



AUSTRALIAN COMPETITION
& CONSUMER COMMISSION

ACCC Communications Market Report 2017-18

February 2019

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Australian Competition and Consumer Commission
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AUSTRALIAN COMPETITION
& CONSUMER COMMISSION

EXECUTIVE OFFICE

Level 17, 2 Lonsdale Street
Melbourne Vic 3000

GPO Box 520
Melbourne Vic 3001

tel: (03) 9290 1800

www.accc.gov.au

11 January 2019

The Hon. Mitch Fifield MP
Minister for Communications and the Arts
Parliament House
CANBERRA ACT 2600

Dear Minister

Communications Market Report 2017-18

The Australian Competition and Consumer Commission (ACCC) is required under the *Competition and Consumer Act 2010* (CCA) to review and report annually on:

- competitive safeguards within the Australian telecommunications industry under subsection 151CL(1) of the CCA, and
- changes in the prices paid by consumers for telecommunications services under paragraph 151CM(1)(a) of the CCA.

The ACCC has produced a combined report fulfilling the above requirements.

Enclosed is the combined report for the 2017-18 financial year. Subsections 151CL(5) and 151CM(3) of the CCA require you to table the report in each House of Parliament within 15 sitting days of receipt.

Yours sincerely

Roger Featherston
Acting Chair

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Glossary

2G/3G/4G/5G	second/third/fourth/fifth generation mobile communications
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
ACL	Australian Consumer Law
ACMA	Australian Communications and Media Authority
ADSL	asymmetric digital subscriber line
AGVC	aggregated virtual circuit
AVC	access virtual circuit
BROC	binding rule of conduct
CAN	customer access network
CCA	<i>Competition and Consumer Act 2010</i>
CVC	connectivity virtual circuit
DSL	digital subscriber line
DSLAM	digital subscriber line access multiplexer
DTCS	domestic transmission capacity service
ESA	exchange service area
FAD	final access determination
FOAS	fixed originating access service
Foxtel	Foxtel Management Pty Limited
FTAS	fixed terminating access service
FTTB	fibre to the basement
FTTC	fibre to the curb
FTTN	fibre to the node
FTTP	fibre to the premises
GB	gigabyte
GHz	gigahertz
HFC	hybrid fibre coaxial
iiNet	iiNet Limited
ITO	In-Train Order
LBAS	local bitstream access service
LCS	local carriage service
LSS	line sharing service
MBA	Measuring Broadband Australia
Mbps	megabits per second

MHz	megahertz
MNO	mobile network operator
MTAS	mobile terminating access service
MTM	multi-technology mix
MVNO	mobile virtual network operator
NBN	national broadband network
NBN Co	National Broadband Network Co Limited (also referred to as nbn)
NNI	network-to-network interface
Optus	Singtel Optus Pty Limited
OTT	over-the-top
PDB	Premium Direct Billing
POI	point of interconnection
RAF	regulatory accounting framework
RKR	record keeping rule
RSP	retail service provider
SAU	special access undertaking
SBAS	superfast broadband access service
SCR	Service Continuity Regions
SFAA	standard form of access agreement
SIO	service in operation
SMS	short message service
SSU	structural separation undertaking
TB	terabyte
TCP	Telecommunications Consumer Protection
Telstra	Telstra Corporation Limited
TEM	Telstra Economic Model
TIO	Telecommunications Industry Ombudsman
TPG Group	TPG Telecom Limited
ULLS	unconditioned local loop service
VDSL	very high bit rate digital subscriber line
VHA	Vodafone Hutchison Australia Pty Limited
Vocus Group	Vocus Communications Limited
VoIP	voice over internet protocol
WLR	wholesale line rental

Competition and price changes in telecommunications services in Australia 2017-18



Fixed broadband

▼ **1.5%**
Annual price decrease

▼ **3.5%**
Five year average
annual price decrease*

40%
Proportion of all plans
with unlimited data
(up from 5% in 2013-14)



Mobile phone services

▼ **8.3%**
Annual price decrease

▼ **8.3%**
Five year average
annual price decrease*

▲ **172%**
Increase in
data allowance



Mobile broadband

▼ **7.5%**
Annual price decrease

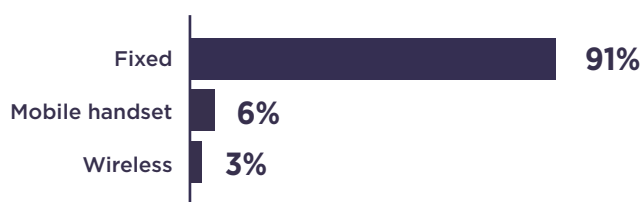
▼ **5.6%**
Five year average
annual price decrease*

▲ **33%**
Increase in
data allowance



Growth in
data downloads
▲ **29%**

Proportion of total downloads



* compound annual price decrease 2013-14 to 2017-18



NBN activations
increased

2.4m ► 4m



Telstra legacy copper
network declined

7.5m ► 6m

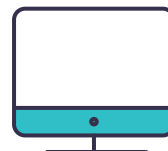
Key ACCC projects



Communications
sector market study



Mobile roaming
inquiry



Digital platforms
inquiry

NBN related



Speeds claims
guidance



Measuring
Broadband Australia



Enforcement
action



NBN service
standards inquiry

Sources

ACCC record keeping rules and estimates based on publicly available information

Telstra Economic Model (public version)

ABS, Internet Activity (8153.0)

NBN Co, National Broadband Network – Rollout Information

Types of internet access platforms

DSL, including asymmetric digital subscriber line (ADSL), uses the copper access network to provide an internet service. DSL operates at higher frequencies than voice services, and therefore is a form of broadband which operates independently of and simultaneously with the provision of traditional voice services over the same copper pair.

ADSL2+ is a DSL technology commonly used in the current network to provide high data rates over copper pair telephone lines up to about 4 km in length. It is typically installed in telephone exchanges or alternatively in nodes closer to the end customers. The downlink data rate is usually significantly greater than the uplink data rate.

Very high bit rate digital subscriber line 2 (VDSL2) is a DSL technology used to provide high data rates over copper pair telephone lines of up to about 1 km in length. It is typically used in fibre to the node (FTTN) or fibre to the basement (FTTB) deployments. It can also include vectoring to help remove the impact of crosstalk from one copper line to others. It is able to provide symmetric data services.

Hybrid fibre coaxial (HFC) cable is a combination of optical fibre and coaxial cable, which can be used to provide high data rate broadband services, in addition to pay TV and voice services.

Fibre refers to optical fibre which can be used to provide high data rate broadband services by transmitting information as light pulses.

Wi-Fi is a technology for wireless local area networking.

Wireless broadband services are offered through both mobile and fixed wireless retail services:

- Mobile broadband services have evolved from mobile phone technology, which uses various portions of the radio frequency spectrum. Mobile network technologies allow users to both move between geographic areas or cells and roam between different mobile networks. Users can access mobile broadband networks using 3G or 4G voice handsets or non-voice service equipment such as USB modems or datacards.
- Fixed wireless networks use similar technology to that used in mobile networks. Significantly higher data rates and/or longer transmission distances can be attained from these networks by using fixed directional antenna only (that is, mobility is not supported by these networks).

Satellite broadband uses satellites to relay data signals sent and received via a satellite dish by isolated end users to and from a ground station connected to a broadband network.

1. Executive summary

Communication services are important enablers of an increasingly digital world where an exponentially increasing number of transactions and experiences are undertaken online, either voluntarily or as a requirement of the supplier of services. Connectivity thus becomes very important for a wide range of economic and social purposes.

Pervasive connectivity and the continuing rise of data consumption accelerate the extent and impact of digital disruptions across an array of service markets. This includes markets beyond those we have traditionally considered ‘telecommunications’ but where communication services play an important role, and has led to the ACCC considering competition and consumer issues in new areas such as examining the market power of digital intermediaries (through our digital platforms inquiry) and access to consumer data as an enabler of consumer choice (through our consumer data right work).

The communications industry and public sector are meeting the requirement for increased connectivity through ongoing investment including in 5G and most significantly with the deployment of the national broadband network (NBN), the completion of which will significantly enhance fixed line connectivity in Australia.

The increasing importance of connectivity is a worldwide trend and a number of ongoing trends in communication markets in Australia reflect developments that are also occurring internationally and have continued in 2017-18, as outlined below.

A number of trends in communication markets continued in 2017-18

Real prices of telecommunications services continued to decline across most categories

Real prices fell in 2017-18 across most categories. An average consumer renewing their fixed broadband plan would have paid 1.5 per cent less in real terms and 8.3 per cent less when renewing their mobile phone plan compared to 2016-17. These declines take into account improvements in non-price characteristics, such as data allowances and other inclusions.

NBN prices reduced by 4 per cent while non-NBN fixed broadband prices increased slightly, in real terms, by 0.5 per cent. The decline in mobile phone service prices in 2017-18 continues a trend over the past five years with real prices approximately 30 per cent lower in 2017-18 than they were in 2013-14.

Overall in the past five years, there have been real price declines across all categories since 2013-14, as set out in table 1.1.

Table 1.1: Real changes in average prices

Adjusted for non-price characteristics, consumer spending patterns, and inflation

	2014-15	2015-16	2016-17	2017-18	Compound average 2014-18
Non-NBN	-4.4%	-4.5%	-4.0%	0.5%	-3.1%
NBN	-1.2%	-3.5%	-3.0%	-4.0%	-3.0%
Total fixed broadband	-4.2%	-4.4%	-3.8%	-1.5%	-3.5%
Post-paid mobile	-12.8%	-13.3%	-2.5%	-8.6%	-9.4%
Prepaid mobile	0.4%	-6.0%	-2.0%	-7.0%	-3.7%
Total mobile phone services	-10.4%	-12.0%	-2.4%	-8.3%	-8.3%
Mobile broadband	-6.0%	-4.6%	-4.2%	-7.5%	-5.6%

Data consumption continued its inexorable rise, supported by increasing data allowances

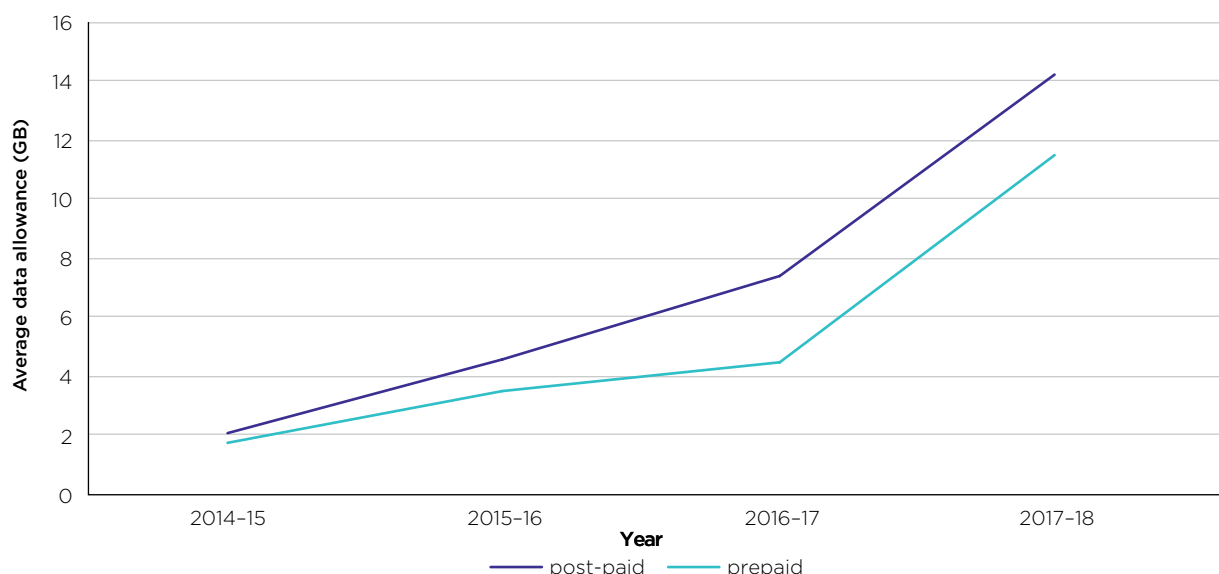
Data downloads continue to grow via all access technologies. The total volume downloaded increased by 29 per cent over 2017-18 (measured between the June 2017 and 2018 quarters), likely reflecting an increased use of content streaming services, social media and other content-rich applications. The increase was higher for data downloaded by mobile handsets, up 45 per cent, compared to fixed broadband at 27 per cent. Notwithstanding, fixed access technologies continue to account for the vast majority of data downloaded (91 per cent).

Retail service providers (RSPs) are competing with each other to respond to this demand by increasing data allowances (which in turn can facilitate increased usage)—in the order of 172 per cent in the case of mobile—and increasing the prevalence of plans with no hard data limits.

On the fixed network, the proportion of unlimited broadband plans increased from 24 per cent to 40 per cent (whereas five years ago it was 5 per cent). In mobile, certain mobile network operators (MNO) launched mobile phone plans without hard data limits or excess charges, which instead offer full speeds up to a certain number of gigabytes (GB) and reduced speeds thereafter. Both of these trends show providers are following the international experience, where especially for fixed broadband, unlimited plans tend to be the norm.

The significant upwards trend in mobile data allowances in recent years is illustrated in figure 1.1. Average mobile data allowances for post-paid mobile post-paid mobile phone plans increased by 91 per cent to 14.2GB between 2016-17 and 2017-18, while prepaid mobile services experienced an increase of 153 percent to 11.5 GB over the same period.

Figure 1.1: Average data allowance, post-paid and prepaid mobile services, 2014-15 to 2017-18



Continued investment in network capacity driven by competition

Network operators are responding to the growing demand for connectivity and resulting increase in data consumption. This includes putting in place upgrade paths to the latest technologies that provide significant additional capacity. For example, the National Broadband Network Co Limited (NBN Co) is spending significant amounts of capital to upgrade to the latest technologies and standards such as DOCSIS 3.1 (hybrid fibre coaxial—(HFC)), and in future, Gfast (fibre to the curb—(FTTC)) as well as upgrading its fixed wireless network. MNOs are investing in the later stages of 4G and on the path to deploying 5G in the next year.

Such investment is driven by competition—network operators and RSPs know that they must have sufficient capacity to meet end users demands—including demand for streaming content, or risk losing customers to competitors. This is evidenced on the fixed network by the results of our Measuring Broadband Australia (MBA) program, which show that RSPs are typically delivering close to 90 per cent of maximum plan speeds, with speeds not significantly reducing during busy evening hours (7 pm to 11 pm) when consumers are using their internet services the most.

Consumers increasingly substituting traditional fixed voice calls with mobile voice and other communication, as voice becomes just another application

The ongoing decline in the usage of fixed voice services continued. While the number of fixed lines fell gradually, from 8.8 to 8.3 million, there was a substantial fall in the number of voice call minutes originating from fixed line networks—from 16 to 12 billion.

In previous years, declines in fixed voice minutes have been more than offset by an increase in mobile voice minutes, such that total voice minutes consistently increased. However, in 2017-18 it was notable that the number of mobile voice minutes did not increase—despite the widespread prevalence of unlimited calls—but remained steady at about 66 billion. This is likely to reflect not just consumers' increasing use of over-the-top (OTT) voice applications such as Skype and WhatsApp, but also a shift away from voice towards other forms of communication especially for younger demographics.

The transition of legacy services to the NBN continues, but some may move to mobile

NBN rollout continues towards completion as the focus shifts to the operational phase

NBN deployment and activations accelerated sharply during the year, with almost 8.1 million premises passed, seven million ready to connect and over four million activations by 30 June 2018. The NBN rollout has had a particularly important impact in regional areas, where it typically represents a step change in broadband services. In fact, regional areas account for the majority of active NBN services today, at 55 per cent.

Consumers benefit from structural reform

The NBN also heralds a more competitive environment as fixed line services migrate to a wholesale-only access network, which represents a major structural reform in the communications industry. Although the majority of services still remain on the legacy networks (HFC and digital subscriber line (DSL)), the number of legacy DSL services was overtaken by NBN services during the year, with over 3.6 million fixed line NBN subscribers compared to 3.2 million on DSL.

This structural reform is already delivering important outcomes for consumers, with Telstra Corporation Limited (Telstra)'s fixed broadband retail plans showing a marked increase in value over the past three years, as Telstra has transitioned its business to meet heightened competition.

On the other hand, migration to the NBN can potentially disrupt broadband users. The ACCC approved a number of additional protections for businesses, and consumers on the NBN HFC and FTTC networks, which Telstra had developed in consultation with NBN Co and other service providers.

NBN faces potential challenge from wireless, particularly at the lower end

For both fixed voice and broadband services, the compulsory migration to the NBN represents a key decision point for end users as to whether they continue to take fixed voice and broadband services or replace either or both with mobile services. This calculation depends on both end users' preferences for the type of service they want, as well as the relative cost and service experience of the NBN compared to mobile alternatives.

At this stage, there remains uncertainty as to the level of fixed to mobile substitution that will occur, with the ACCC's communication sector market study finding up to 30 per cent of households will consider mobile alternatives when choosing their broadband plan.¹ Such substitution is likely to encourage good competitive outcomes for consumers, especially those with lower data needs that can be accommodated by wireless broadband plans.

¹ ACCC, *Communications sector market study final report*, p. 40.

There was a shift to higher quality fixed broadband services on the NBN

A defining theme of 2017-18 was a shift to higher quality fixed broadband services delivered over the NBN, as NBN Co moves from the build phase to the operational phase. There are a number of indications of more competitive markets and better consumer outcomes including the take-up of higher speed products and reduced congestion, as discussed below.

NBN speeds showed a significant improvement

In 2017-18 consumers experienced a strong improvement in speeds on the NBN, demonstrated in a number of ways:

- a significant increase in the take up of higher speed services with the number of 50 megabits per second (Mbps) services increasing from just 100 000 (4 per cent of all NBN services) in June 2017 to nearly 1.5 million customers (35 per cent) in June 2018, with this number continuing to grow
- average NBN network congestion reduced from almost 5.5 hours a week in June 2017 to 25 minutes in June 2018
- a shift in the focus of advertising from maximum theoretical speeds to speeds that customers are likely to experience in practice, with RSPs representing around 90 per cent of the market moving to give consumers comparable information about typical busy period broadband speeds.

These improvements followed a number of important developments:

- the release of our broadband speeds claims guidance in August 2017 to promote RSPs providing better broadband speed information to consumers
- a series of undertakings entered into by RSPs with the ACCC between November 2017 and March 2018 to inform consumers of the maximum speeds they could achieve on NBN fibre to the node (FTTN) and fibre to the basement (FTTB) services and assist those on affected services
- NBN Co's promotion introduced in December 2017 that reduced the price of its 50 Mbps wholesale service to the same as the 25 Mbps service and boosted bandwidth (connectivity virtual circuit (CVC)) by 50 per cent
- the introduction of our broadband performance monitoring and reporting program, Measuring Broadband Australia, which provides independent information on the speeds typically supplied over the NBN and which first reported in March 2018.

But not all consumers have benefitted equally from improvements in speed

Notwithstanding these improvements, a material number of fixed wireless services are experiencing significant congestion during busy hours (less than 6 Mbps on average) and a material number of fixed line connections do not deliver the full speed of the consumer's chosen plan at any time. This has significantly diminished some consumers' experience and required NBN Co to commit to invest significant amounts of capital to upgrade the fixed wireless network, as well as trialling new processes to remediate factors at users' premises that impede service quality.

Further NBN product and pricing changes are being introduced

Looking forward, NBN Co is transitioning its customers from the short term promotional discounts to new wholesale product and pricing bundles. As noted above, NBN Co's pricing changes from December 2017 had positive effects on the market and consumer outcomes. How RSPs will respond to NBN Co's new wholesale products will be critical to ensuring the improvements described above continue into the medium term. This includes the impact on speeds and congestion as well as ensuring the needs of both low and high usage customers are well served. We will continue to monitor NBN pricing including in the context of considering any changes to NBN Co's special access undertaking (SAU). We consider that our range of actions outlined above should assist in supporting positive consumer outcomes.

There is an increased focus on consumer experience on the NBN

Important steps have been taken to improve service on the NBN

As observed above, a key theme in 2017–18 was the shift of NBN Co moving from the build phase of its rollout to the operational phase. This has increased the focus on the level of service provided by NBN Co, with this issue featuring heavily in the draft report of the communications sector market study delivered in October 2017. These concerns included:

- the wholesale service levels and their appropriateness
- recourse and compensation where NBN Co does not meet wholesale service levels
- coordination and information flows to assist service levels being met.

Since the publication of the draft report, there has been significant progress on these issues. In November 2017 the ACCC announced an inquiry into NBN wholesale service standards and published a discussion paper in December 2017. The Australian Communications and Media Authority (ACMA) also introduced new industry standards at the retail level relating to continuity of services when migrating to the NBN, which came into effect in September 2018. By targeting both the wholesale and retail levels, the objective is to ensure the entire supply chain works efficiently to fix issues, rather than shifting responsibility between the retail and wholesale levels to end users' detriment.

In September 2018 the ACCC accepted a court enforceable undertaking from NBN Co to make changes to its wholesale service level commitments to support positive consumer experiences on the NBN.² Some of the key amendments to the service standard commitments include changes to the rebates payable under access agreements, including \$25 rebates for every late connection, fault rectification and missed appointment. As part of these changes, RSPs must also take reasonable steps to ensure their end users receive a fair value benefit from the wholesale rebates, which ensures there is a direct benefit to end users where NBN Co does not deliver a service that meets the standard.

