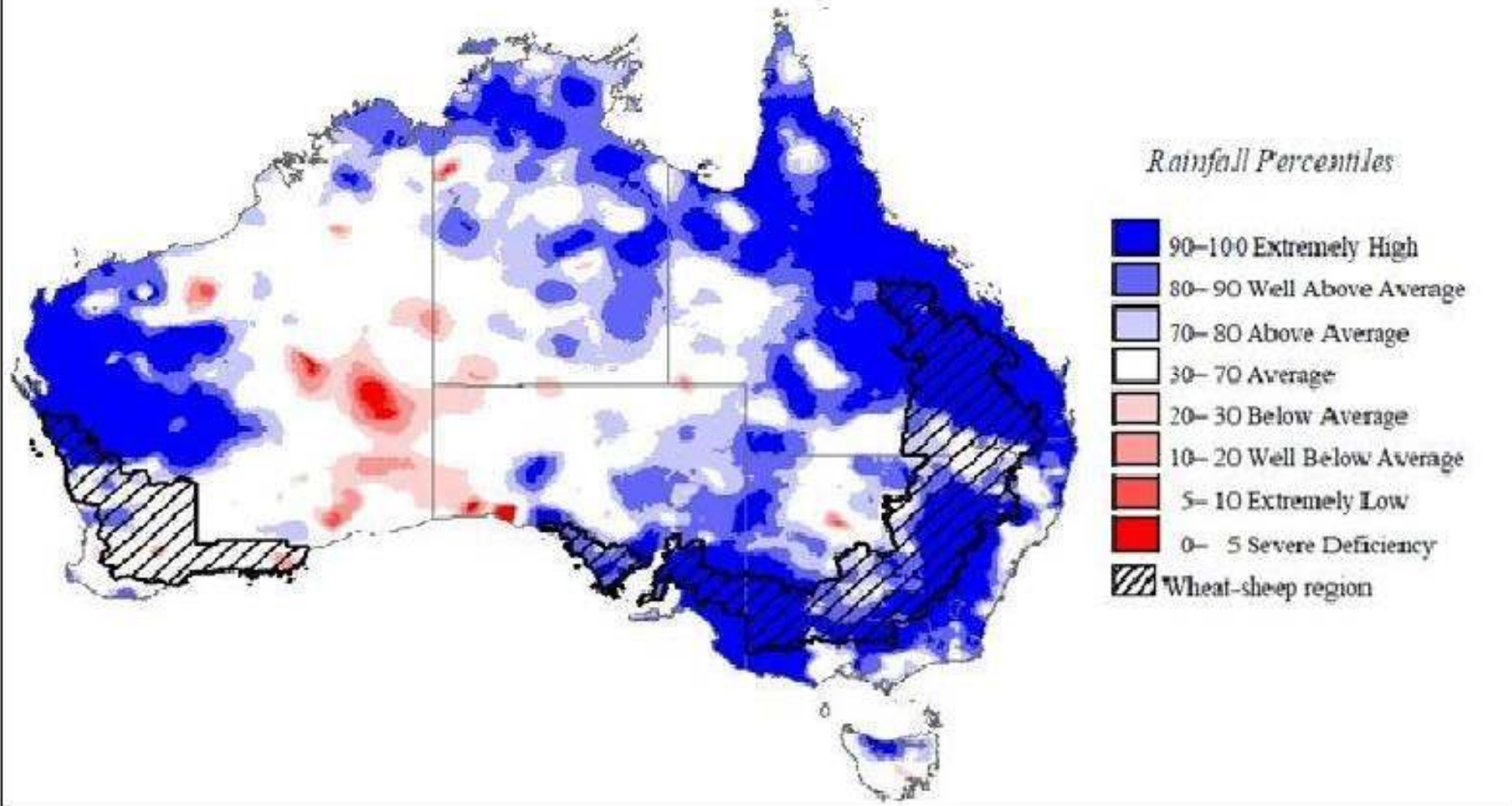
Australian broadacre zones



Index of Australian agricultural production



Rainfall percentiles (December 2010 and January 2011)



Impact of recent excessive rainfall and floods: an example

Excessive rainfall in November and December 2010 caused significant crop downgrades;

Floods in December 2010 and January 2011 damaged agricultural production

Tropical Cyclone Yasi devastated the banana industry in North Queensland

Impact of recent weather events

November to mid-December rainfall:

↓ agricultural exports \$950 million

Late December to January flooding:

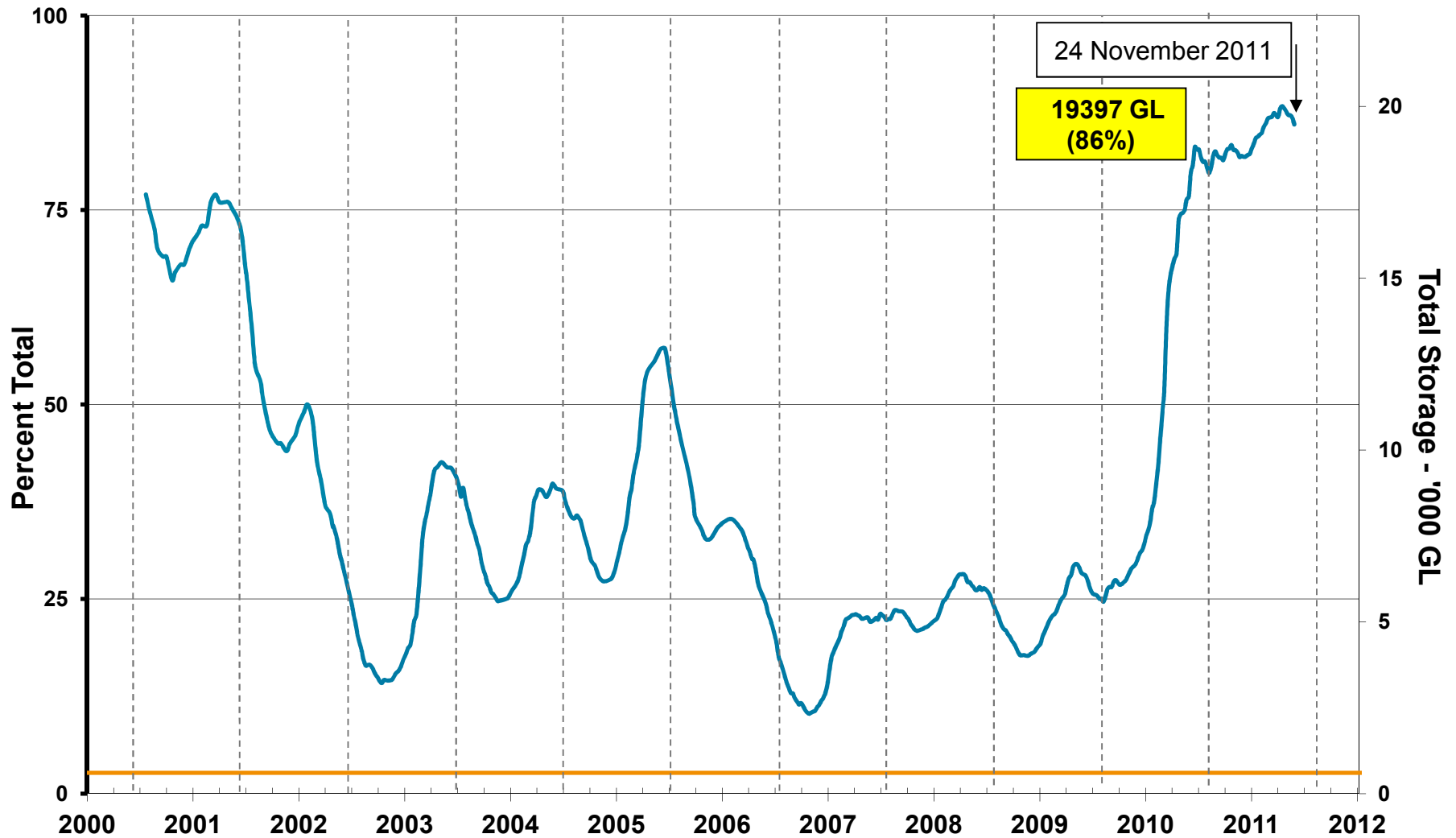
↓ agricultural production by \$1 billion

