



# Firm-level productivity and broadband

## Improved broadband has a positive impact on productivity

Improved broadband adoption has a positive relationship to productivity growth with firms switching from DSL to fibre/cable-based broadband experiencing higher productivity growth in the year immediately following adoption. Other characteristics such as the size, industry and location of the business are also related to productivity growth.

Productivity measure	Model	Annual productivity growth switching from DSL to Fibre/cable	Statistical significance
MFP growth	Pooled OLS	4.2%	High
MFP growth	One-way fixed-effects	3.2%	Nil
LP growth	Pooled OLS	14.8%	High
LP growth	One-way fixed-effects	13.5%	High

Source: BCARR analysis of BLADE data from 2009–10 to 2018–19.



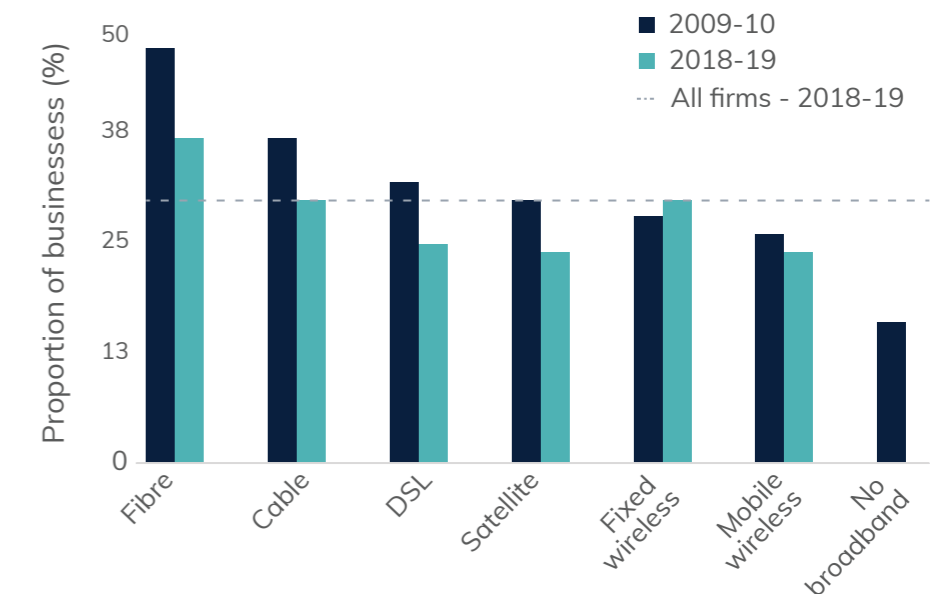
- In the immediate year following firms that switched from DSL to fibre/cable-based broadband there was an increase of 4.2 per cent in multifactor productivity (MFP) growth. There was some positive productivity growth effect of broadband, even once controlling for industry, time, geography and business size characteristics.
- Not all regression models analysed showed a statistically significant relationship between broadband type and productivity growth. Data quality, randomness and unpredictability affected the precision of model estimates.
- Other broadband metrics, such as broadband speed, could not be examined with the data currently available.

## Firms with better broadband self-report higher productivity growth



- Businesses with fibre and cable broadband self-report having higher productivity growth than firms using older broadband technologies.
- Businesses without a broadband connection had the lowest rate of firms reporting improved productivity growth.

### % of businesses reporting increased productivity by technology



Source: BCARR analysis of the Businesses Characteristics Survey from BLADE.