During the year, NBN Co started to publicly report on its service standards, including through its monthly dashboard. While there remains more work to be done, this reporting showed some improvements, for example as of October 2018³:

- 97 per cent of homes and businesses are being connected within NBN Co's agreed timeframes compared to 91 per cent a year prior
- 93 per cent of homes and businesses are now connected right the first time, up from 85 per cent a year prior
- NBN Co resolved 92 per cent of faults within the timeframes agreed with RSPs, up from 80 per cent a year prior.

While the measures committed to by NBN Co represent important steps in improving service standards for the benefit of end users, there remains a number of areas of focus in the ACCC's ongoing inquiry. To this end, in December 2018 the ACCC published a paper on the next part of its NBN service standards inquiry seeking input on further measures NBN Co might take to improve end users' experience on the NBN.

2 The undertaking can be found on the ACCC public register: <https://www.accc.gov.au/public-registers/undertakings-registers/nbn-co-limited>.

3 NBN Co, *Monthly progress report*, October 2018, <https://www2.nbnco.com.au/content/dam/nbnco2/2018/images/how-we-are-tracking/documents/nbn-october-2018-monthly-progress-report.pdf>.

NBN wholesale markets are developing slowly but more providers are connecting directly

Wholesale NBN markets have developed more slowly

Larger providers of both fixed broadband and mobile services maintain a significant share of their respective markets, with the communications sector market study finding that the largest four vertically integrated providers of broadband services held 94 per cent of the NBN market.

The market study found that the relatively concentrated supply of wholesale NBN aggregation services by the largest four providers may limit other service providers' ability to compete in downstream markets. We also note that recently, some resellers, such as Amaysim, have exited the NBN resale market due to concerns about low margins. The ACCC is considering a proposal to gather more information about this market to better understand any barriers that exist with these services.

More service providers are investing to connect directly to the NBN

There was significant progress in RSPs directly connecting to the NBN in 2017-18 with Aussie Broadband joining the four existing providers connected to all 121 points of interconnection (POIs) (Telstra, Singtel Optus Pty Ltd (Optus), TPG Telecom Limited (TPG Group) and Vocus Communications Limited (Vocus Group)) and by June 2018, there were at least seven access seeker groups acquiring services at 117 POIs, up from 55 POIs at the end of the March quarter.

NBN Co also launched its network-to-network interface (NNI) link service. This assists retail service providers to directly order their own NBN Co services and manage their own CVC capacity and consumer experience, without having to install physical infrastructure at the POI.

Mobile market shares remained steady while concerns about mobile coverage continued

Market shares for mobiles have remained relatively stable, although MVNOs are making some inroads

Retail market shares for mobiles have largely remained stable, with Telstra experiencing a modest decline from 45 per cent market share between June 2014 and June 2016 to 42 per cent as of June 2018. Optus' and Vodafone Hutchison Australia's (VHA) market shares have remained relatively stable at around 28 and 18 per cent respectively.

Mobile virtual network operators (MVNO) provide competition to the three MNOs and serve sections of the market that the MNOs may not necessarily cater to or target. Some concerns were raised in the course of the market study about the ability to provide differentiated downstream services using wholesale MVNO services, noting this is often dependent on individual commercial agreements with one of the three MNOs. Notwithstanding this, there has been growth of three percentage points of MVNOs' market share over the past two years, such that MVNOs now comprise 13 per cent of the market.

There were a number of significant developments in the mobile sector. This included the announcement in August 2018 of the proposed merger between TPG Group and VHA, which combines the fixed and mobile services of the two companies and is currently under review by the ACCC. Another significant development was the commencement of the auction process for part of the 'pioneer' spectrum bands of 5G, the 3.6 gigahertz (GHz) band. In May 2018, the ACCC provided advice to the Minister for Communications and the Arts on the application of allocation limits in this auction. The auction occurred in November/December 2018.

Continuing concerns about inadequate mobile coverage in regional areas

Mobile coverage in regional Australia also remains a significant area of focus with continued investment to address mobile blackspots and the ACCC considering a series of regulatory and policy measures to assist in improving coverage.

In 2017–18 there was continued co-investment by governments and MNOs into expanding mobile coverage to blackspot areas. While the size of the coverage area will be relatively small for each upgrade, such as for a small town, the benefits to consumers in those areas are likely to be substantial. We also note that some states, such as Victoria, have started to pursue their own blackspot programs.

In October 2017 the ACCC released the final report of the domestic mobile roaming declaration inquiry. The ACCC decided not to declare on the basis it would not lead to lower prices or better coverage and could undermine incentives of MNOs to invest and compete with each other (including on the basis of their coverage) in regional areas.

In conjunction with the final report, the ACCC identified a series of further regulatory and policy measures to help address inadequate mobile coverage in regional Australia and engaged with industry on these measures, including holding a forum in Canberra on 28 February 2018 with industry and consumer representatives. The measures identified include establishing better transparency about network coverage, quality of service and operators' investments; reducing the cost of deploying mobile infrastructure in regional areas; and proposing a review of the *Facilities Access Code* to identify barriers to co-location or infrastructure deployment.

2. Competition indicators

2.1 Wholesale market indicators

NBN rollout and migration to NBN services

During 2017–18 NBN rollout and migration accelerated sharply across all access technologies. The total number of premises passed increased to 8.1 million, a 42 per cent increase over the year. The total number of premises activated increased to four million as of 30 June 2018 up from 2.4 million the previous year. The largest proportion of the increase in activations was for NBN's fibre technologies, with an almost 70 per cent increase over the year (table 2.1).

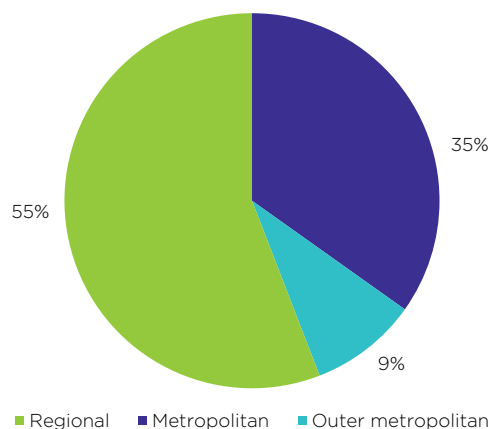
Table 2.1: NBN Rollout—premises passed and activations

Service type	Description	30 June 2015	30 June 2016	30 June 2017	30 June 2018
Fibre	Premises passed	896 994	2 062 991	4 777 672	7 084 074
	<i>Premises passed not yet serviceable</i>	60 314	57 787	268 114	1 086 870
	Premises activated	399 854	942 356	2 183 524	3 705 459
Wireless	Premises covered	268 397	420 524	517 543	609 913
	Premises activated	47 473	117 514	184 681	240 084
Satellite	Premises covered	N/A	409 959	418 135	430 449
	Premises activated	38 288	38 764	74 928	90 327
Total	Premises passed/covered	1 165 391	289 474	5 713 350	8 124 436
Total	Premises activated	485 615	1 098 634	2 443 133	4 035 870

Source: NBN Co National Broadband Network Rollout Information. Fibre refers to fibre to the premises (FTTP), FTTN, FTTB and HFC access technologies.

Geographically, regional areas accounted for the largest proportion (55 per cent) of all NBN wholesale services in 2017–18 followed by metropolitan areas (figure 2.1).⁴ This reflects that NBN Co has prioritised deployment in regional areas, however the proportion of metropolitan services will grow as the rollout advances.

Figure 2.1: Comparison of NBN wholesale broadband services by geographic area

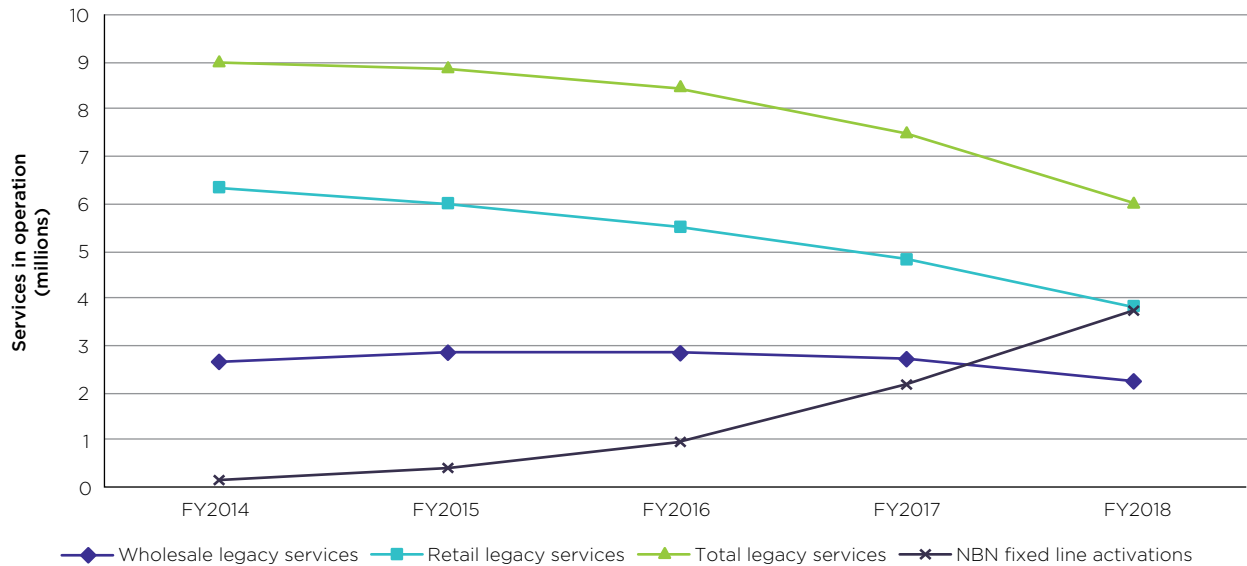


Source: NBN Wholesale Markets Indicator Report, 30 June 2018. Figures may not add up to 100 due to rounding.

⁴ An NBN point of interconnection is designated 'metropolitan', 'outer metropolitan' or 'regional' as per the table provided in Listed Points of Interconnection—NBN Corporation' published by the ACCC on 2 November 2012, available at <https://www.accc.gov.au/publications/nbn-points-of-interconnection>, read on 13 December 2013.

Figure 2.2 illustrates the changing composition of broadband services in response to the progressive customer migration to NBN from legacy services. The number of fixed line NBN services (comprising FTTN, FTTB, FTTC and HFC) increased from 2.1 million to 3.7 million, almost 70 per cent, between 30 June 2017 and 30 June 2018. This corresponds with a reduction in total legacy services (provided over Telstra's copper network) from 7.5 million to 6 million services. The total number of legacy services declined by almost 20 per cent, much faster than the previous year's rate of decline of 11 per cent. The trend is likely to continue until the NBN rollout is complete and the only legacy services that remain are in areas outside the NBN fixed line network (where copper services remain available).

Figure 2.2: Active fixed line and NBN services



Source: Telstra Economic Model (public version), NBN Co National Broadband Network Rollout Information.

Wholesale market shares on the NBN

NBN Co provides the ACCC with data on the number of services on the network. This includes services on the FTTP, FTTB, FTTN, FTTC, HFC, satellite and fixed wireless access technologies. This information is published on the ACCC website in the NBN wholesale market indicators report.

The ACCC uses this information to provide a picture of wholesale market share changes on the NBN including by access technology and geography. It also allows the ACCC to monitor the wholesale service profiles of access seekers on the NBN such as speed tiers and capacity acquired.

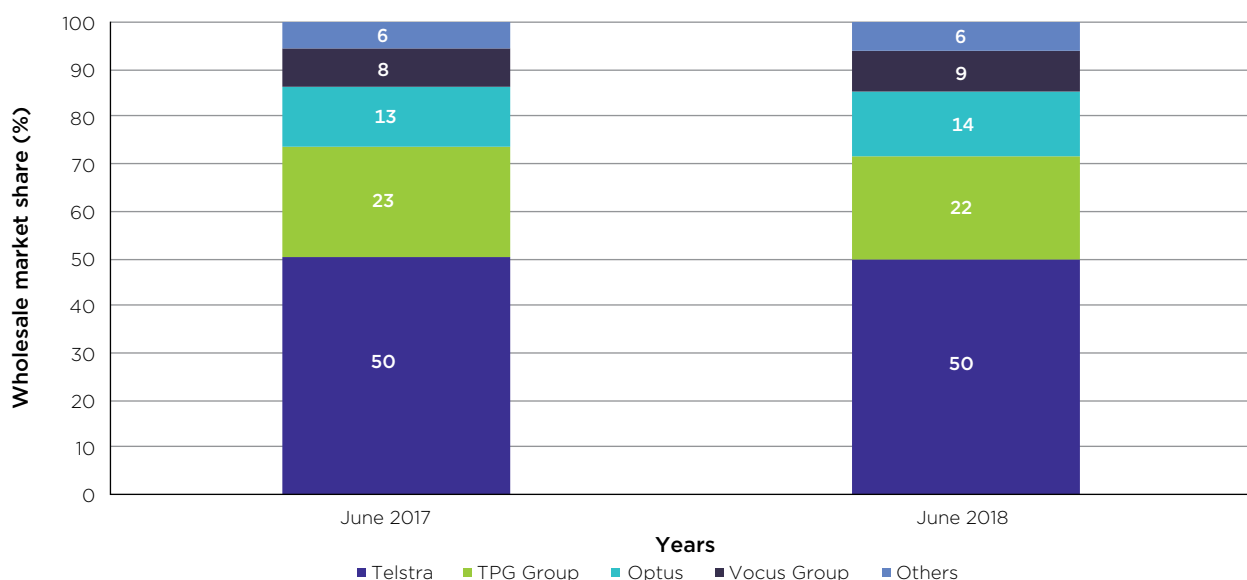
National market shares (all access technologies)

At a national level across all access technologies, there are four main NBN wholesale access seekers: Telstra, TPG Group, Optus and Vocus Group. Figure 2.3 shows Telstra maintains the largest national market share with 50 per cent of the NBN broadband services nationwide, followed by TPG Group with 22 per cent, Optus with 14 per cent and Vocus Group at 9 per cent. Both Optus and Vocus Group have increased their market share by one percentage point each while TPG Group has slightly lost market share during the year.

Market shares by access technology

By access technology, Telstra has 50 per cent of wholesale fibre-based services⁵, a reduction of one percentage point from the previous year (figure 2.4). TPG Group also lost one percentage point of market share since June 2017 while Vocus Group and 'other' category have each gained one percentage point of market share over the year. At 55 per cent, Telstra also has the largest number of fixed wireless services followed by TPG Group with 15 per cent and Optus with 11 per cent⁶ (figure 2.5). The picture is different for satellite services where smaller operators have a stronger market presence. As shown in figure 2.6, Australian Private Networks Pty Ltd (Australian Private Networks) has the largest number of satellite broadband services at 35 per cent, while SkyMesh holds 25 per cent and TPG Group holds 13 per cent.⁷

Figure 2.3: National wholesale market shares for NBN broadband services



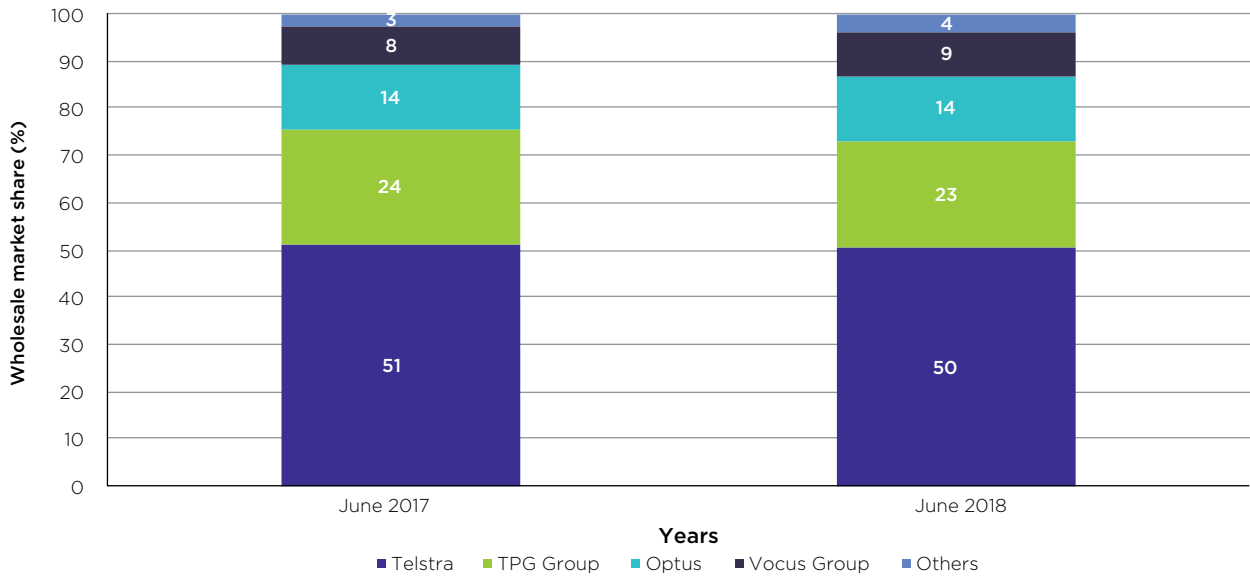
Source: NBN Wholesale Markets Indicator Report, 30 June 2017 and 30 June 2018. Figures may not add up to 100 due to rounding.

⁵ The full list of fibre-based services include FTTP, FTTC, FTTN, FTTP and HFC.

⁶ ACCC, *NBN wholesale market indicators report 30 June 2018*, available at <https://www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-wholesale-market-indicators-report/reports>.

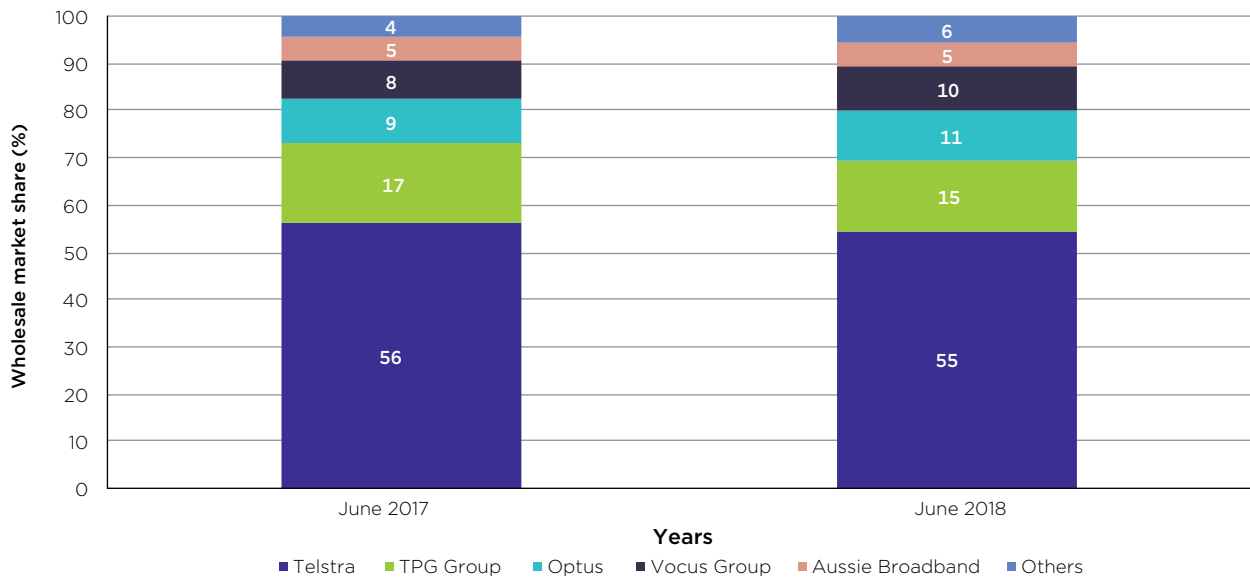
⁷ *ibid.*

Figure 2.4: National wholesale market share of NBN fibre-based services



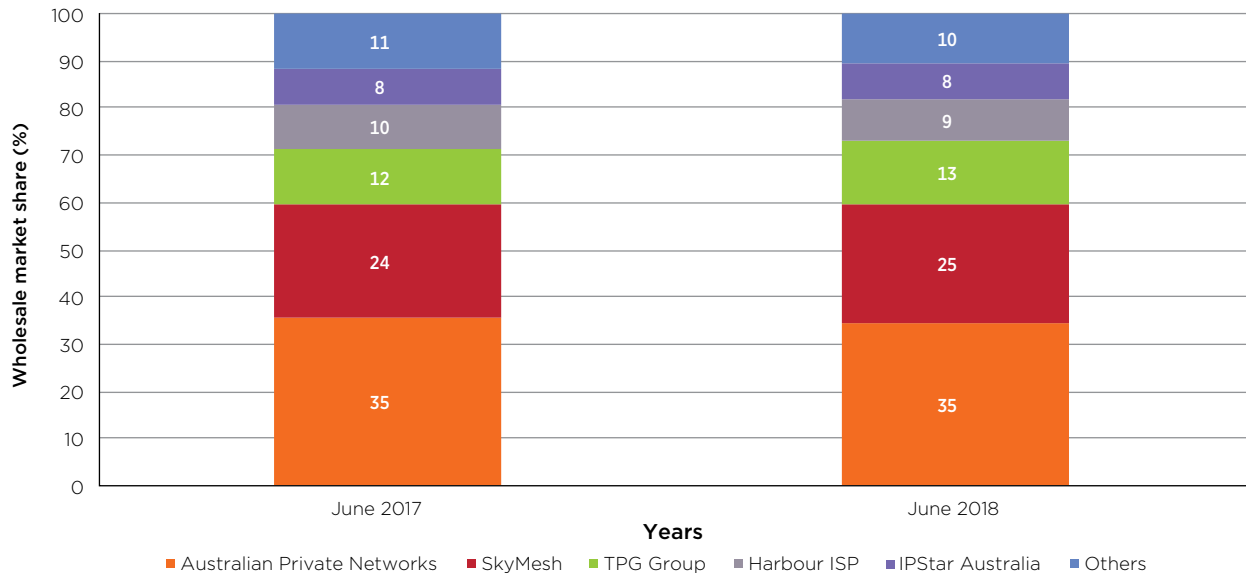
Source: NBN Wholesale Markets Indicator Report, 30 June 2017 and 30 June 2018.