↓ coal exports by \$2 to 2.5 billion

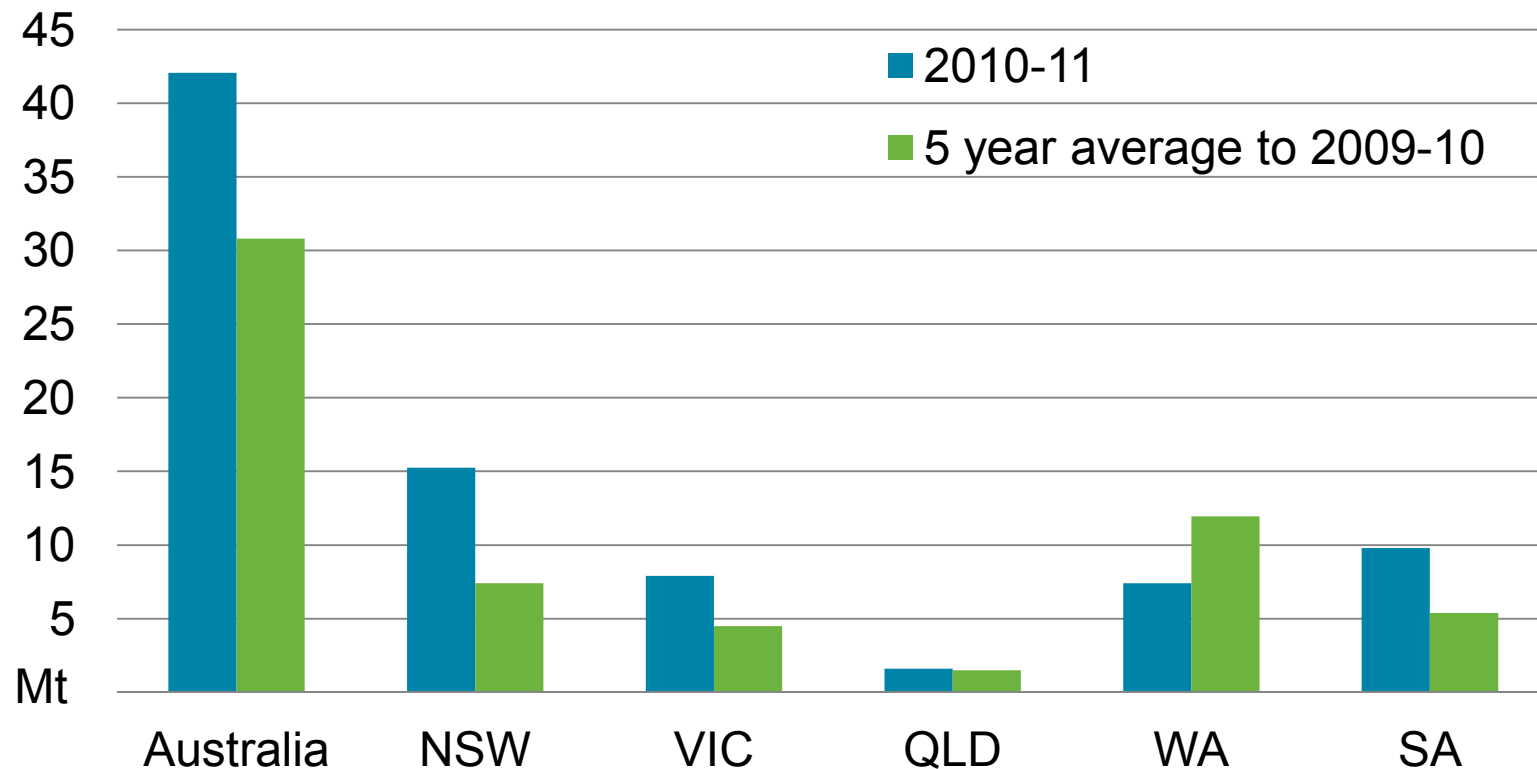
Tropical Cyclone Yasi:

↓ agricultural production in Far North Queensland by \$300 million

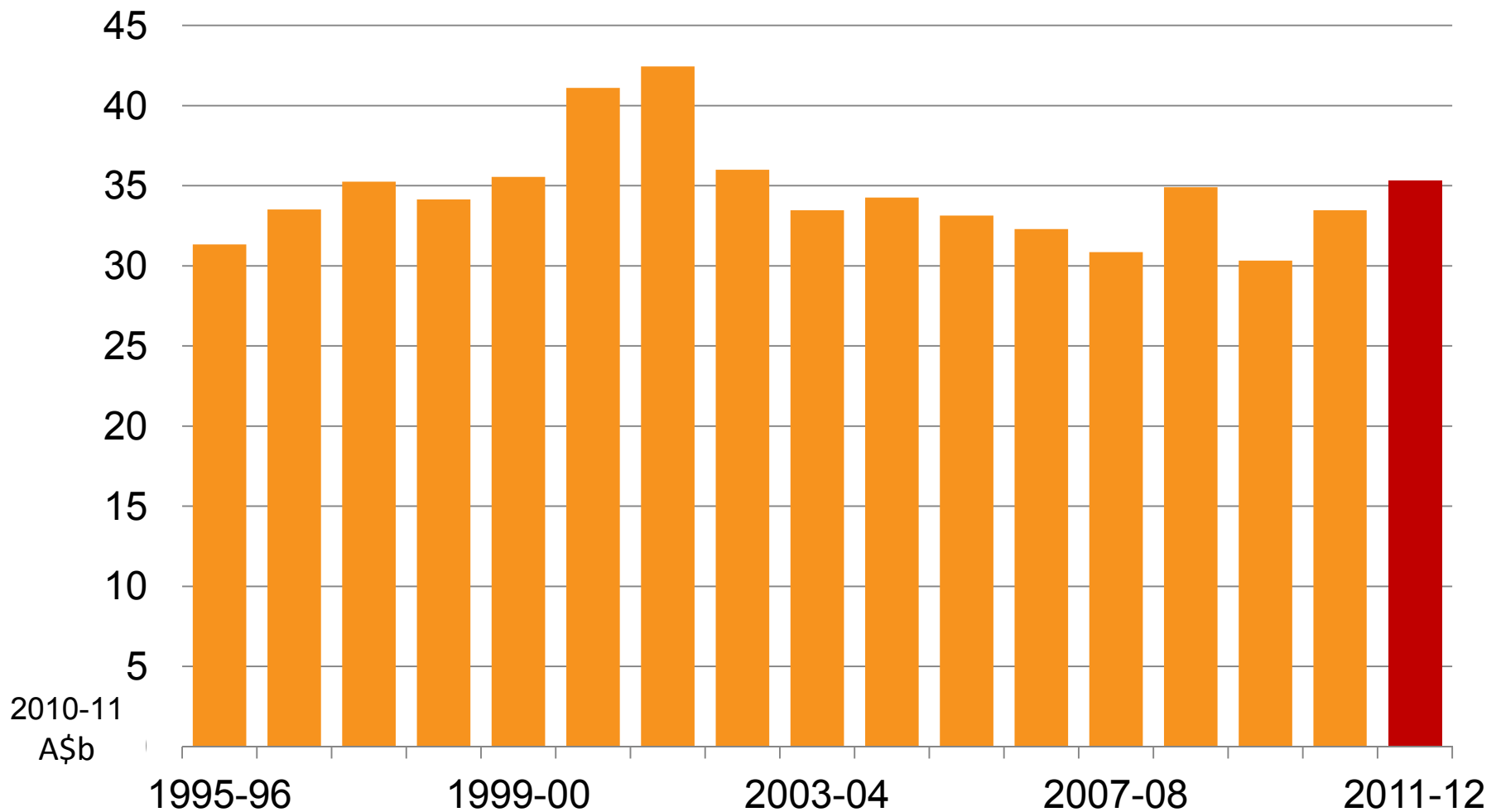
Murray–Darling Basin water storage