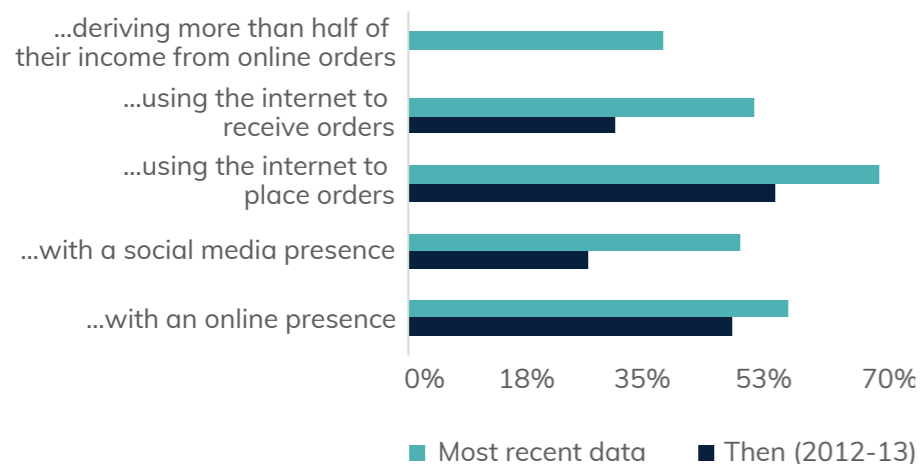


# Business use of broadband

## High-speed broadband has transformed business operations

- Businesses recognise the importance of high-speed broadband and are carrying out more of their core activities online.
- Online technology is now a part of business practice, with 92 per cent of businesses relying on digital/online payment technologies in 2021.

### Businesses



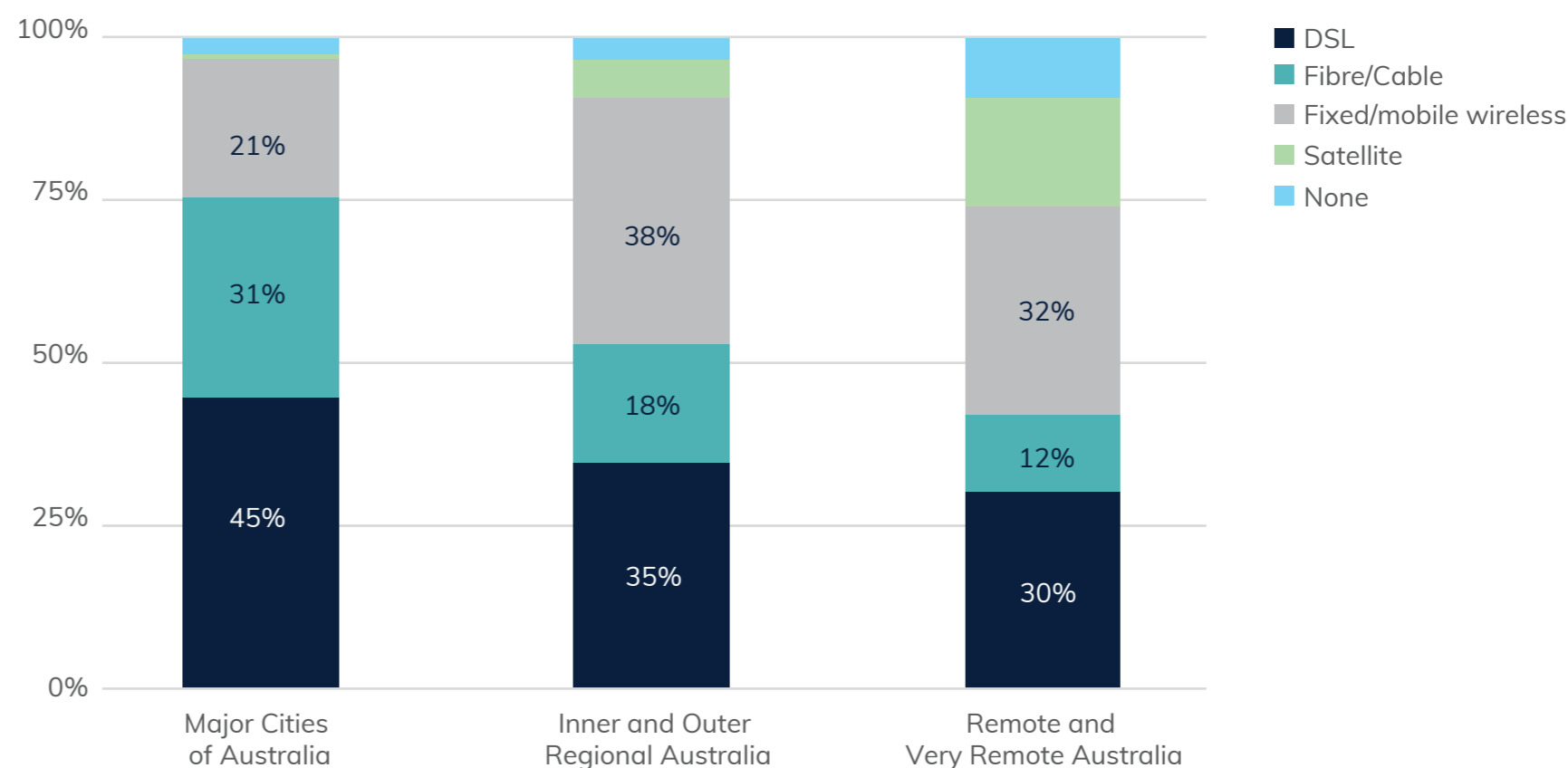
Source: ABS Characteristics of Australian Businesses. Most recent data refers to years 2018-19 or 2019-20.