Figure 2.5: National wholesale market share of NBN fixed wireless services



Source: NBN Wholesale Markets Indicator Report, 30 June 2017 and 30 June 2018. Figures may not add up to 100 due to rounding.

Figure 2.6: National wholesale market share of NBN satellite broadband services

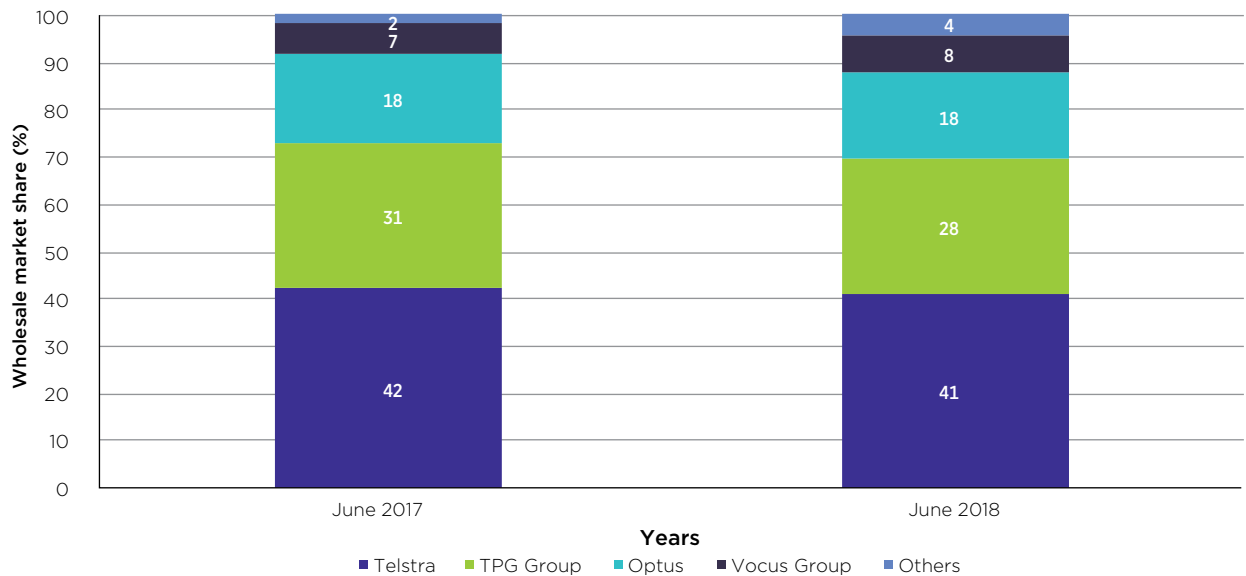


Source: NBN Wholesale Markets Indicator Report, 30 June 2017 and 30 June 2018.

Market shares by region

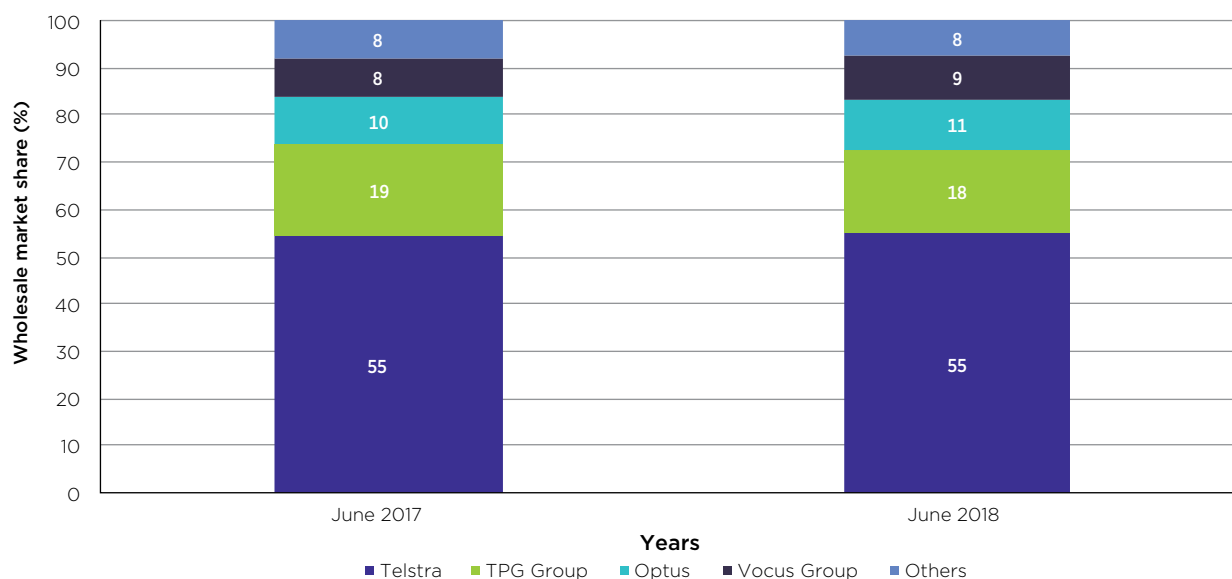
Figure 2.7 and figure 2.8 compare the wholesale market shares in metropolitan POIs and regional POIs for June 2017 and 2018. Telstra continues to play a dominant role in regional areas, but is less dominant in metropolitan areas. TPG Group and Optus continue to have a much larger market share in metropolitan areas compared to regional areas, whereas Vocus Group's market share is about the same in both geographic areas. Compared to June 2017 TPG Group has lost three percentage points of its market share over the year in metropolitan areas. Telstra has maintained its market share at the same level in regional areas, while losing one percentage point of market share in metropolitan areas over the year. Smaller providers' share of the market grew in metropolitan areas, adding two percentage points since June 2017.

Figure 2.7: Metropolitan POI market share for NBN wholesale broadband services



Source: NBN Wholesale Markets Indicator Report, 30 June 2017 and 30 June 2018.

Figure 2.8: Regional POI market share for NBN wholesale broadband services



Source: NBN Wholesale Markets Indicator Reports, 30 June 2017 and 30 June 2018.

Speed tier profile

NBN Co sells wholesale services in a range of speed tiers, including 12/1 Mbps, 25/5 Mbps, 25/10 Mbps, 50/20 Mbps and 100/40 Mbps.⁸ These speed tiers contribute to the download/upload speeds RSPs are able to offer consumers.

Table 2.2 shows the most popular NBN access service acquired by access seekers is the 50 Mbps speed tier followed by the 12 Mbps and 25 Mbps speed tiers.⁹ This is a notable shift from 2017 when the 50 Mbps speed accounted for only 4 per cent of services compared to 56 per cent for the 25 Mbps speed tier. The change in proportions is likely in response to NBN Co's 'Focus on 50' pricing initiative. While the 'Focus on 50' pricing initiative was promotional, the ACCC notes that NBN Co has put in place longer-term arrangements for its pricing directed at encouraging the efficient use of its network.

Table 2.2: Distribution of speed tiers June 2017 and June 2018

Speed tier ('Up to' download/ upload in Mbps)	Percentage of wholesale services June 2017	Percentage of wholesale services June 2018
12/1	29	28
25/5 and 25/10	56	27
50/20	4	35
100/40	12	10

Source: NBN Wholesale Markets Indicator Report, 30 June 2017 and 30 June 2018. Figures may not add up to 100 due to rounding.

Table 2.3 shows the percentage of services represented by access seeker in various speed tiers. The 50 Mbps speed tier accounts for 50 per cent of Telstra's services while the majority of other larger access seekers' (Optus, the TPG Group and Vocus Group) services are at the speed tiers of 25 Mbps or less. MyRepublic's focus appears to be on higher-end speed tiers as 75 per cent of its services are at the 100 Mbps speed tier.¹⁰ Access seekers are likely moving onto the higher speed tiers, in response to

⁸ Note that for some speed tiers on certain access technologies NBN Co specifies a range, e.g. 25–50/5–20 Mbps for the 50/20 Mbps speed tier when offered on the FTTB/C/N and fixed wireless networks.

⁹ ACCC, *NBN wholesale market indicators report, 30 June 2018*, available at <http://www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-wholesale-market-indicators-report/reports>.

¹⁰ *ibid.*

pricing changes by NBN Co. As noted above, the proportion of services at the 50 Mbps speed tier has risen from 4 to 35 per cent in just one year.¹¹

Table 2.3: Speed tiers by access seeker (as a percentage of total services)

Retail service provider	12 Mbps	25 Mbps	50 Mbps	100 Mbps
Telstra	19	25	50	6
TPG Group RSPs	42	22	24	12
Optus	30	37	19	14
Vocus Group RSPs	48	30	17	5
Aussie Broadband	5	40	31	24
MyRepublic	-	-	25	75
Australian Private Networks	44	53	2	1
Other RSPs	21	49	18	12
All providers	28	27	35	10

Source: NBN Wholesale Markets Indicator Report, 30 June 2018.

Capacity acquisition

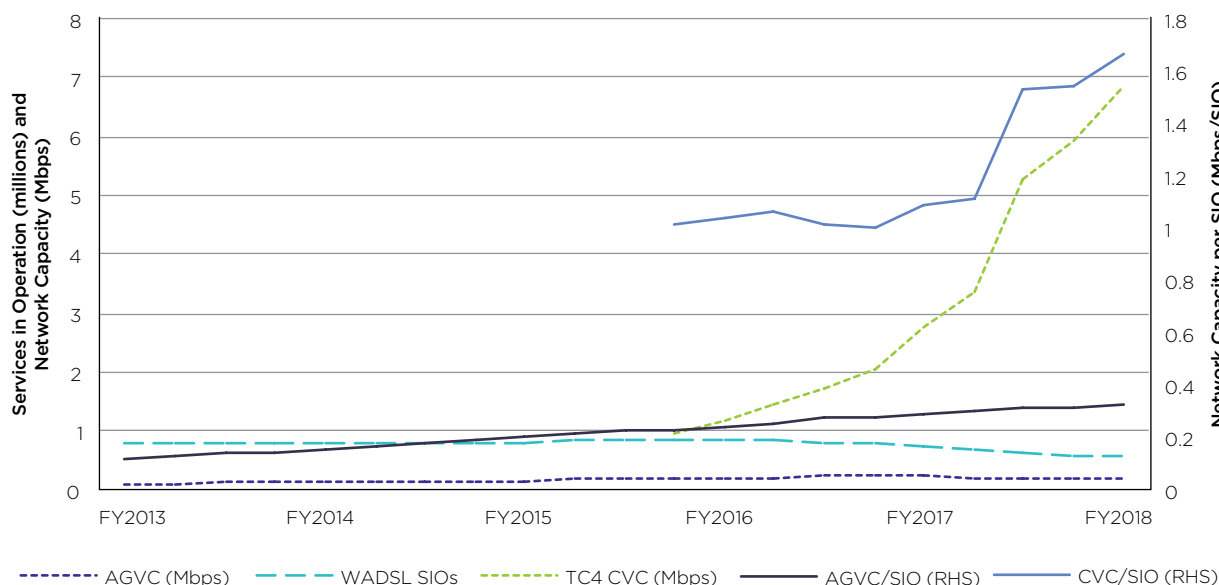
As at 20 June 2018 access seekers were acquiring on average 1.66 Mbps per end user (access virtual circuit (AVC)) of network capacity on the NBN. This is referred to as CVC capacity. This is an increase on the 1.09 Mbps per end user average as at 30 June 2017 (figure 2.9).

Telstra's wholesale asymmetric digital subscriber line (ADSL) customers on average acquired 0.32 Mbps per end user as at 30 June 2018. This is referred to as aggregated virtual circuit (AGVC) capacity. The AGVC has increased slightly since 30 June 2017 (0.30 Mbps) and more significantly since 30 June 2016 (0.23 Mbps).

¹¹ ACCC, *NBN Wholesale Market Indicators Report 30 June 2018*, available at <http://www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-wholesale-market-indicators-report/reports>.

The amount of network capacity that access seekers provision can determine the throughput speeds they make available to end users, particularly during the busy period. This has a strong impact on the quality and reliability with which end users can access applications that require constant and high-throughput capacity such as video streaming. Accommodating increased use of data intensive services and applications is likely to be driving growth in both CVC and AGVC on the NBN and Telstra ADSL networks respectively.

Figure 2.9: Capacity acquisition on wholesale ADSL and NBN



Source: Telstra Economic Model (public version), NBN Co Wholesale Market Indicator Reports (various quarters).

Wholesale services on legacy networks

Wholesale DSLAM activity

In relation to the wholesale digital subscriber access line multiplexer (DSLAM) activity at Telstra exchanges, the average number of wholesale equipment-based access seekers has remained stable at around four per exchange service area (ESA). Access seekers deploy DSLAMs at exchanges to supply voice and broadband services over Telstra's customer access network (CAN) to consumers using their own infrastructure. The number of Telstra ESAs with access seekers acquiring wholesale unconditioned local loop service (ULLS)¹² or line sharing service (LSS)¹³ to supply consumers with broadband and voice services decreased slightly during the year from 597 to 596.¹⁴ The number of services in operation (SIO) also declined across the range of services (voice, DSL, ULLS and LSS) which reflects the migration of end users from legacy services provided over Telstra's CAN to the NBN.

Copper-based broadband market share by ULL band

Figure 2.10 compares the market shares of Telstra and other providers for copper-based retail services, split by Band 1 and 2 (which generally represent metropolitan areas) and Band 3 and 4 (which generally represent rural and regional areas). Telstra continues to retain a dominant position in providing copper-based services in Band 3 and 4, and further increased its share in 2018. This reflects the commercial challenges that competitors face in deploying infrastructure and providing services to consumers connected to rural and regional exchanges. Telstra has also maintained a stable market share in the

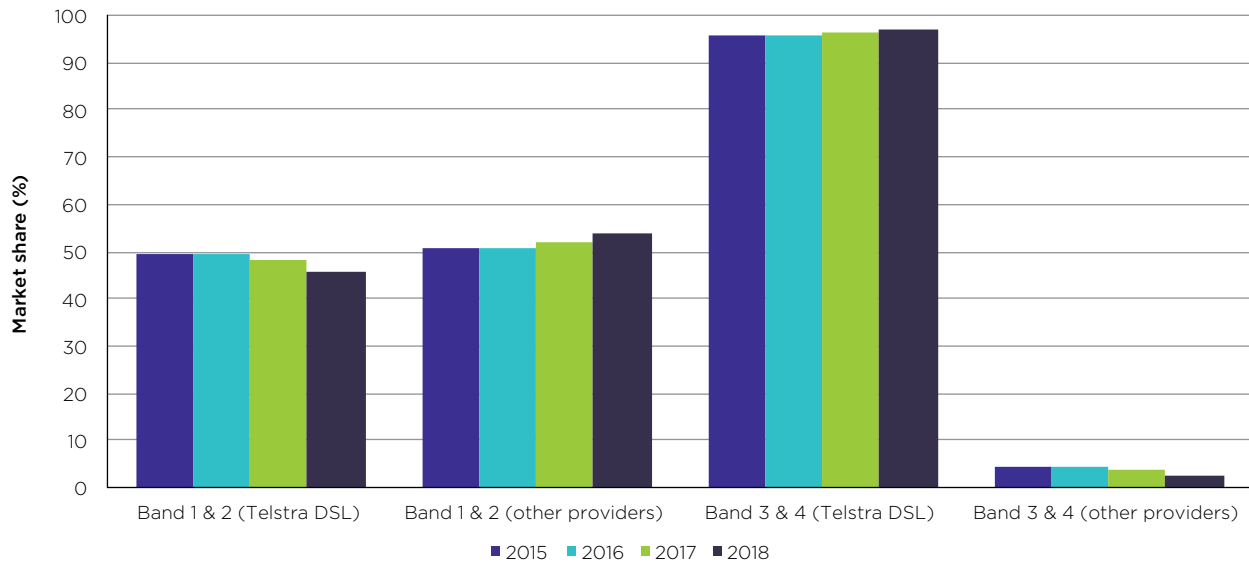
¹² ULLS is a declared service that allows access seekers to use the copper line connecting end users to the local telephone exchange, allowing them to provide both fixed broadband and voice services using their own DSLAMs and other exchange equipment.

¹³ LSS is a declared service that enables access seekers to share the use of the copper line connecting end users to the local telephone exchange, allowing them to provide fixed broadband services using their own equipment.

¹⁴ ACCC, *Snapshot of Telstra's customer access network—June 2018*, available at <https://www.accc.gov.au/system/files/Snapshot%20of%20Telstra%27s%20customer%20access%20network%20-%20June%202018.pdf>.

provision of Bands 1 and 2 although there has been a marginal reduction in its market share between 2016 and 2018 due to increasing competition from other providers.

Figure 2.10: Copper based broadband market share by ULL band



Source: Telstra Customer Access Network RKR data (various years).

2.2 Retail market indicators

Fixed broadband services

Fixed broadband services are broadband internet services provided over fixed networks such as Telstra's copper network, Optus and Telstra's HFC networks, and NBN and non-NBN fibre-based networks. NBN-based services included here are FTTN, FTTB, FTTP, FTTC, HFC and fixed wireless (that is, all services other than satellite). Services provided over mobile networks are discussed separately.

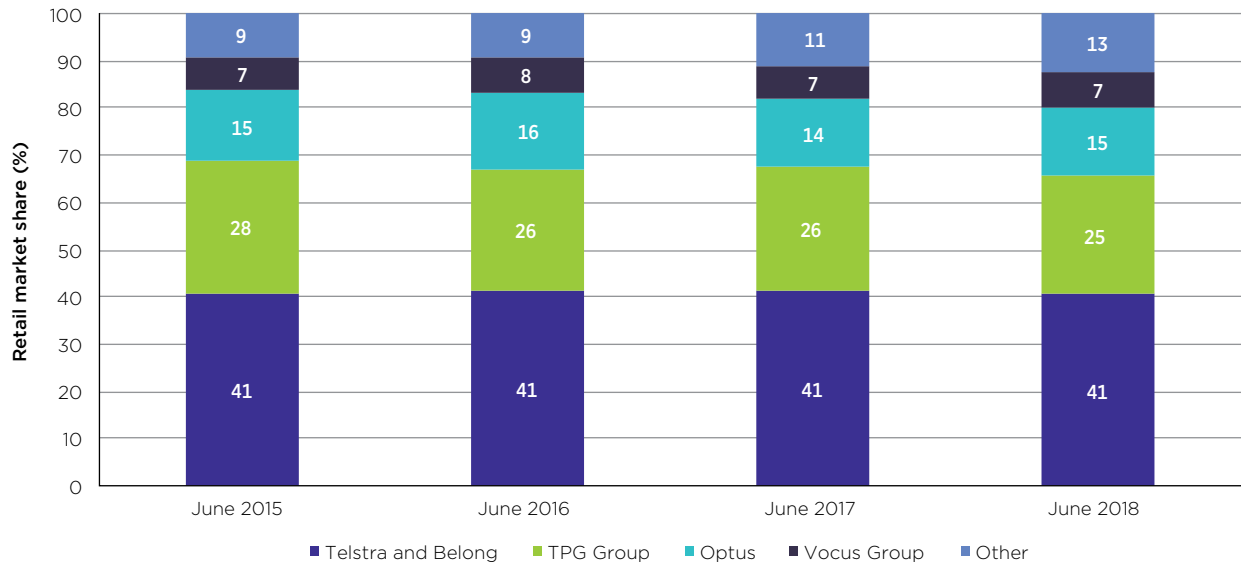
The analysis of non-NBN services includes ADSL, HFC, fixed wireless and fibre, dependent on the availability of statistical information.

There are some limitations in the methodology we use to calculate market shares using SIO data obtained under ACCC record keeping rules (RKR). Notwithstanding these limitations, the market share figures are largely indicative of the key trends in fixed broadband market shares over time.

Market shares for fixed broadband services

In 2017-18 Telstra's market share of fixed broadband services remained stable and it continued to be the largest provider of fixed broadband services, as shown in figure 2.11. Overall, RSPs' market shares of fixed broadband have been relatively stable, with marginal gains by smaller providers represented by the 'other' category that have come at the expense of the TPG Group RSPs. Market share for the Vocus Group RSPs has remained relatively stable over the period represented in figure 2.11.

Figure 2.11: Retail market share for fixed broadband services



Source: ACCC Division 12 RKR for all named carriers except for Vocus Group, whose figures are based on publicly available data, and Australian Bureau of Statistics (ABS), Internet Activity Australia (8153.0). Figures may not add up to 100 due to rounding. Revisions in carriers' reports for previous years may have resulted in changes to figures reported previously.