Total winter crop production



Value of Australia's farm exports



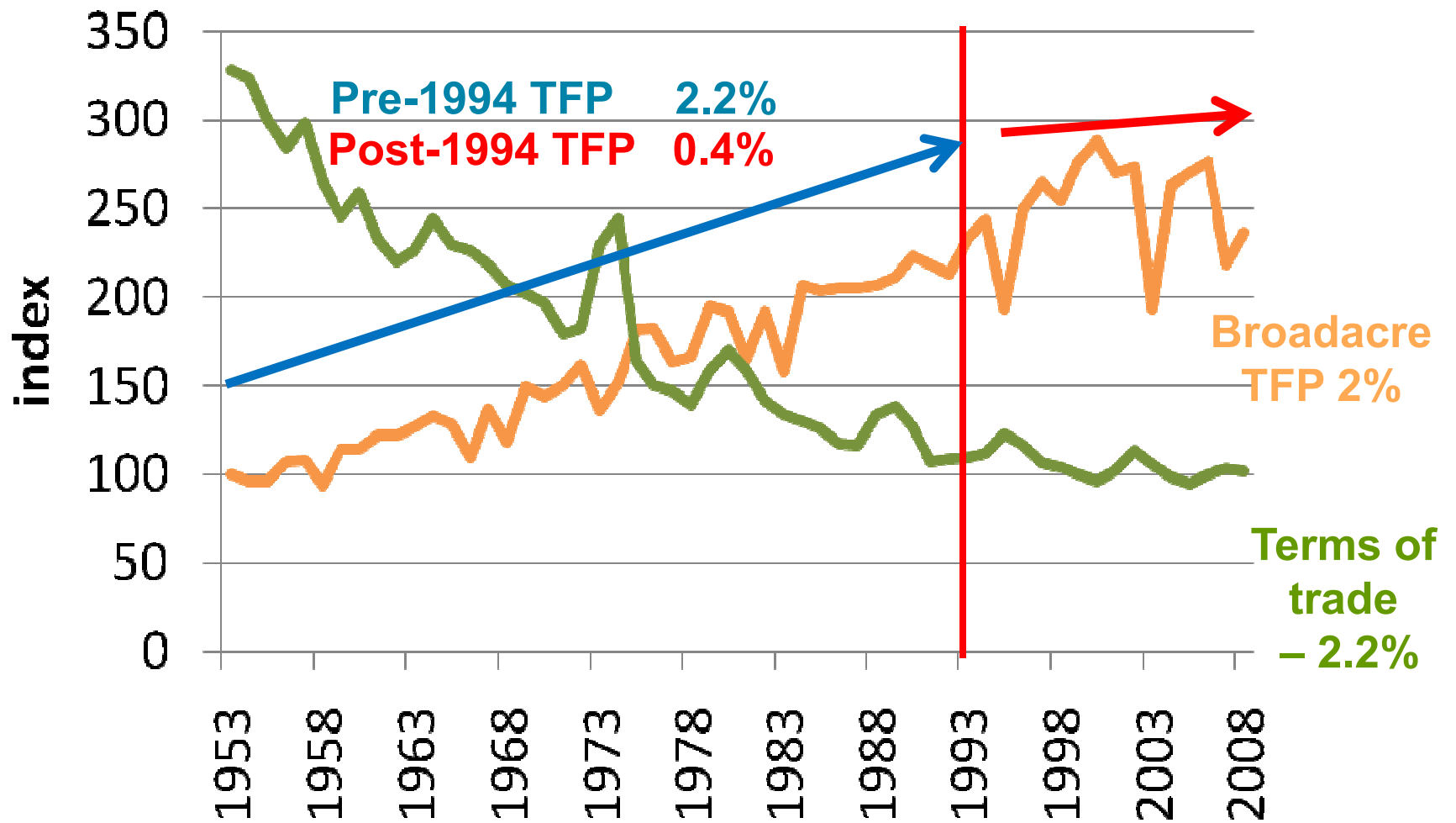
Agriculture adapting to climate variability and change