## Increased uptake of high-speed broadband



Businesses with better broadband connections are generally large, urban-based and in internet-intensive industries.

### Business broadband technology types by region, 2017-18 to 2018-19



Source: BCARR analysis of Business Characteristics Survey data and experimental location data from BLADE.

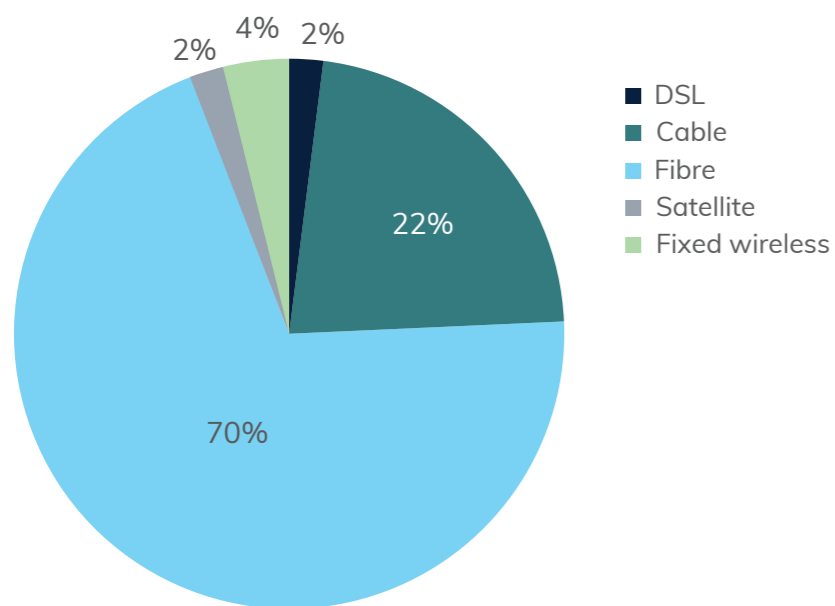


# Australia's uptake of high-speed broadband

## High-speed broadband technologies are now widespread

92 per cent of premises have fibre/cable-based connections in 2022.