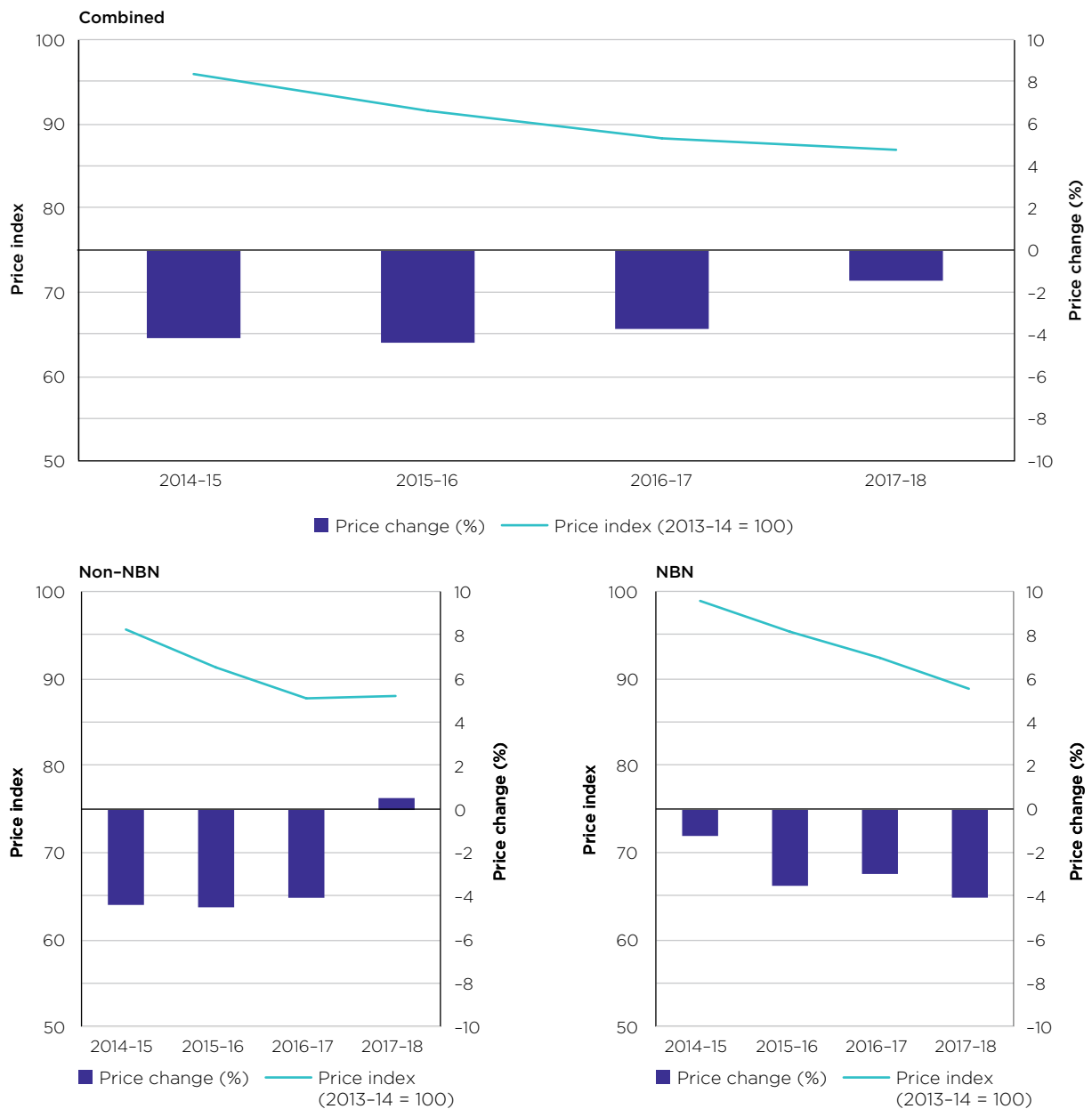
Average price changes for fixed broadband services

The ACCC has utilised a refined version of last year's 'plan matching' approach to estimate average changes in price for fixed broadband services as set out in figure 2.12 (see appendix 4.5 for further information on refinements made since last year's publication). This approach compares the average prices of different categories of plans, thereby accounting for changes in non-price characteristics over time. The approach also adjusts for consumer spending behaviour and inflation, in order to present an accurate estimate of the price changes experienced by consumers.

The analysis shows that, when comparing similar plans, real prices for fixed broadband services fell by 1.5 per cent in 2017-18, largely attributed to improvements in data allowance. This fall in real prices was largely due to a fall in real prices of NBN plans, of 4 per cent in 2017-18. Annual price changes (based on the refined methodology) were estimated for 2014-15 to 2017-18, and are represented as an index in figure 2.12. It shows that there has been a downward trend in real fixed broadband prices since 2014-15, despite a small increase in average real prices of non-NBN products in 2017-18.

Figure 2.12: Changes in average prices for fixed broadband services from 2014-15 to 2017-18

Combined fixed broadband (top), non-NBN (bottom left) and NBN services (bottom right)



	2014-15	2015-16	2016-17	2017-18
Combined				
Price index (2013-14 = 100)	95.8	91.6	88.1	86.8
Price change (%)	-4.2	-4.4	-3.8	-1.5
Non-NBN				
Price index (2013-14 = 100)	95.6	91.3	87.6	88.0
Price change (%)	-4.4	-4.5	-4.0	0.5
NBN				
Price index (2013-14 = 100)	98.8	95.3	92.5	88.7
Price change (%)	-1.2	-3.5	-3.0	-4.0

Source: ACCC estimates based on Division 12 RKR and information from RSP websites.

Average price change methodology

For price changes in this year's report, the ACCC explored two different approaches, the 'plan matching' approach as shown in table 1.1 and outlined in appendix 4.5 as well as the 'hedonic' approach which is shown in table 2.4 and outlined in appendix 4.6.

The plan matching approach groups 'like for like' plans together across time periods based on a set of plan features, such as data inclusion and download speed. The average price change between like for like plans is then calculated. The main advantages to this approach are that it is relatively simple, transparent, reliable and easily repeatable. The main disadvantage to this approach, however, is that it requires a set of characteristics to be available for two consecutive years. For instance, a new-to-market 200 GB post-paid mobile plan in the 2017-18 financial year cannot be used to estimate the price changes for that year, if no 200 GB plan existed in 2016-17.

Conversely, when the hedonic approach is employed, all available plans in the market are used in the estimation of price changes. The theory underpinning hedonic analysis is that differentiated products can be viewed as a bundle of characteristics, such as data allowance or download speed. This approach uses econometrics to estimate the effect of time on prices, controlling for the characteristics of the plans. Accordingly, the approach estimates 'pure' price changes, as differences in quality are controlled for.

Overall, for the period 2014-15 to 2017-18, both approaches indicate a decrease in prices. The price change results of the hedonic approach are generally greater in magnitude than those of the plan matching approach and generally reflect an upper bound for price changes (table 2.4).

Table 2.4: Real price changes for the 'hedonic' approach¹⁵

	2014-15	2015-16	2016-17	2017-18
Non-NBN	-7.3%	-6.6%	-9.6%	-8.0%
NBN	-7.0%	-18.3%	0.4%	-6.4%
Total fixed broadband	-7.0%	-11.7%	-4.6%	-7.7%
Post-paid mobile	-18.1%	-17.0%	-13.5%	-18.0%
Prepaid mobile	-16.4%	-22.9%	-9.1%	-20.1%
Total mobile phone services	-17.6%	-18.2%	-12.8%	-18.5%
Mobile broadband	-13.8%	-1.1%	-13.0%	-17.9%

Prepaid mobile experienced the greatest decline in prices in 2017-18 with a decline of 20 per cent under the hedonic approach (table 2.4). This result reflects a greater magnitude of decline than that experienced under the plan matching approach (6.9 per cent). Furthermore, the two approaches indicate greater decreases in prices of mobile technologies than that of fixed line technologies. In 2017-18 total fixed broadband (NBN and non-NBN services) prices decreased by 7.7 and 1.5 per cent for the hedonic and plan matching approach respectively. Conversely, total mobile phone (post-paid and prepaid services) price declined by 18.5 per cent under the hedonic approach and 8.3 per cent under the plan matching approach. Further analysis is required to determine differences in the results of these two approaches. The differences in the treatment of new-to-market plans could explain some of disparity between results.

¹⁵ All the underlying coefficients used to calculate the price changes are statistically significant at the 5 per cent level ($p < 0.05$).

One of the key differences between these approaches is in the quality adjustment process. Under the plan matching approach, plans are grouped together and compared across time based on a number of non-price characteristics such as data allowance, call inclusions and contract length. It is the average price changes between these groups that are used in the calculation of real change in average prices in table 1.1. This ensures that from one period to the next the non-price characteristics (proxy measures of quality) are held constant when calculating average price changes.

For example, if a fixed broadband plan bundle has (among other features) no data download limit and includes unlimited national calls in 2016–17, its price will be compared to plans with similar features in 2017–18 and an average price change will then be calculated from that difference in price. In contrast, the hedonic method controls for the quality of the plans, and then estimates the effect of time on price. This approach is well suited for comparing goods that comprise of non-price characteristics, each of which is assumed to have its own intrinsic value. The hedonic approach treats each product as a combination of characteristics and features, and assigns values to each of the features (e.g. download speed, data allowance) in the product that are identified as ‘price determining’.¹⁶

While this approach is innovative, and for the first time enables us to include new-to-market plans, given its complexity the ACCC has decided to undertake further testing of this model, including stakeholder engagement, so it is robust for use as the headline figures in the 2018–19 ACCC Communications Market Report.

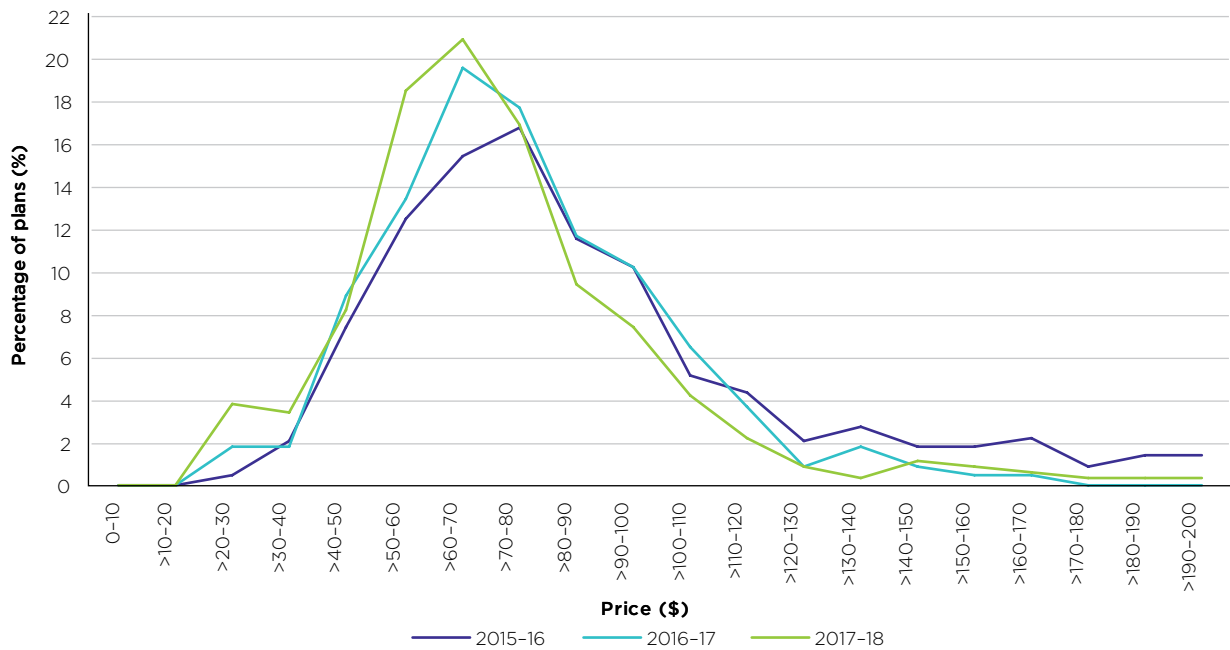
The choice of plans available at each price point

Service providers offer plans at various price points. The number and variety of plans available varies between the price points.

For NBN plans, there was a higher concentration of plans in the \$50 to \$80 range in 2017–18 compared to 2016–17 (figure 2.13). For non-NBN plans, the \$50 to \$90 range had the greatest number of plans during the same period (figure 2.14). There has been a gradual consolidation of fixed broadband plans around the most popular price points over the last three years. For instance, the proportion of NBN plans in the most popular \$60 to \$70 price range has increased from 15 per cent in 2015–16 to 21 per cent in 2017–18.

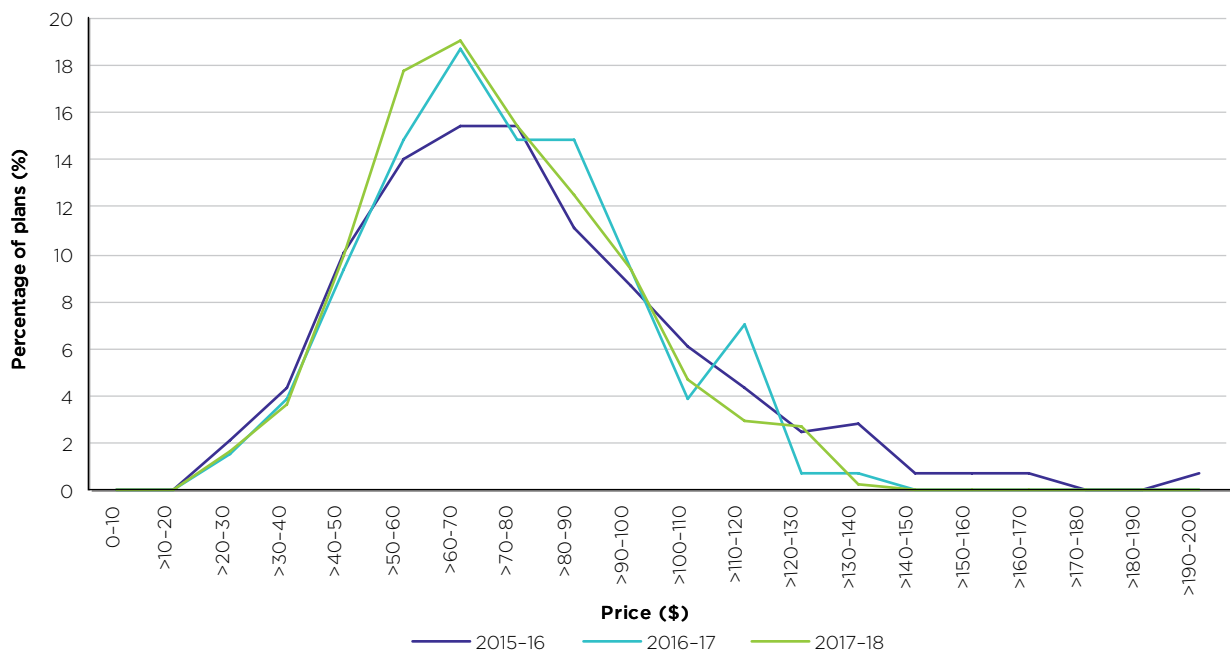
¹⁶ ABS, Information Paper: The introduction of hedonic price indexes for personal computers, 8 February 2005, [http://www.ausstats.abs.gov.au/ausstats/free.nsf/0/6B5EF2E6C1935D18CA256FA1007856A2/\\$File/64580_2005.pdf](http://www.ausstats.abs.gov.au/ausstats/free.nsf/0/6B5EF2E6C1935D18CA256FA1007856A2/$File/64580_2005.pdf).

Figure 2.13: Percentage of NBN plans at each price-point from 2015-16 to 2017-18



Source: ACCC estimates based on information from RSP websites.

Figure 2.14: Percentage of non-NBN plans at each price point from 2015-16 to 2017-18



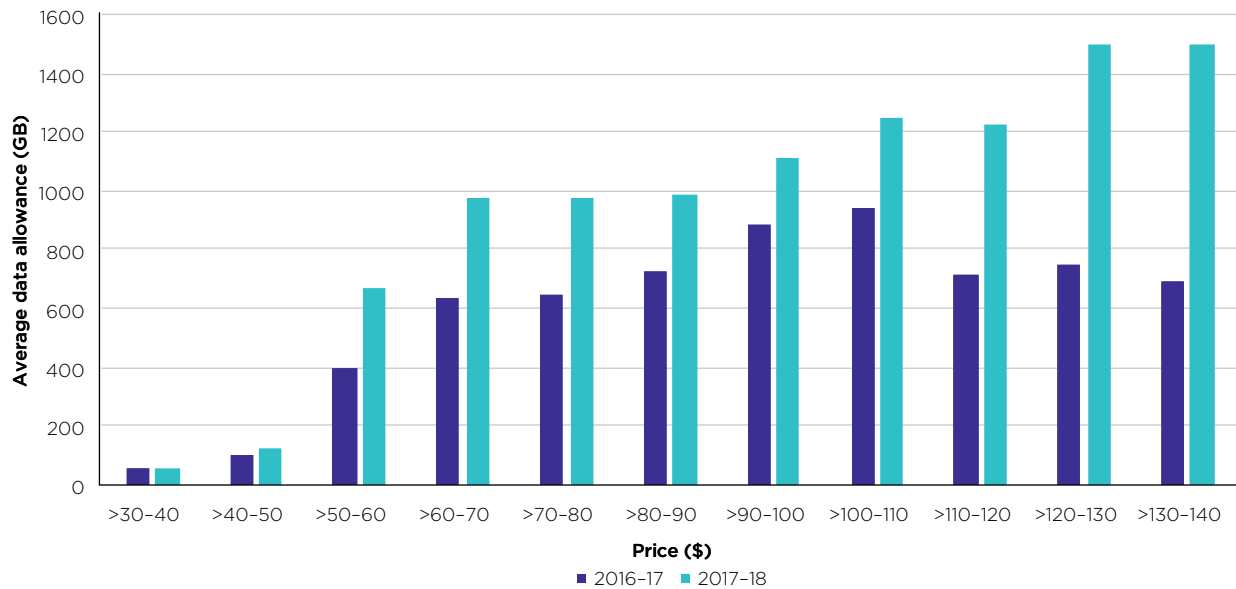
Source: ACCC estimates based on information from RSP websites.

The average data allowance of plans at each price range

The average data allowance increased across all price ranges between 2016–17 and 2017–18. For NBN services, the increase in data was especially pronounced in the higher price range (\$110 and above) as most plans in the market in 2017–18 now include no data limits (figure 2.15).

NBN plans provided greater average data allowance than non-NBN plans in all price ranges greater than \$50, while non-NBN plans provided greater average data allowances within the \$30 to \$50 price range (figure 2.16).

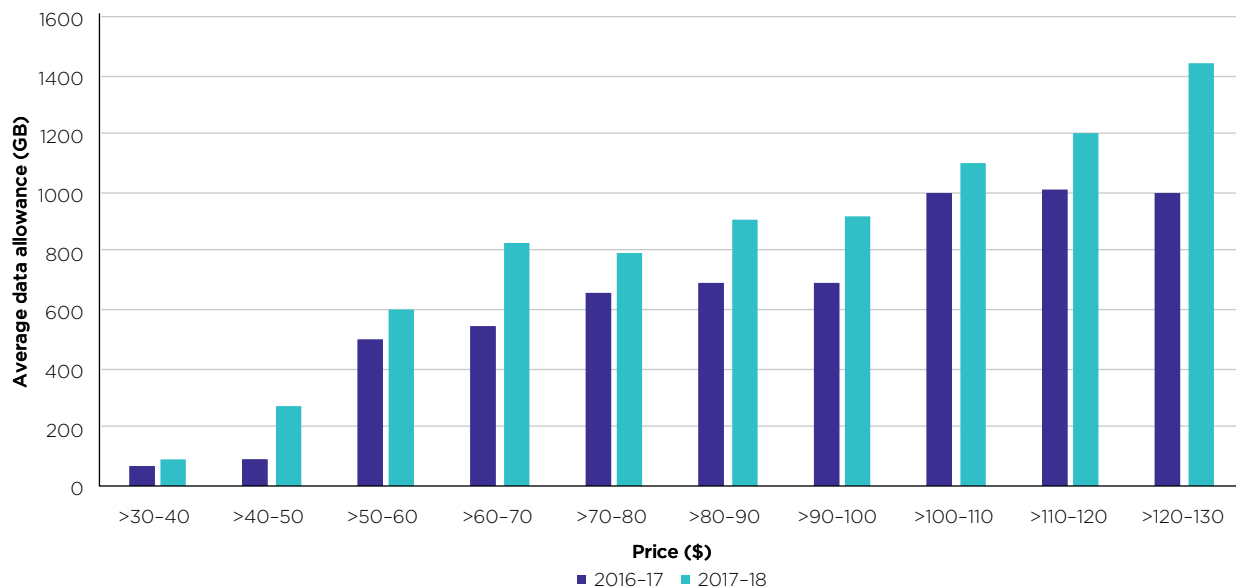
Figure 2.15: Average data allowance at various price-points for NBN services in 2016–17 and 2017–18



Source: ACCC estimates based on information from RSP websites.

Note: This analysis assumes that 'unlimited' plans are the equivalent of 1500 GB.