Will occur on-farm and will be ongoing

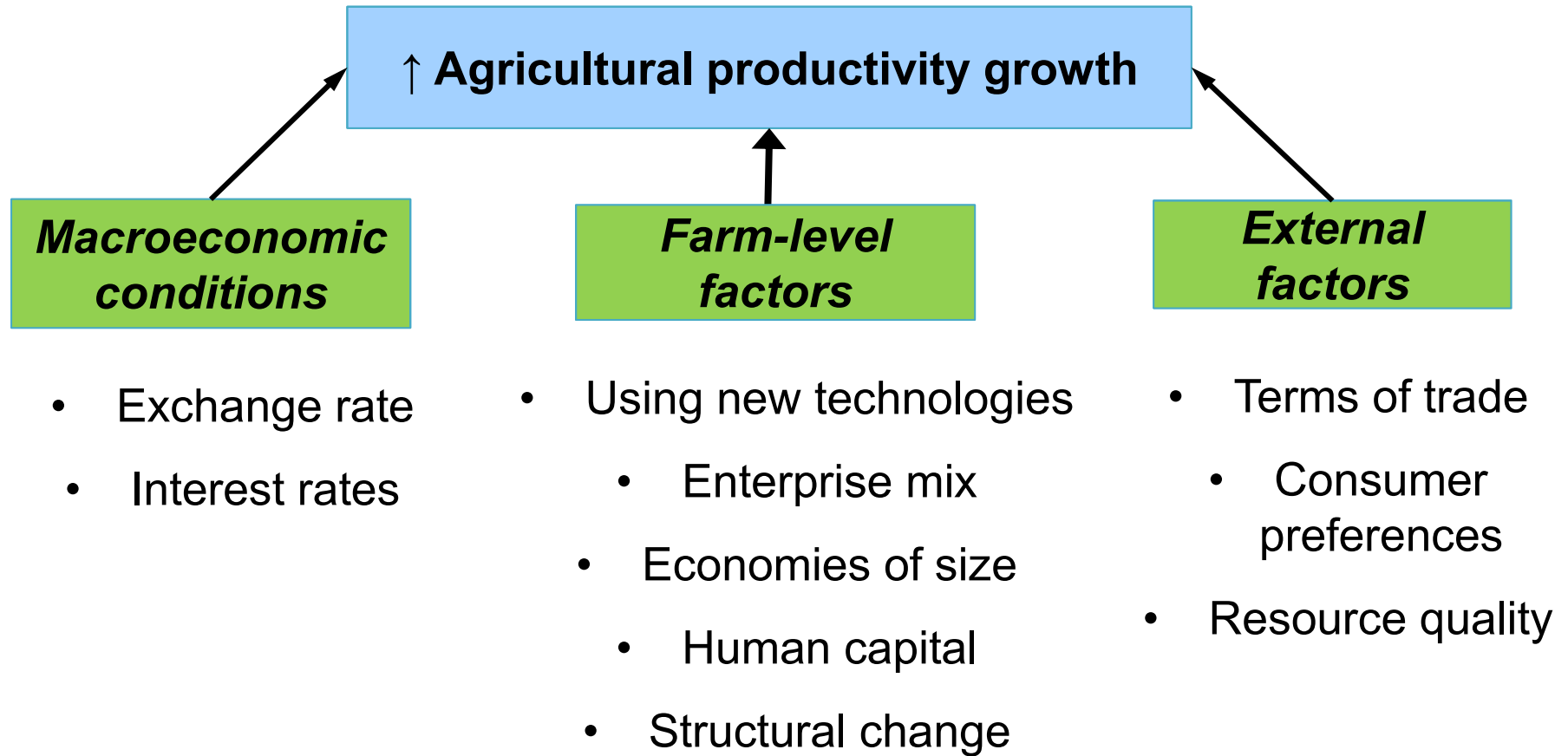
Larger productivity improvements will be required