### Broadband technology used by Australian premises in 2022



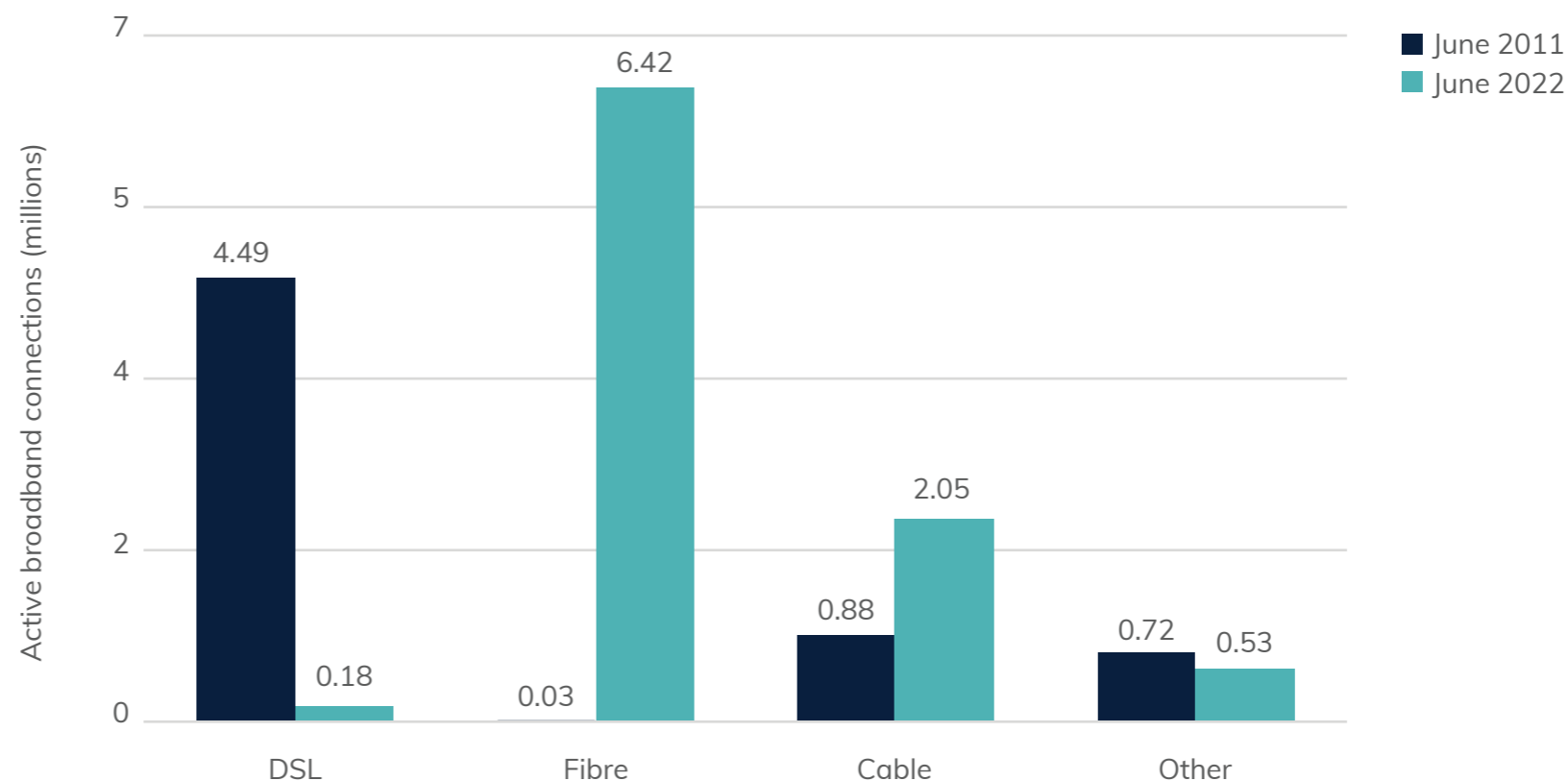
Source: BCARR analysis of ACCC Internet Activity RKR data and NBN Wholesale Market Indicators report June 2022.

## High-speed broadband connections have grown strongly over the decade



Broadband has shifted from copper to fibre/cable-based connections. Exchange-based DSL connections decreased from 73 per cent of Australian premises in June 2011 to only 2 per cent in June 2022.

### Broadband connection types, 2011 - 2022



Source: BCARR analysis of ABS Internet Activity Survey, ACCC Internet Activity RKR data and NBN Wholesale Market Indicators report.