Figure 2.16: Average data allowance at various price-points for non-NBN services in 2016–17 and 2017–18



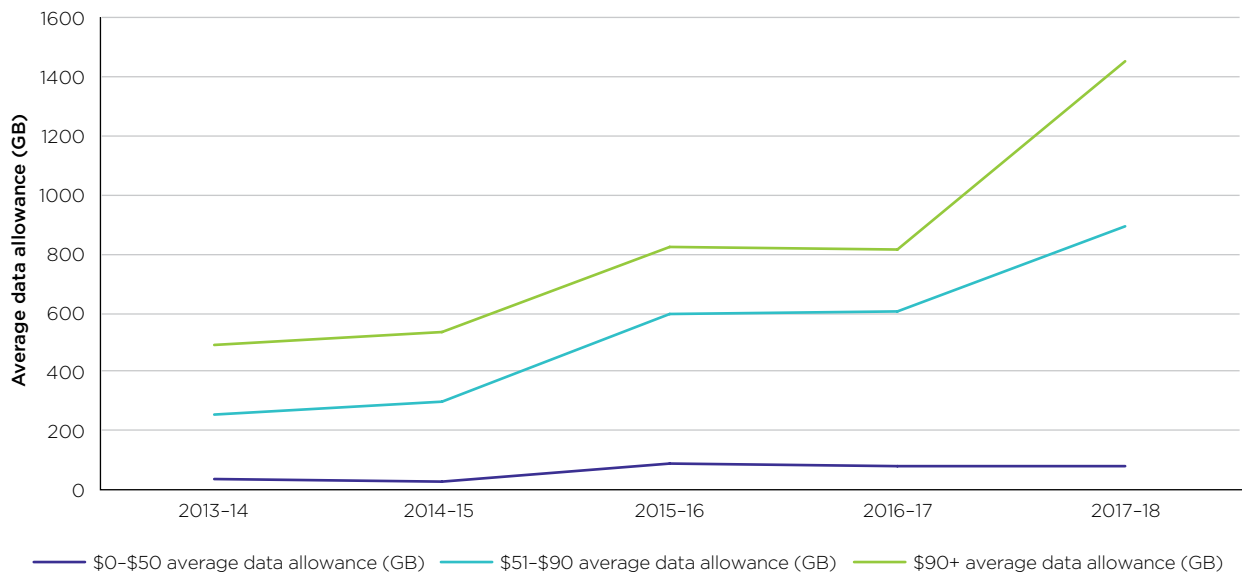
Source: ACCC estimates based on information from RSP websites.

Note: This analysis assumes that 'unlimited' plans are the equivalent of 1500 GB.

Average data allowances increased between 2013–14 and 2017–18 across all consumer expenditure categories. ‘Low’ spending consumers are defined for the purposes of this analysis as those who spend up to \$50, ‘medium’ spending consumers are defined as those who spend between \$51 and \$90, while ‘high’ spending consumers are determined as those who spend more than \$90.

While all three categories experienced increases in data allowances over time, the rate of increase has not been uniform. In terms of those on NBN plans, high spending consumers experienced the largest average data allowance increases between 2016–17 and 2017–18, with an average increase of 79 per cent (figure 2.17). For those on non-NBN plans, medium spending consumers experienced a 31 per cent increase in average data allowances, the highest of the three consumer types (figure 2.18). The increases in the medium and high consumer groups over time can be attributed to the greater proportion of unlimited data plans within those price ranges.

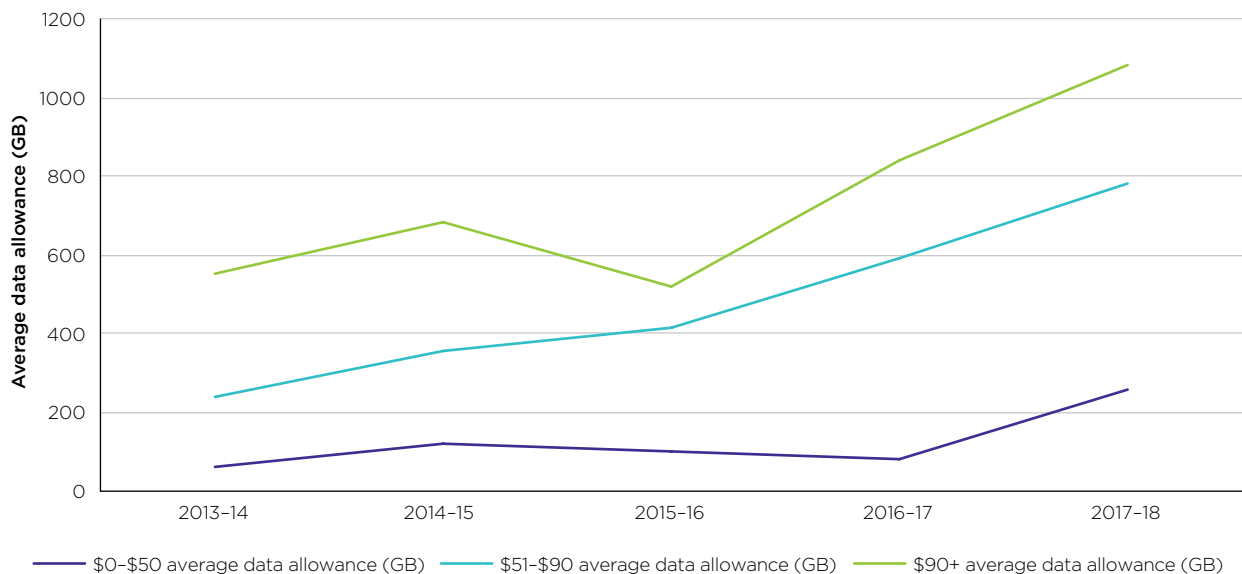
Figure 2.17: Average data allowance by consumer spend for NBN services from 2014–15 to 2017–18



Source: ACCC estimates based on information from RSP websites.

Note: This analysis assumes that ‘unlimited’ plans are the equivalent of 1500 GB.

Figure 2.18: Average data allowance by consumer spend for non-NBN services from 2014–15 to 2017–18



Source: ACCC estimates based on information from RSP websites.

Note: This analysis assumes that ‘unlimited’ plans are the equivalent of 1500 GB.

Unlimited data plans

Unlimited data allowances within the fixed broadband sector have become more prevalent in recent years, increasing from five per cent of all available plans in 2013-14 to 40 per cent in 2017-18 (figure 2.19).¹⁷ For plans that include an unlimited data allowance, the median price decreased between 2013-14 and 2017-18 for both NBN and non-NBN services (figure 2.20). The median price for both NBN and non-NBN unlimited data services was \$80 in 2017-18, down from \$100 in 2013-14.

Figure 2.19: Percentage of unlimited fixed broadband plans from 2013-14 to 2017-18

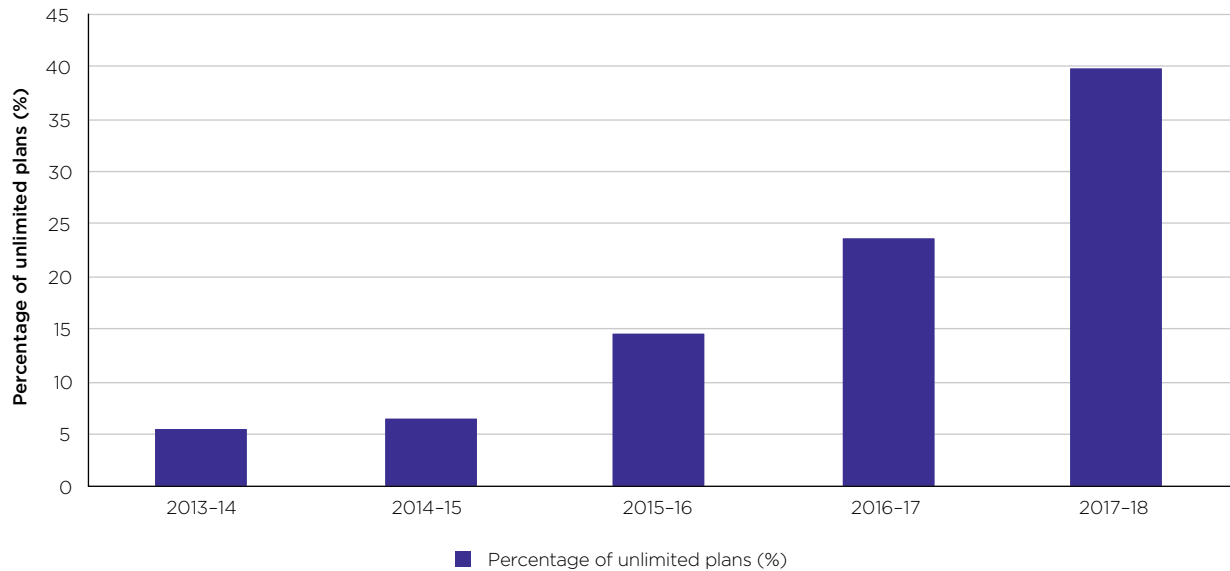
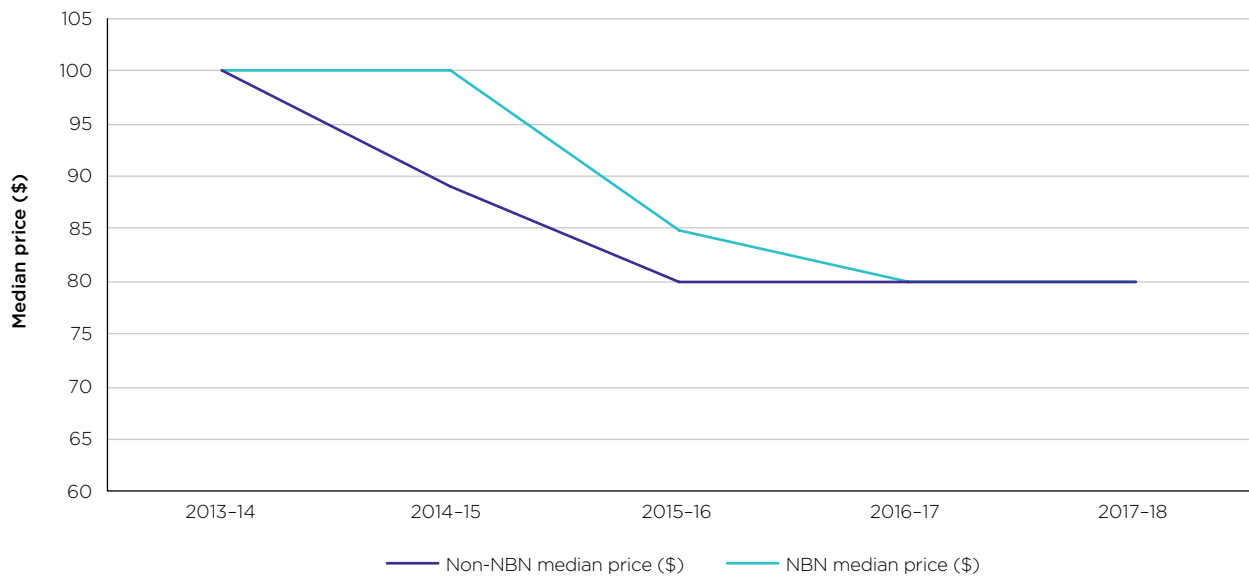


Figure 2.20: Median price for unlimited data; fixed broadband plans from 2013-14 to 2017-18



Source: ACCC estimates based on information from RSP websites.

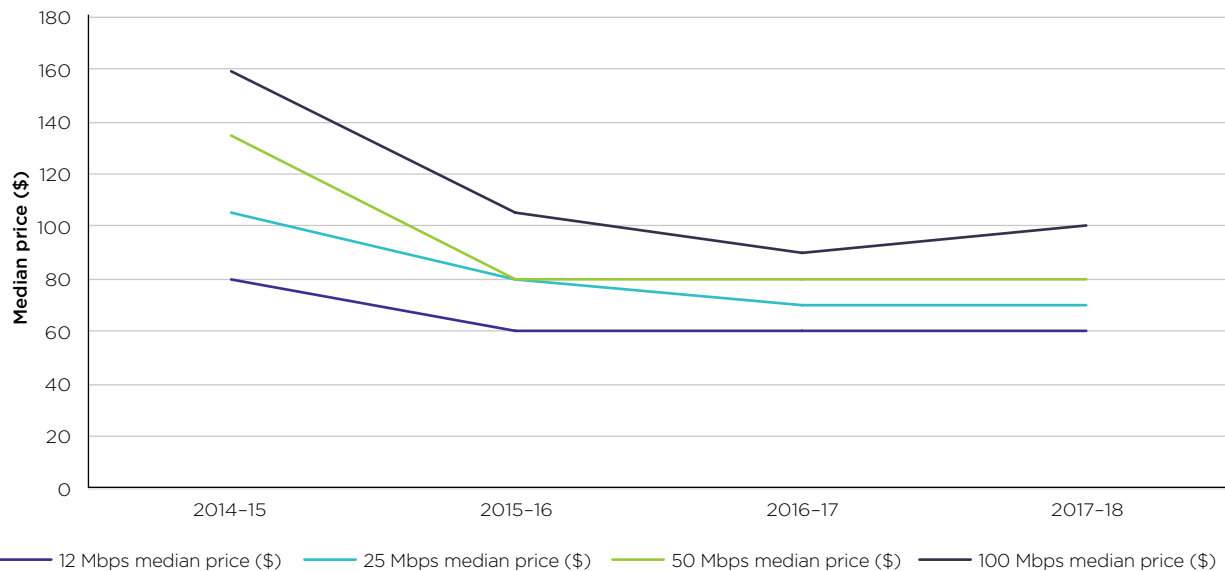
Note: Includes standalone broadband plans, as well as broadband bundles with voice and entertainment packages.

¹⁷ Based on analysis of publicly available plans collected by the ACCC. There were 22 unlimited plans in 2014 (out of 402 plans) and 236 unlimited plans in 2018 (out of 592 plans)

The median price for NBN wholesale speed tiers

RSPs on sell NBN Co wholesale services to customers in a range of download speed tiers, including 12 Mbps, 25 Mbps, 50 Mbps and 100 Mbps. Between 2014–15 and 2017–18 the median plan price of each of the four download speed tiers decreased. The 50 Mbps speed tier experienced the greatest decline in median price from 2014–15 to 2017–18, decreasing 40 per cent from \$135 to \$80. This speed tier was also the most popular choice amongst consumers in 2017–18 (table 2.3). The median price of the 100 Mbps speed tier increased by \$10 between 2016–17 and 2017–18, from \$90 to \$100, the only speed tier to record a price rise between the two years.

Figure 2.21: Median price by NBN download speed (wholesale tiers) from 2014–15 to 2017–18



Source: ACCC estimates based on information from RSP websites.

Mobile phone services

In this report, mobile phone services include voice, short message service (SMS), and data services that are delivered over 2G¹⁸, 3G or 4G technologies¹⁹ to mobile phone handsets. This is distinct from mobile broadband (discussed later in this chapter), which includes data-only services on the same networks.

The market for mobile phone services (via handsets) continues to be the largest among telecommunications services in terms of the number of services in operation. There were approximately 27 million handsets in Australia as of 30 June 2018, up from 25.9 million as of 30 June 2017. This represents an increase of 3.3 per cent.²⁰

Market shares for mobile phone services

The retail market continued to be dominated by the three MNOs, Telstra, Optus and VHA, each of which owns and operates its own network. The market share of these providers have remained largely unchanged since at least 2014 (figure 2.22). Several smaller service providers, known as MVNOs, are also present in the retail market. The MVNOs accounted for around 13 per cent of services in 2017–18, an increase from 11 per cent in 2016–17.

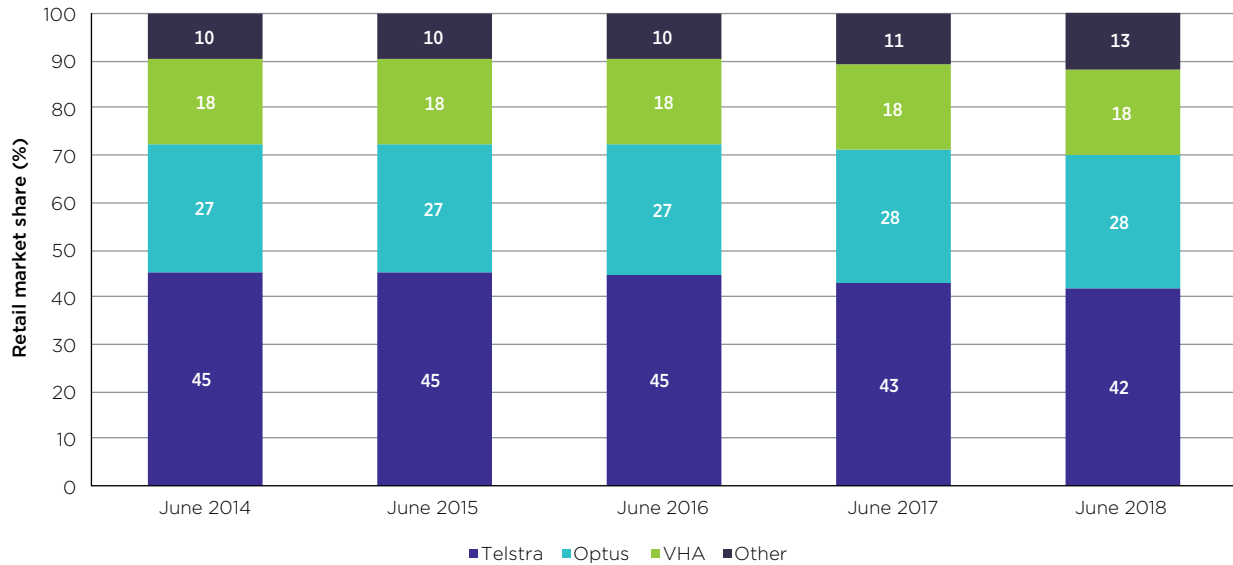
Telstra holds the largest market share at 42 per cent, followed by Optus and VHA with 28 per cent and 18 per cent respectively. The market shares have been largely stable in the past five years, with the exception of some modest erosion of Telstra's market share.

¹⁸ The last operational 2G network in Australia was closed down on 30 June 2018.

¹⁹ The data collected by the ACCC from service providers does not distinguish between these mobile technologies.

²⁰ Mobile handsets are hand held, mobile devices used to transmit or communicate data, images or voice over a cellular network. The numbers are taken from the ACCC Division 12 RKR.

Figure 2.22: Retail market share for mobile handsets from 2013-14 to 2017-18



Source: ACCC Division 12 RKR and ABS Internet Activity Australia (8153.0).

Average prices continue to fall for mobile phone services

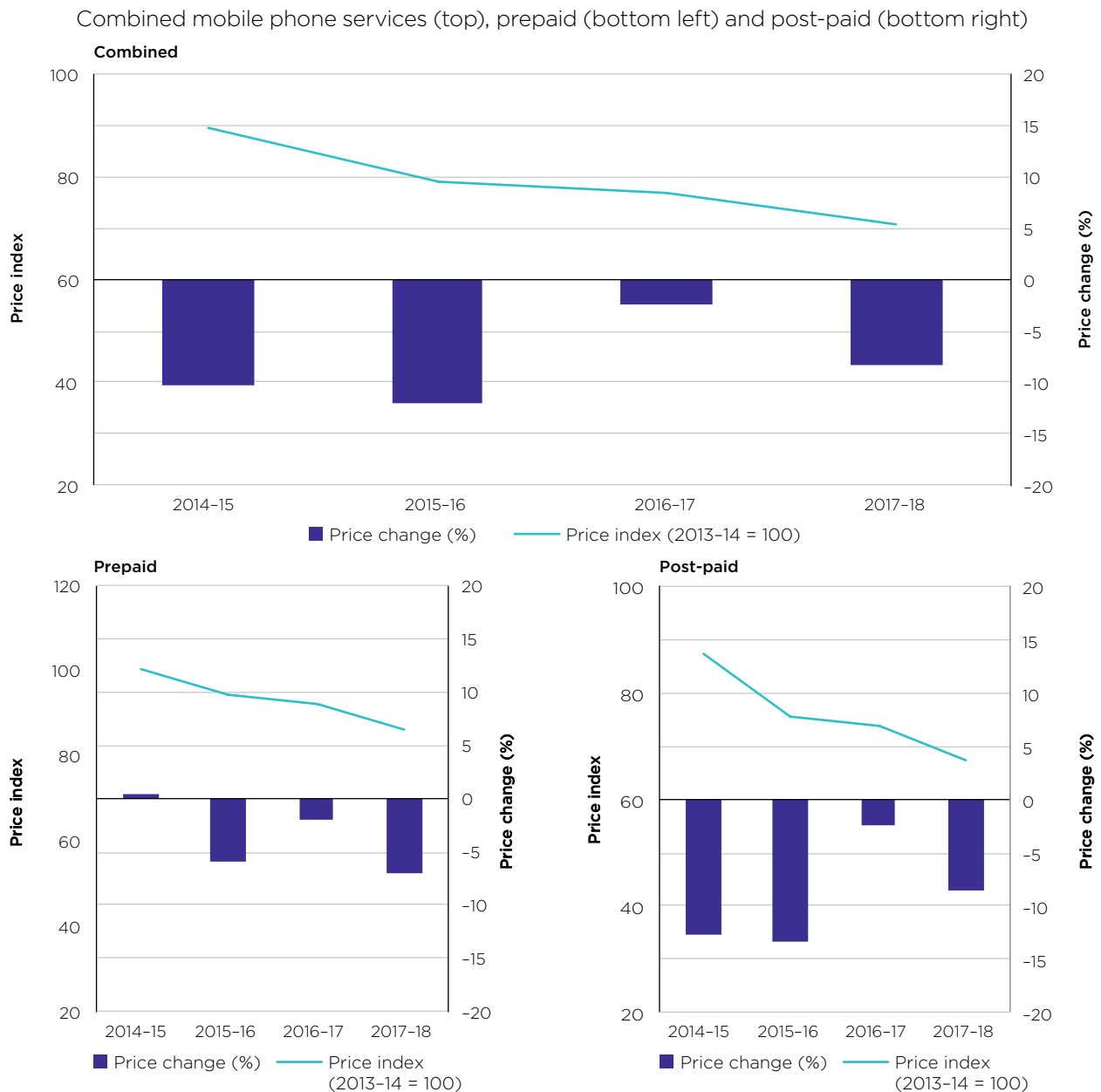
Similar to the analysis of fixed broadband plans, the ACCC has estimated price changes in mobile phone services by comparing the average prices of different categories of prepaid and post-paid mobile plans. As was the case with fixed broadband plans, the price change methodology for mobile phone services was refined for this report and as such results will differ from those published previously (see appendix 4.5 for further information).