Roles for both industry and government

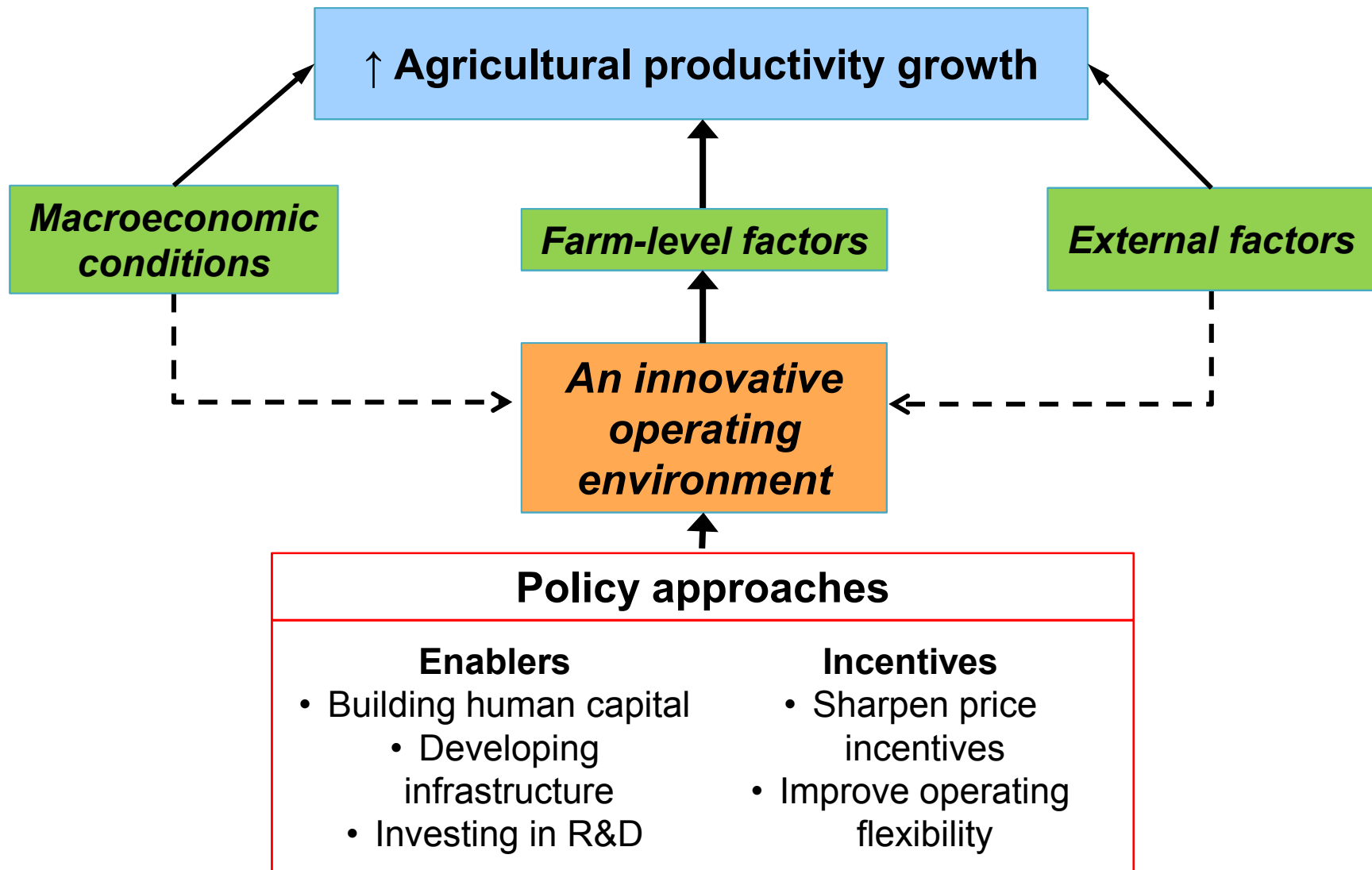
Productivity trends and terms of trade



Framework for agricultural productivity

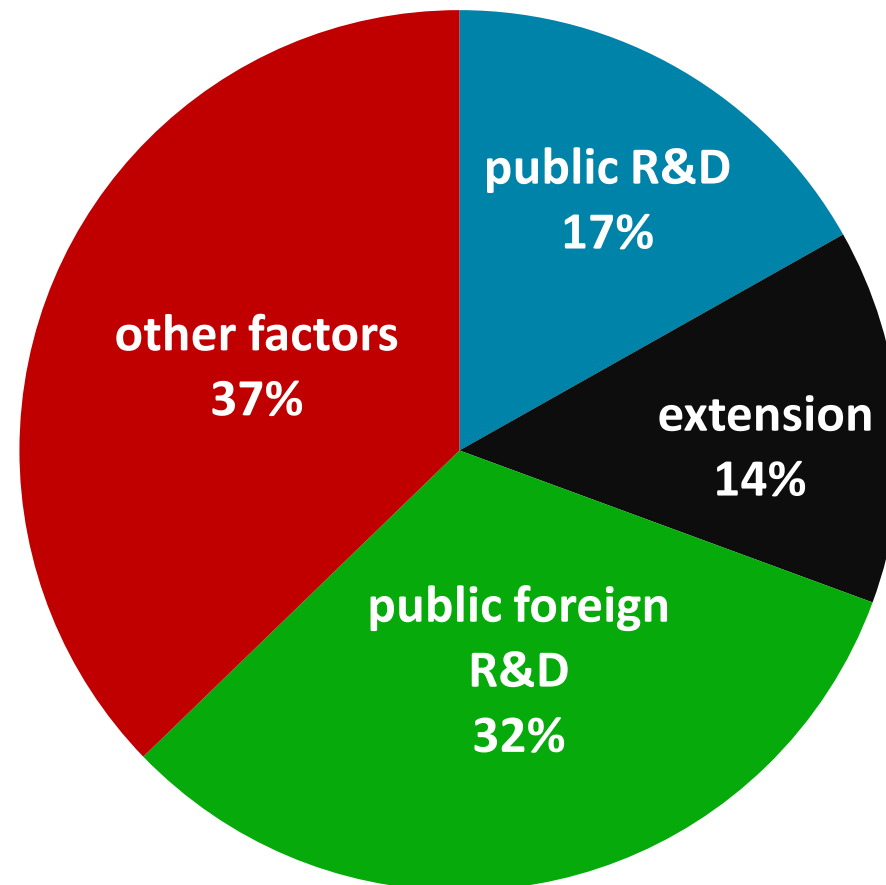


Framework for agricultural productivity

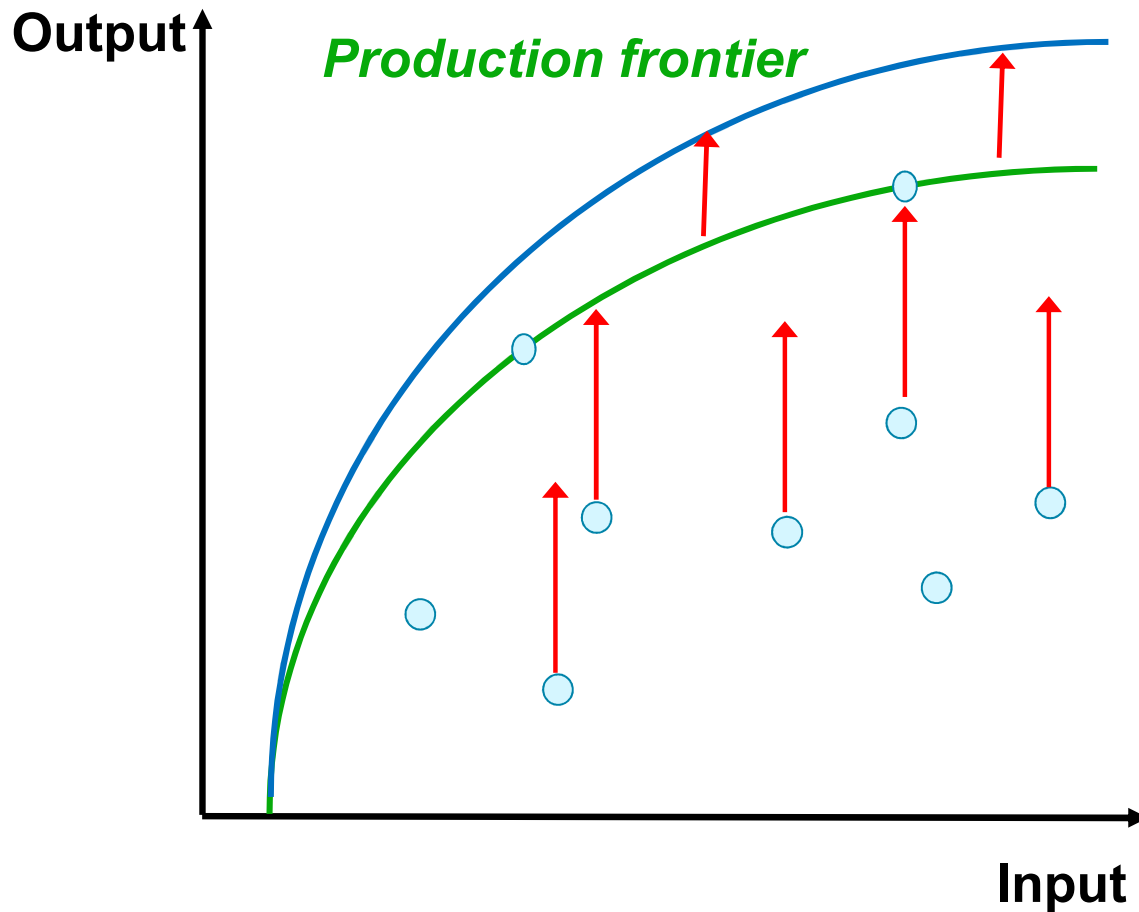


Enablers of productivity growth: R,D&E

Broadacre productivity growth of 2% a year (1953–2008)



Incentives for productivity growth



Most farms can increase productivity by **'catching up'** to the best farms

Technical efficiency change:
grain growers

1978 to 2008 **-0.3%**

Incentives for productivity growth

- water market reform
- drought reform
- reform of agricultural and veterinary chemical regulation
- liberalised world agriculture markets
- climate change policies

Lifting productivity

Remains the key to handling pressure on the farm sector

Whether it be:

- seasonal variability, floods and drought
- climate change
- global food crisis
- global economic crisis
- protectionist responses



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