Compared to post-paid plans, prepaid plans offered a wider range of service terms, with credit expiry ranging from one week to several months. Service plans that are designed to last up to 12 months are not readily comparable with those that would expire after seven days, or within one month. As such, the analysis of prepaid plans in this section is limited to those plans with a 28, 30 or 35 day expiry.

Prices for mobile phone services declined from 2016-17 to 2017-18, when comparing similar plans (figure 2.23). On average, prices fell by around 8.3 per cent over the period, in real terms. This continues an overall downward trend from 2013-14. For post-paid services, prices fell by 8.6 per cent in 2017-18, which was a greater decline than in the previous year. Prices also fell for prepaid services, in real terms, by 7 per cent in 2017-18.

As post-paid services account for around 82 per cent of mobile phone services, they are the main driver for the observed price changes in the mobile phone sector.

Figure 2.23: Average price changes for prepaid and post-paid mobile phone services



	2014-15	2015-16	2016-17	2017-18
Combined				
Price index (2013-14 = 100)	89.6	78.9	76.9	70.6
Price change (%)	-10.4	-12.0	-2.4	-8.3
Prepaid				
Price index (2013-14 = 100)	100.4	94.3	92.4	86.0
Price change (%)	0.4	-6.0	-2.0	-7.0
Post-paid				
Price index (2013-14 = 100)	87.2	75.6	73.7	67.4
Price change (%)	-12.8	-13.3	-2.5	-8.6

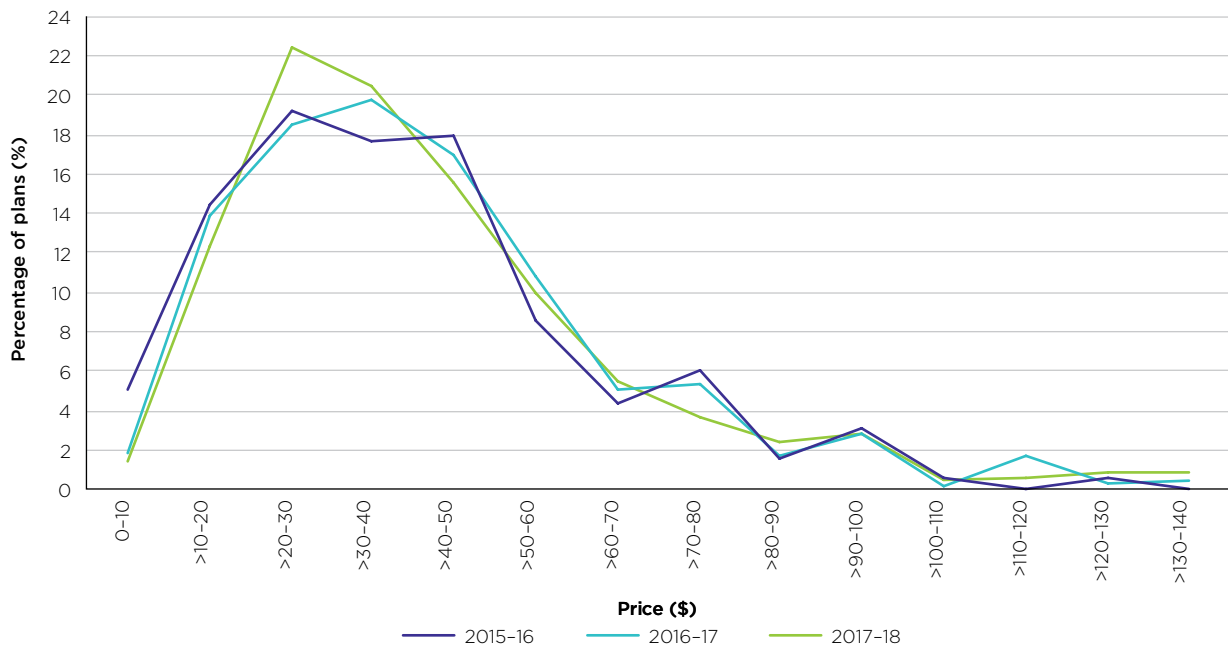
Source: ACCC estimates based on Division 12 RKR and information from RSP websites.

The reduction in average mobile phone service prices could have a varying effect on consumer behaviour. Some consumers may opt to spend a similar amount per month and move to a plan that offers more value, while others may choose to pay a lower price and maintain their existing plan inclusions. The former would be in line with trends of increasing data usage, which show that data usage per mobile service customer has increased by 49 per cent per year, on average, between 2014-15 and 2017-18 with a 38 per cent increase in 2017-18 compared to the previous year.²¹

The range of mobile phone plans on offer

The distribution of mobile phone plans by price has remained relatively stable in the past three years. For instance, between 2015-16 and 2017-18 post-paid plans were most concentrated in the \$20 to \$50 price range (figure 2.24). Similarly, prepaid plans were also concentrated in the lower price range of \$10 to \$50 over the same time periods (figure 2.25).

Figure 2.24: Percentage of post-paid plans at each price-point



Source: ACCC estimates based on information from RSP websites.

²¹ ABS, 2018, Cat. no. 8153.0, *Internet activity, Australia*, June 2018.

Figure 2.25: Percentage of prepaid plans at each price-point



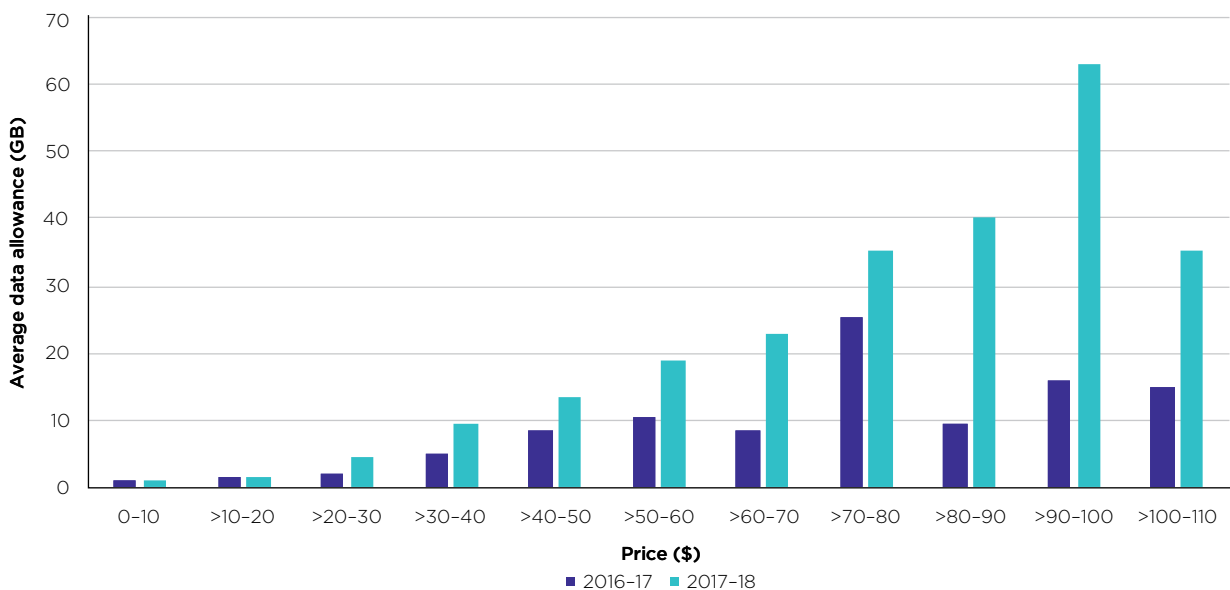
Source: ACCC estimates based on information from RSP websites.

Growth in data inclusions in mobile phone plans

Analysis of mobile phone plans suggest that with price and other non-price characteristics²² held constant, data allowances improved by approximately 172 per cent between 2016-17 and 2017-18.

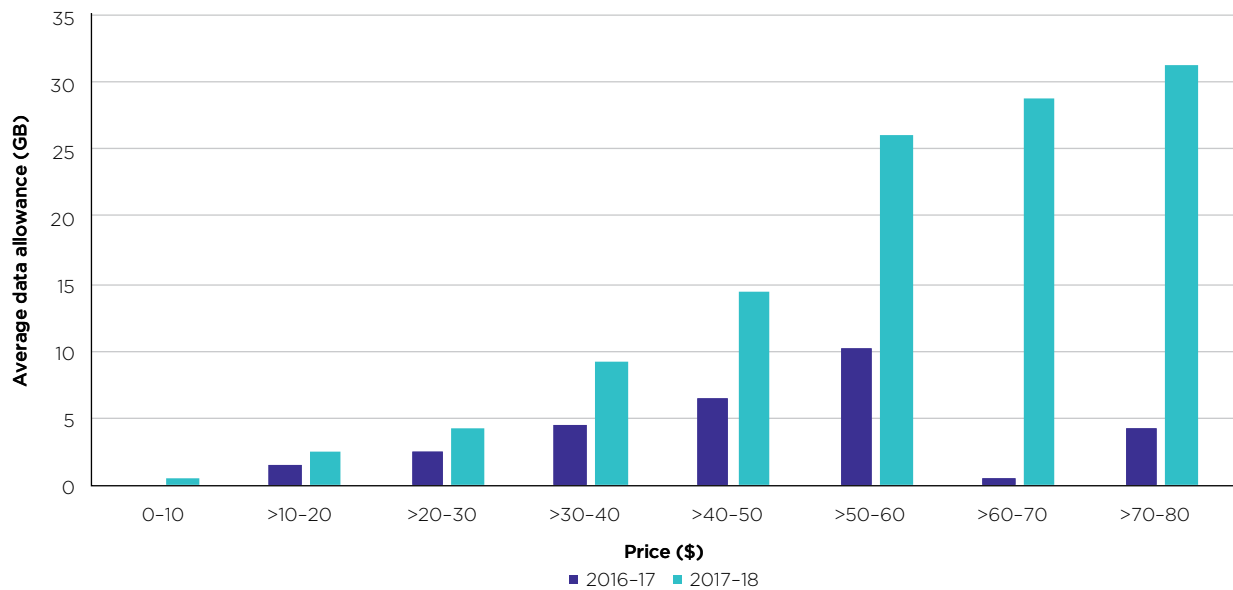
There were increases to average data allowances across various price points between 2016-17 and 2017-18, within post-paid (figure 2.26) and prepaid (figure 2.27) mobile services. For both post-paid and prepaid services, the largest increases in data allowance can be seen in the higher price points. For instance, post-paid plans in the \$90 to \$100 range provided an average of 63 GB of data in 2017-18, compared to 16 GB in 2016-17, an increase of close to 300 per cent. For prepaid plans in the \$70 to \$80 price range provided an average of 31 GB in 2017-18, compared to 4 GB in 2016-17.

Figure 2.26: Average data allowances at various price-points, for post-paid mobile services



²² Non-price characteristics include contract length, SMS inclusions and call inclusions. Data allowance was not held constant in this instance.

Figure 2.27: Average data allowances at various price-points, for prepaid mobile services



Source: ACCC estimates based on information from RSP websites.

Mobile phone plans are available with data allowances of varying sizes. The range of data allowances available for both post-paid (figure 2.28) and prepaid plans (figure 2.29) has expanded since 2013-14. Figure 2.30 also shows the increasing availability of higher quota data allowance post-paid plans over the last three years.

For prepaid services, the median and mean data allowances were 1 GB and 1.9 GB respectively in 2013-14, increasing to 7 GB and 11.5 GB respectively in 2017-18. For post-paid, the median data allowance increased from 1.5 GB to 6 GB during the same period, with mean data allowance rising from 1.7 GB to 14.2 GB.

Figure 2.28: Mean, median and first and third quartile range data allowance for post-paid mobile services

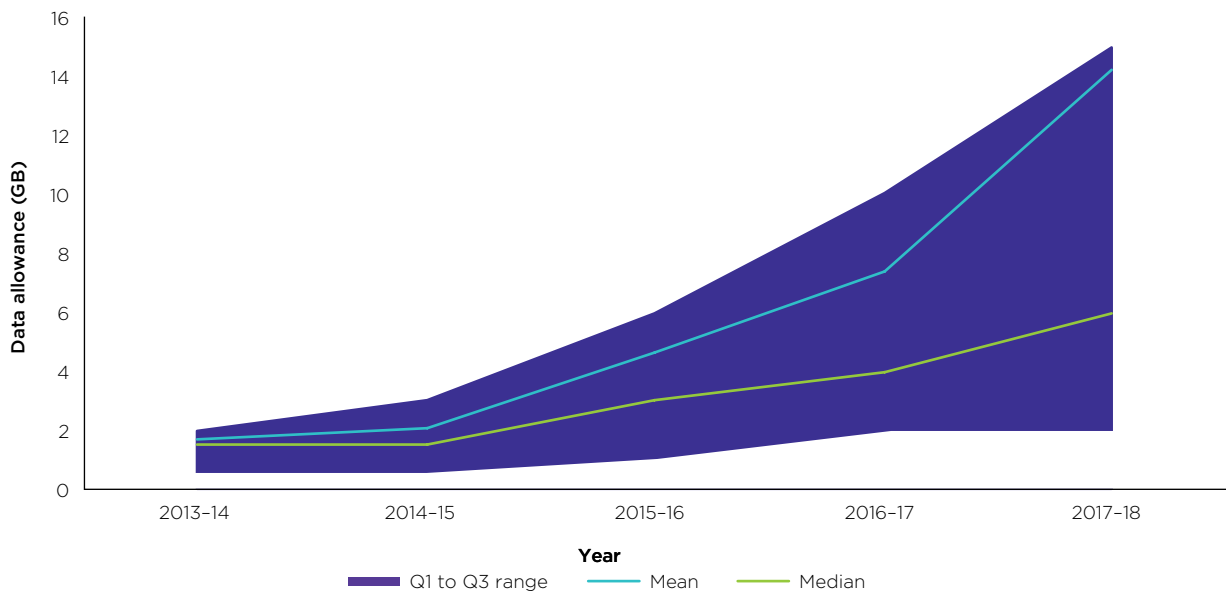
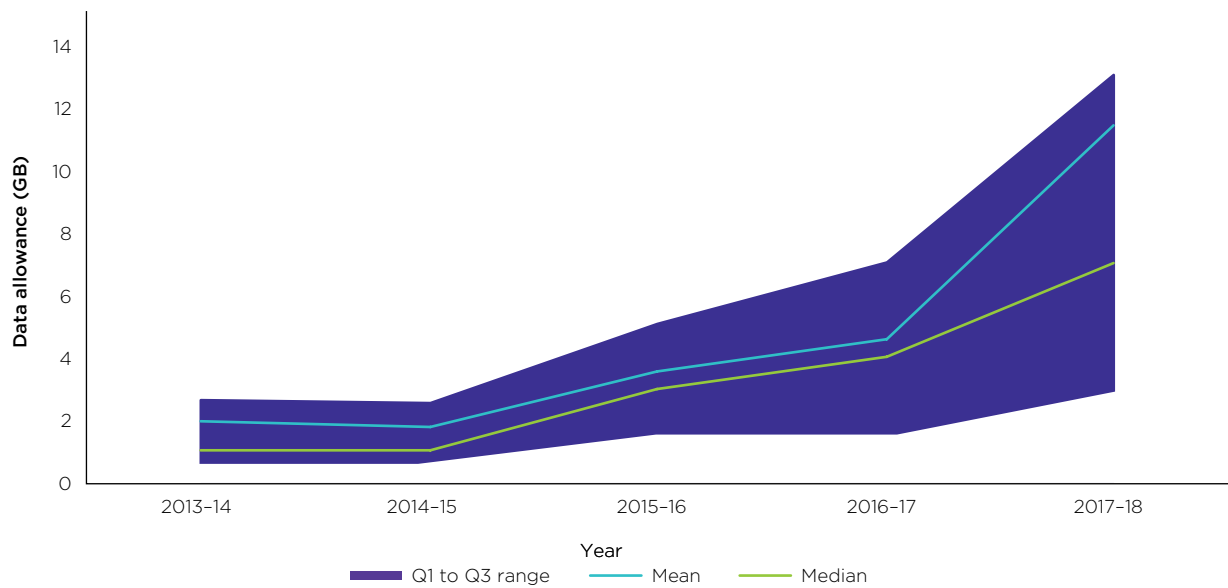
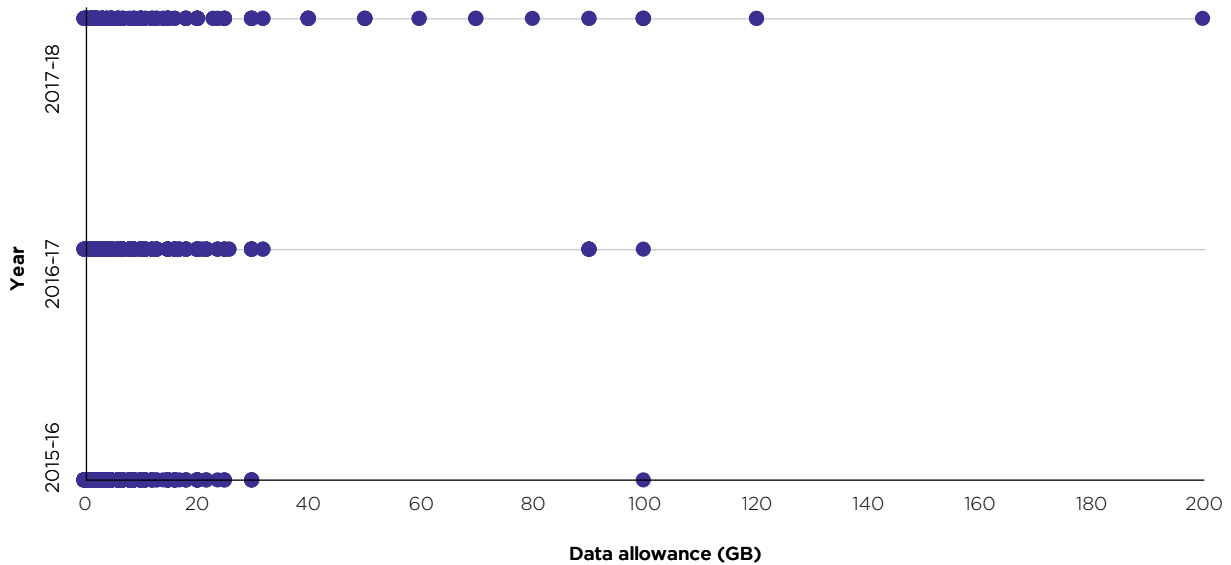


Figure 2.29: Average, median and first and third quartile range data allowance for prepaid mobile services



The increase in post-paid mobile plan data allowance over time is also evident across various price ranges. For example, according to ACCC estimates, the range of data allowances available for post-paid mobile customers in 2017-18 has increased in comparison to the data inclusion options available in 2015-16 (figure 2.30).

Figure 2.30: Range of data allowance options for post-paid mobile consumers

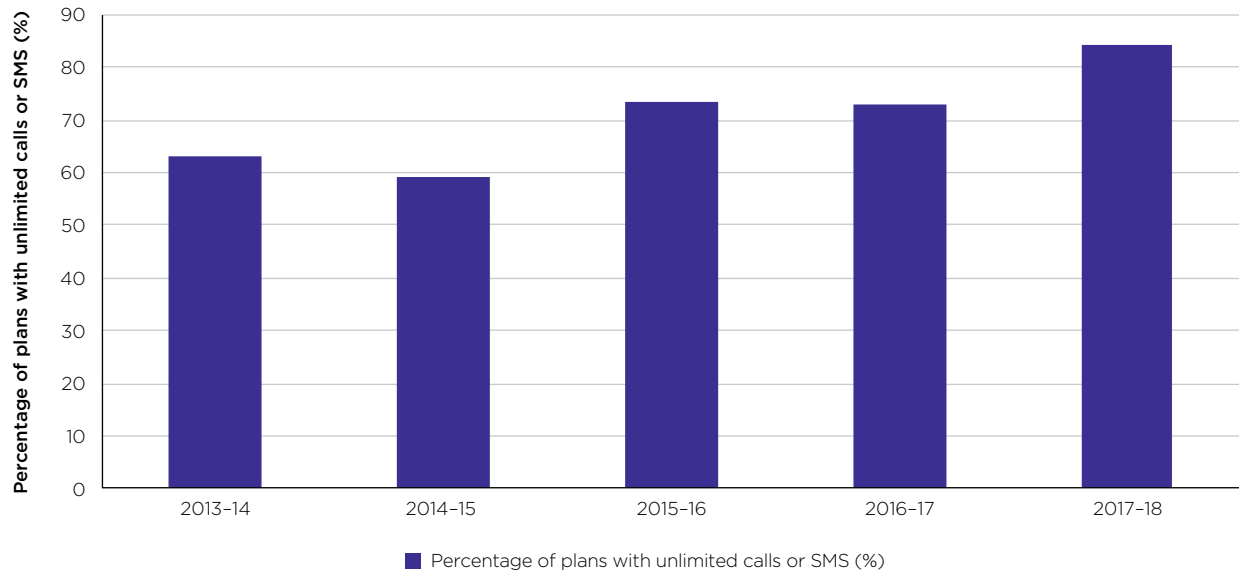


Source: ACCC estimates based on information from RSP websites.

Unlimited calls and SMS

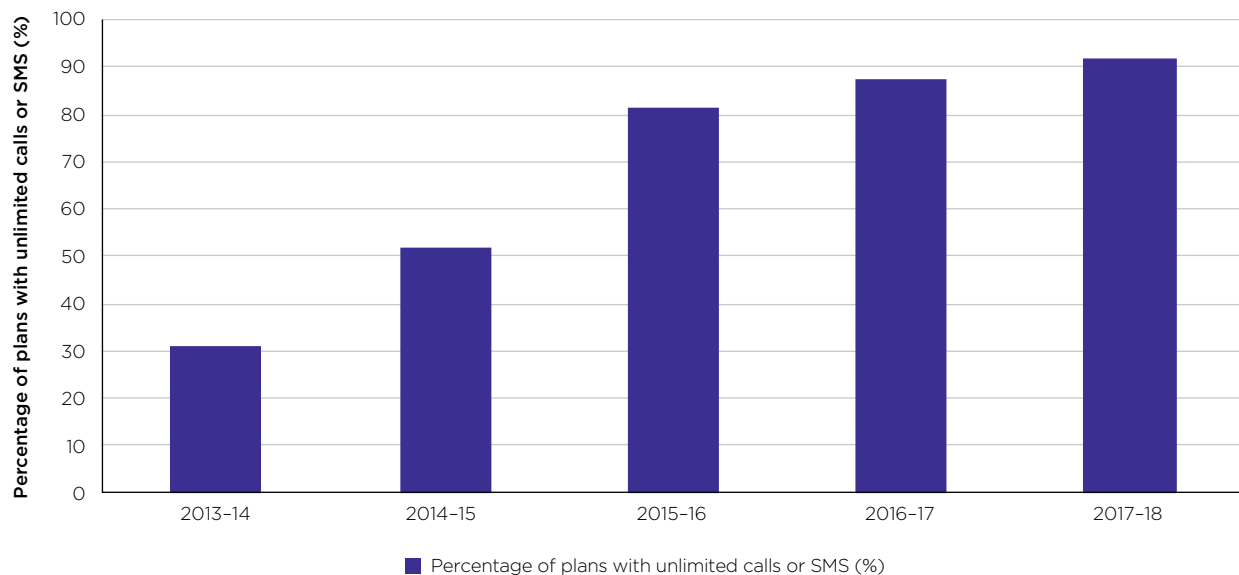
The number of plans with unlimited calls or SMS has continued to increase over time, with the proportion of post-paid plans with unlimited calls or SMS increasing from 63 per cent in 2013-14 to 84 per cent in 2017-18 (figure 2.31). Similarly, the proportion of prepaid plans with unlimited calls or SMS increasing from 31 per cent in 2013-14 to 91 per cent in 2017-18 (figure 2.32).

Figure 2.31: Proportion of post-paid plans with unlimited calls or unlimited SMS



Source: ACCC estimates based on Division 12 RKR and information from RSP websites.

Figure 2.32: Proportion of prepaid plans with unlimited calls or unlimited SMS



Source: ACCC estimates based on Division 12 RKR and information from RSP websites.

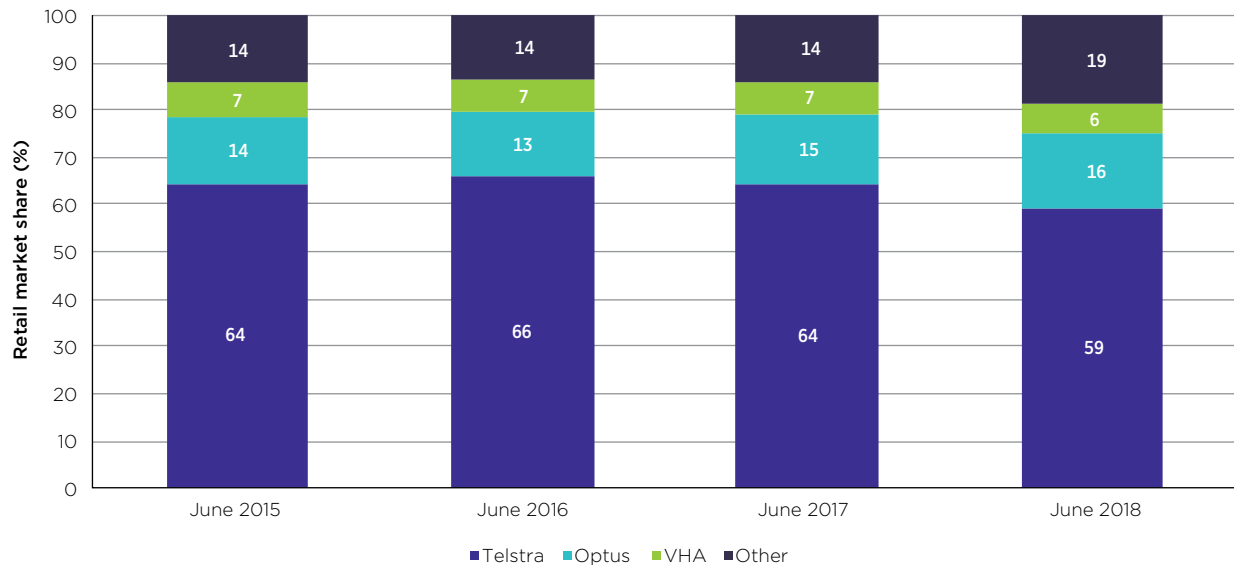
Mobile broadband services

The services covered in this section are mobile connections other than via mobile handsets, i.e. where data is accessed by means of USB modems, dongles and tablets. Fixed wireless services are not included, as they are captured in the fixed broadband section.

Market shares for mobile broadband services

Telstra maintains its leading position in the supply of mobile broadband services, with 59 per cent of the market, however it has lost five percentage points of market share since June 2017 largely to smaller providers represented by the 'other' category in figure 2.33. VHA lost one percentage point of market share to MVNOs during the year, with Optus the only major provider to record growth in its market share during the year.

Figure 2.33: Retail market share for mobile broadband services



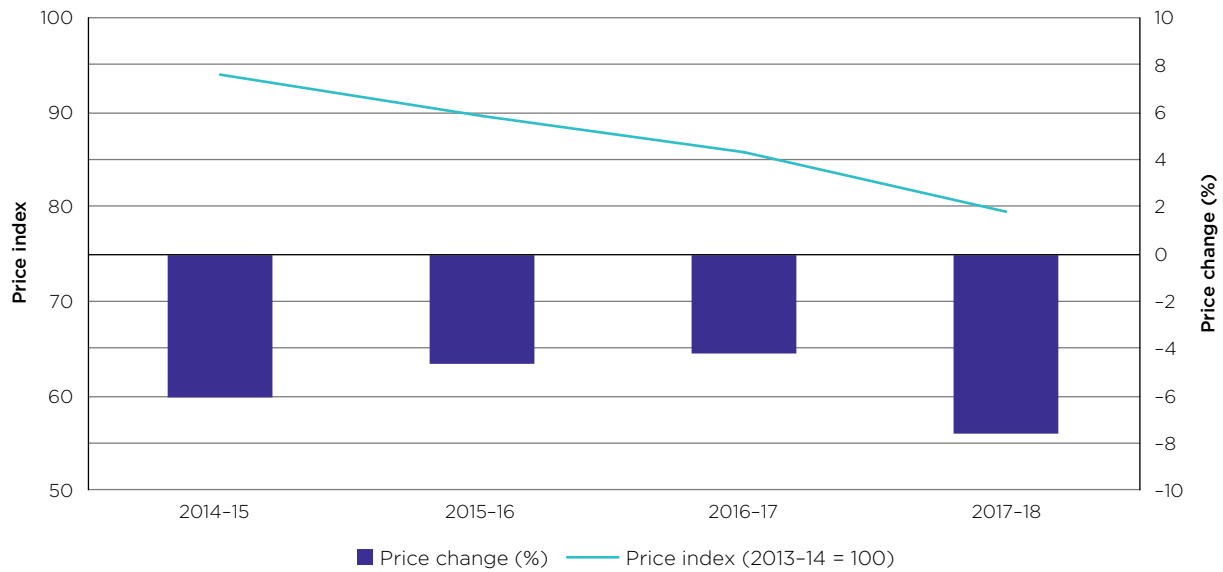
Source: ACCC Division 12 RKR and ABS Internet Activity Australia (8153.0).

Average prices continue to fall for mobile broadband services

When comparing similar plans, average prices for mobile broadband services fell in real terms by 7.5 per cent in 2017–18, following a decrease of 4.2 per cent in the previous year (figure 2.34). From 2014–15 to 2017–18, the average annual price fall was 5.6 per cent. Similar to fixed broadband, the decrease in overall real average prices can be partly attributed to the increase in data allowances over successive years.

As with other services, the average price changes for mobile broadband plans were calculated by comparing the average prices of different classes of plan while results published in this year's reports will differ from those published in last year's report. Further information on the methodology used and changes made can be found in appendix 4.5.

Figure 2.34: Average price changes for mobile broadband services



	2014-15	2015-16	2016-17	2017-18
Price index (2013-14 = 100)	94.0	89.6	85.9	79.5
Price change (%)	-6.0	-4.6	-4.2	-7.5

Source: ACCC estimates based on Division 12 RKR and information from RSP websites.

The range of mobile broadband plans available to consumers

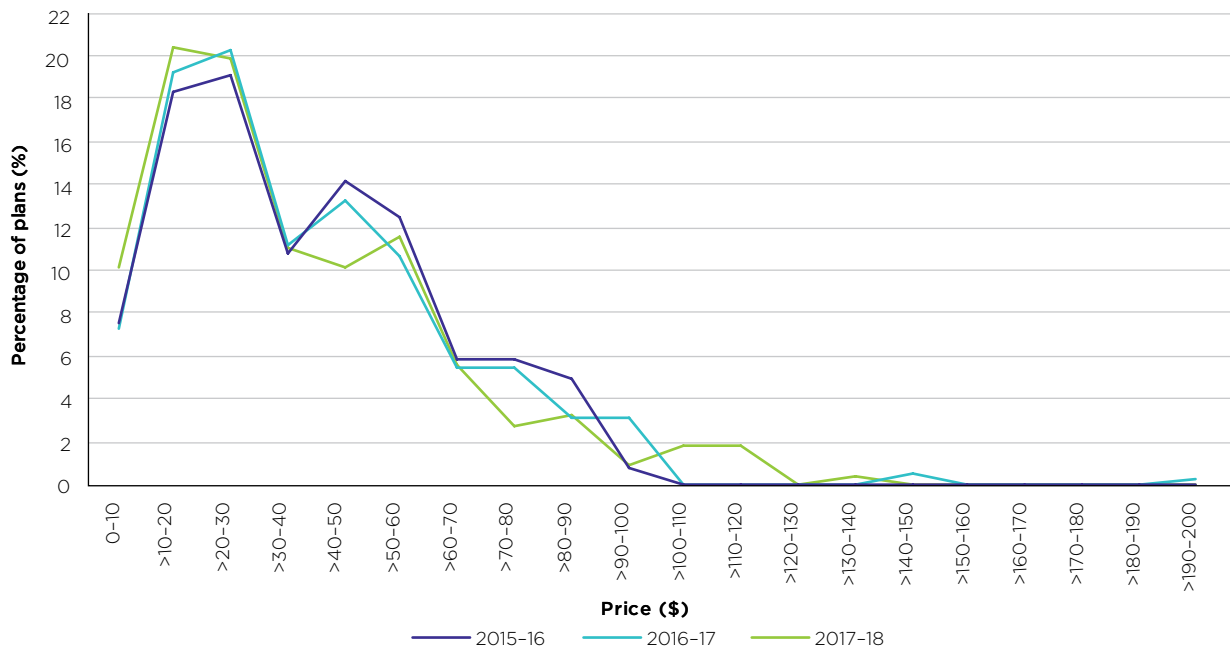
The range of mobile broadband plans by price narrowed in 2017-18 with all plans in the market falling between \$5 and \$95, compared to plans that were up to \$135 in previous years. The majority (74 per cent) of mobile broadband plans have been concentrated in the \$10-\$60 range over the last three years (figure 2.35).

The average data allowance increased across most price points, between 2016-17 and 2017-18 (figure 2.36). The \$70-\$80 price range, for instance, experienced an average data allowance increase of approximately 27 GB.

Analysis of mobile broadband plans suggests that with price and contract length held constant, average data allowances increased by approximately 33 per cent between 2016-17 and 2017-18, and 25 per cent between 2013-14 and 2017-18.²³

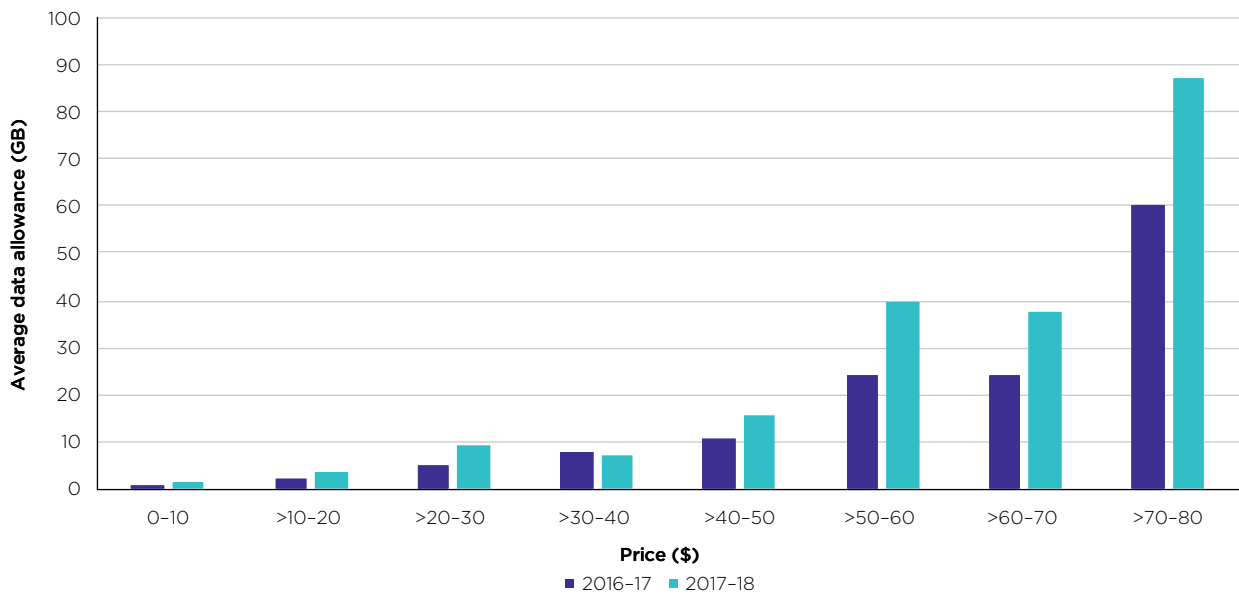
²³ Based on analysis of publicly available plans collected by the ACCC.

Figure 2.35: Percentage of mobile broadband plans at each price point



Source: ACCC estimates based on information from RSP websites.

Figure 2.36: Average data allowance for mobile broadband plans at each price point



Source: ACCC estimates based on information from RSP websites.

Fixed voice services

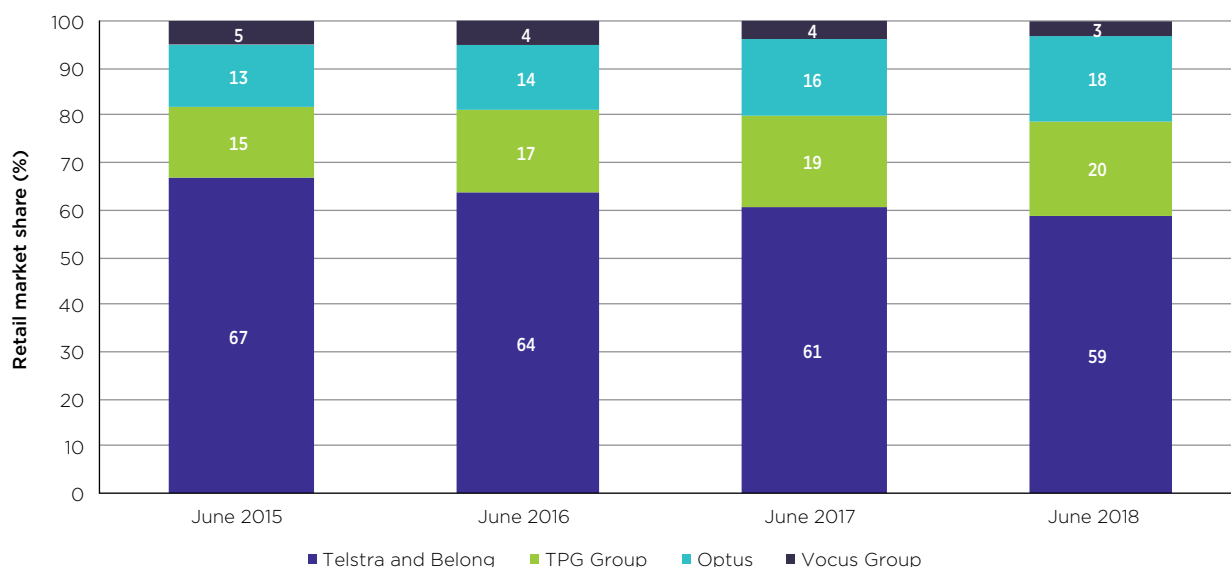
Fixed voice services are those provided over a dedicated access line on a fixed network and the provision of various calling options. These services include line rental and local, national and international calls and calls to mobiles. This category also includes voice over internet protocol (VoIP) services where they are provided in a similar manner to traditional fixed voice services (i.e. by supplying a handset and geographic telephone number), including over the NBN.

Market shares

The ACCC does not collect data on all providers of fixed voice services, hence it is not possible to provide a definitive picture of the shares of providers in this market. Figure 2.37 is based on data available from the four largest market participants only (Telstra, Optus and the TPG Group and Vocus Group RSPs), and hence presents a picture of the relative shares of these providers, rather than a representative picture of the entire market.

Telstra (including Belong) continues to have the largest market share in fixed voice services at the retail level. As at 30 June 2018 Telstra held 59 per cent of the market, followed by the TPG Group (20 per cent) and Optus (18 per cent). Over the past four years, however, Telstra has consistently lost market share while the TPG Group and Optus have slowly built their respective market shares.

Figure 2.37: Relative retail market share for fixed voice services



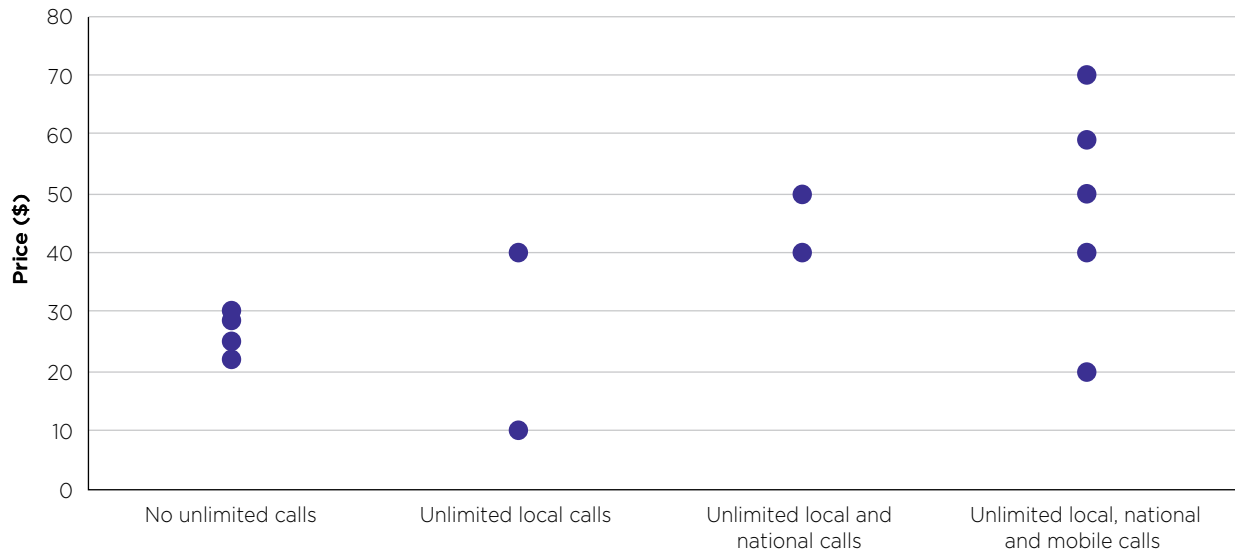
Source: Division 12 RKR data for all named carriers except the Vocus Group, whose figures are based on publicly available data.²⁴

Fixed voice pricing

Increasingly, standalone fixed voice plans include unlimited calls. This has reduced the importance of individual call tariffs for consumers in deciding what plan to choose. The range of standalone fixed voice services on offer varies according to the call inclusions. In 2017–18 fixed voice plans without any unlimited call inclusions were priced between \$20 and \$30, while fixed voice plans with unlimited local, national and mobile calls ranged from \$20 to \$70 (figure 2.38).

²⁴ Due to rounding, figures may not add up to 100 per cent.

Figure 2.38: Standalone fixed voice service plans



Source: ACCC estimates based on information from RSP websites.

Given the declining importance of fixed voice services generally, the ACCC has not developed a price index for fixed voice services. Instead, we have focused on service bundles that include fixed voice services in combination with broadband services. Further analysis of broadband services can be found in section 2.2.

2.3 Consumer trends and related issues

Consumer trends

Consumers continue to favour mobile over fixed voice services

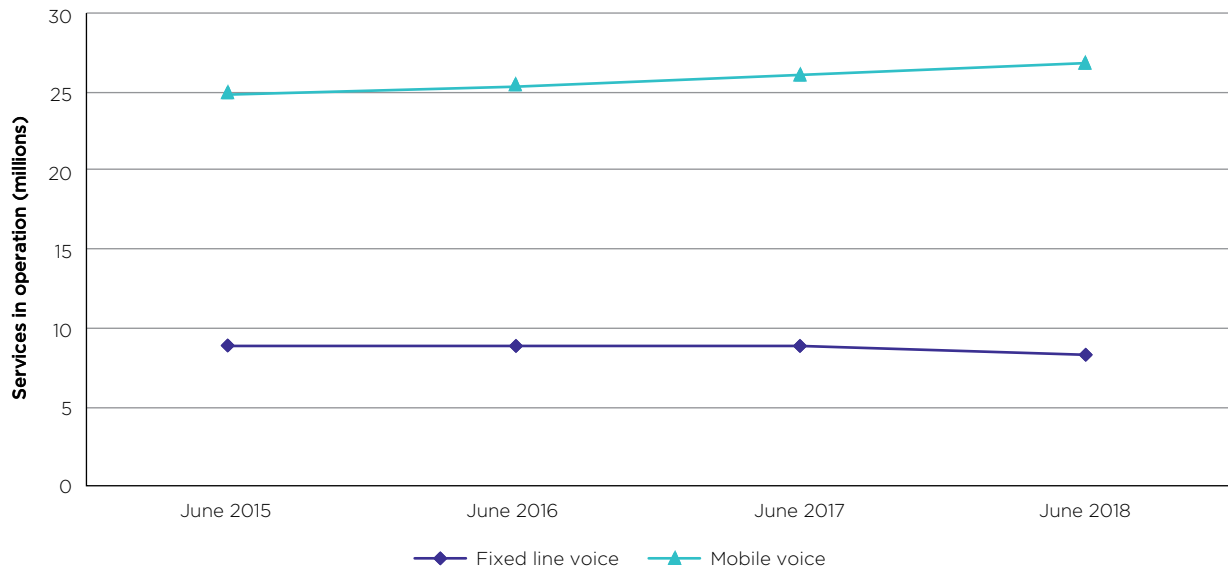
In 2017–18 the number of mobile phone voice SIOs continued to rise, from 26 million to 26.8 million.²⁵ In contrast, the number of fixed line SIOs fell from 8.8 million to 8.3 million over the same period.²⁶ While the total voice call minutes of fixed line originating calls continued to decline, the number of mobile originating voice call minutes remained steady. As a result, the total voice call minutes declined for the first time, from 82 billion to 78 billion.²⁷

²⁵ ACCC Division 12 RKR, available at <https://www.accc.gov.au/regulated-infrastructure/communications/monitoring-reporting/division-12-record-keeping-rule>.

²⁶ *ibid.*

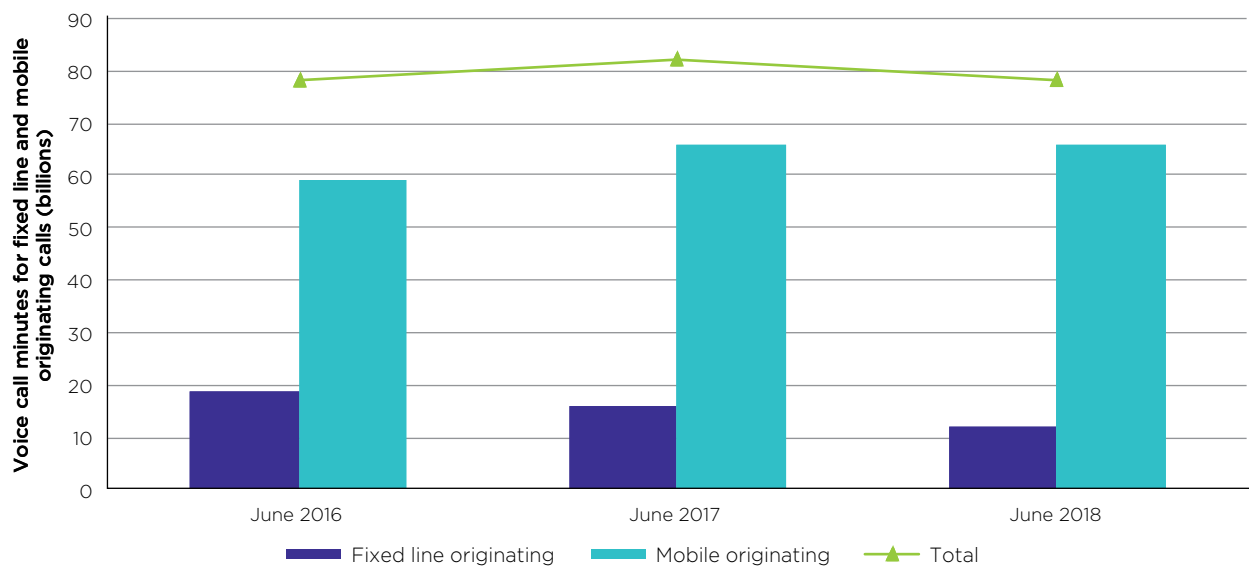
²⁷ *ibid.*

Figure 2.39: Comparison of mobile and fixed SIOs



Source: ACCC Division 12 RKR and ACMA Communication Reports.

Figure 2.40: Comparison of mobile and landline telephone usage



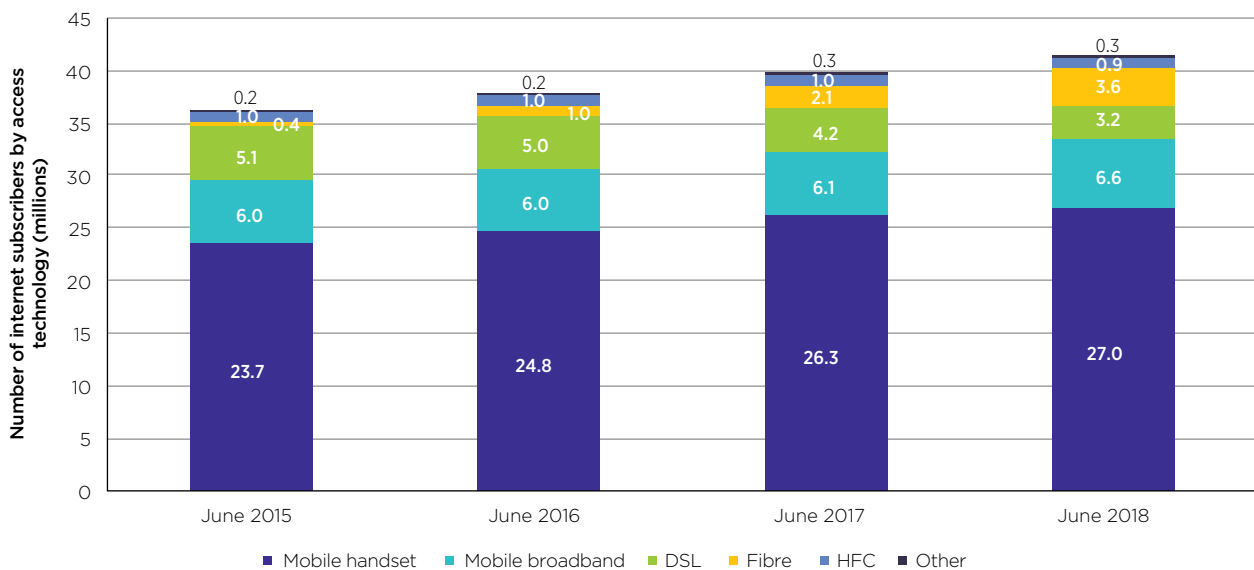
Source: ACCC Division 12 RKR data.

Mobile handsets remain the most common way to access the internet

The number of internet services continued to grow during the year, reaching a total of 41.7 million services as at 30 June 2018. Of all of the technologies available for access to the internet, mobile phone handsets continue to be the most prevalent by a large margin, at 27 million, of all internet services. Outside of mobile handsets and mobile broadband services there has been a sharp growth in fibre technology services reaching over 3.6 million services as at 30 June 2018. The number of DSL technology services continues to drop, from 4.2 million last year to 3.2 million services this year. This reflects the rollout of the NBN's fixed access technologies with subscriptions more than doubling over the year.²⁸ This is more visible when access technologies of mobile handsets and mobile broadband are excluded. The rate of decline of the number of ADSL services is likely to increase rapidly in future years as the NBN rollout continues.

These developments are illustrated in figures 2.41, 2.42 and 2.43.

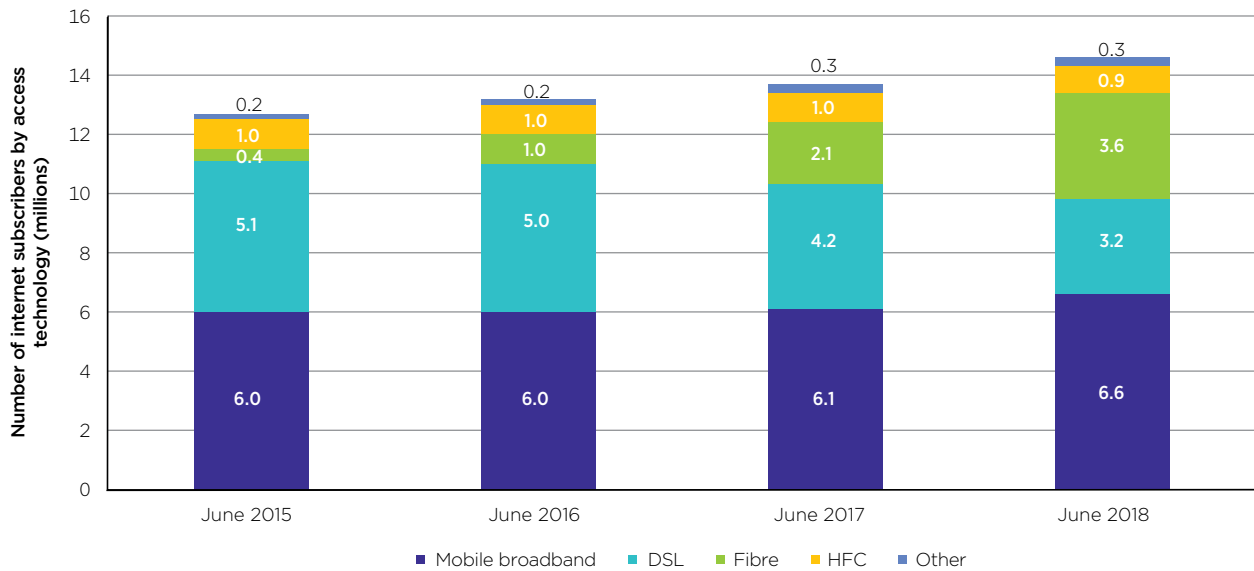
Figure 2.41: Internet subscribers by access technology



Source: ABS Internet Activity Australia (8153.0). Reflecting its diminishing use, ABS ceased collecting data on dial-up connections as of the June 2016 survey.

²⁸ NBN Co, National broadband network—rollout information, 5 October 2017, viewed 12 October 2018 <https://www.nbnco.com.au/content/dam/nbnco2/documents/nbn-rollout-metrics/nbn-rollout-metrics-05102017.pdf>.

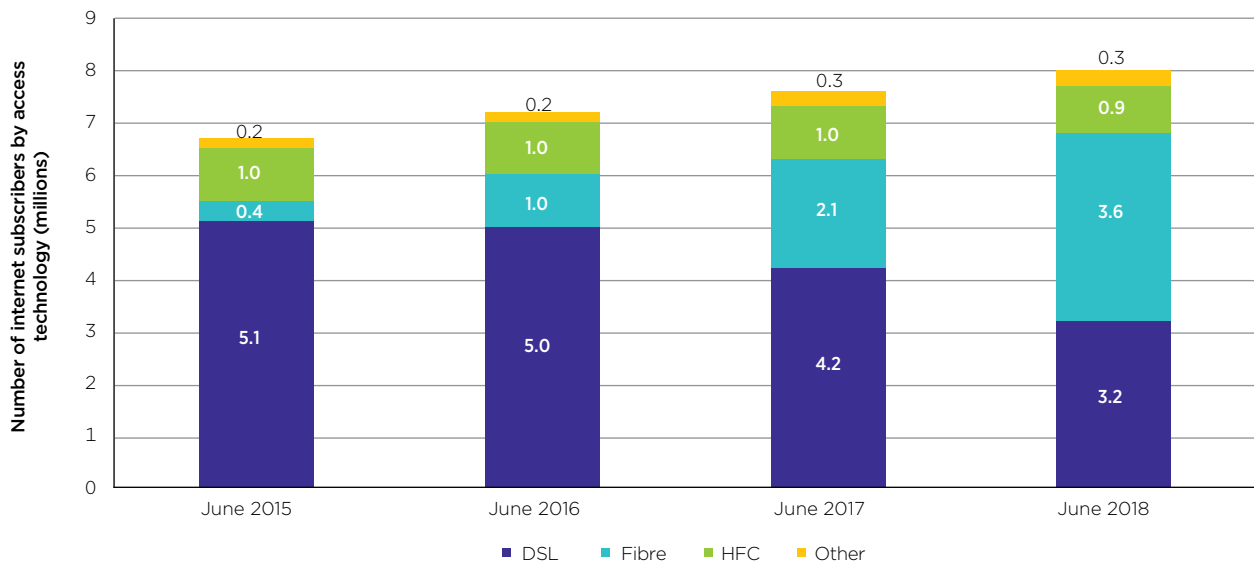
Figure 2.42: Internet subscribers by access technology (excluding mobile handsets)



Source: ABS Internet Activity Australia (8153.0).

Note: 'Other' category includes satellite and fixed wireless services.

Figure 2.43: Internet subscribers by access technology (fixed access technologies)



Source: ABS Internet Activity Australia (8153.0).

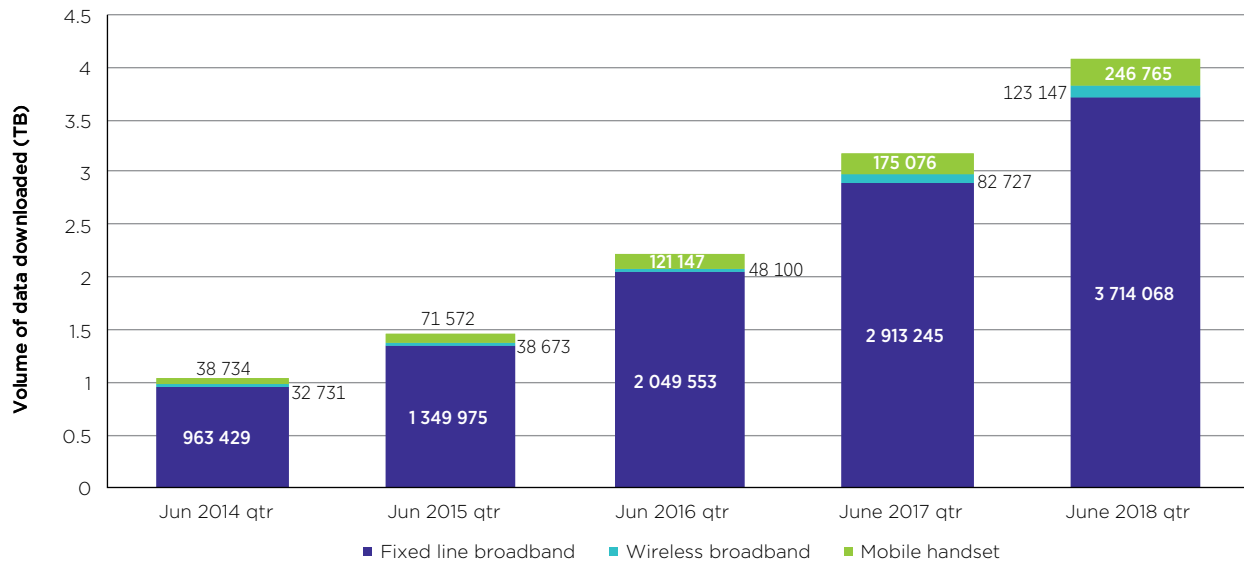
Continuing growth in data downloads

Data downloads continue to grow across all access technologies. The total volume downloaded increased from 3 171 048 terabytes (TB) in the three months ended 30 June 2017 to 4 083 980 TB in the three months ended 30 June 2018, an increase of 29 per cent. Although this is a lesser rate of increase compared to the previous year where there was a 43 per cent increase, the continued growth in data downloads is likely a result of the increased use of content streaming services, social media and other applications that increasingly incorporate content-rich and video components.

Each access technology experienced significant increases in data downloads. Data volumes downloaded via wireless broadband increased by 49 per cent (down from 72 per cent last year), while volumes over fixed broadband technologies rose by 27 per cent (down from 42 per cent last year). The volume of data downloaded via mobile handsets was up 41 per cent during the year, although this was smaller than the 45 per cent increase the previous year. While growth in data downloads for fixed

broadband was slower than wireless broadband and mobile phone handsets, fixed access technologies continue to account for around 91 per cent of all data downloaded.²⁹ This is reflected in figure 2.44.

Figure 2.44: Volume of data downloaded by access technology



Source: ABS, *Internet activity, Australia* (8153.0).

Telecommunications complaints

Complaints to the TIO

The Telecommunications Industry Ombudsman (TIO) provides a dispute resolution service for telecommunications disputes between service operators and customers including small businesses.

In 2017–18 the TIO received 167 831 complaints, largely from residential customers (comprising close to 88 per cent of all complaints received; the remainder were from small businesses). The number of complaints increased by 6.2 per cent compared to the previous year. This year's numbers mark the second consecutive year of increases in telecommunications complaints, following a decline over the previous four years (figure 2.45). Nonetheless, the rate of increase in consumer complaints is a reduction from the previous year, when it reported a 41 per cent increase in 2016–17 against 2015–16. Notably, the TIO reports that complaints overall dropped by 17.8 per cent in the last quarter of 2017–18, which it said was a 'positive indicator of recent industry, government and regulator efforts to address the disruption to telecommunications products and services of the past few years'.³⁰

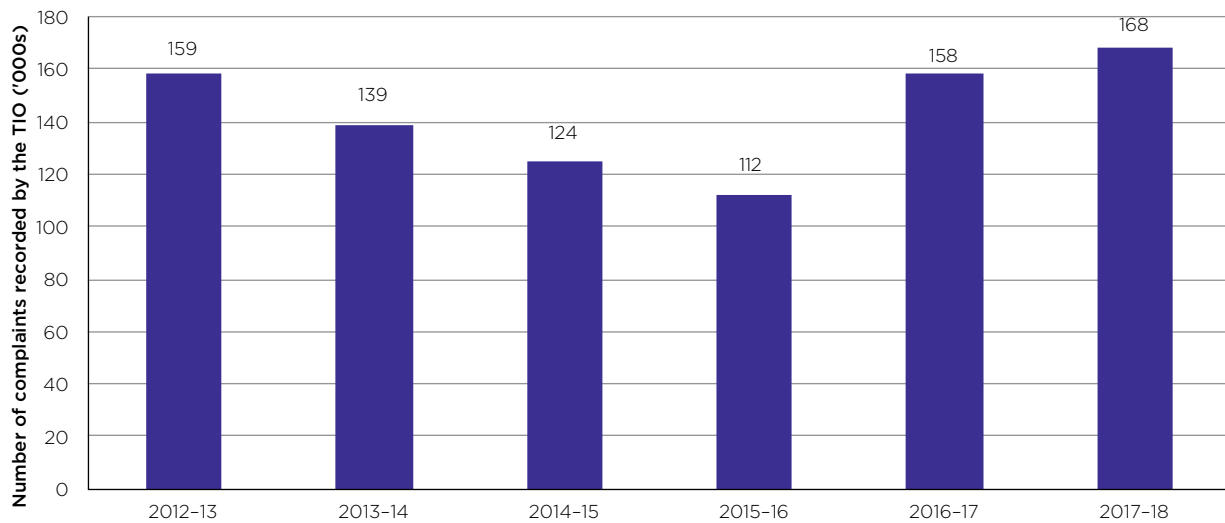
The top complaints to the TIO include: no action or delayed action by a service provider to resolve phone or internet issues (34.1 per cent); disputed charges for service or equipment fees (25.5 per cent); delays connecting to or changing service providers (12.8 per cent); no service at all (12.5 per cent); and service drop outs or discontinuity (10.1 per cent).

²⁹ ABS, 2017, Cat. no. 8153.0, *Internet activity, Australia*, June 2018, <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8153.0>.

³⁰ TIO, *Phone and internet complaints turning a corner*, 17 October 2018, viewed 23 October 2018, <https://www.tio.com.au/publications/media/phone-and-internet-complaints-turning-a-corner>.

Figure 2.45 shows the number of complaints received by the TIO over the past six years.

Figure 2.45: Number of complaints received by the TIO



Source: TIO Annual Report 2017-18.

The highest number of complaints remain in relation to mobile services at 51 328 complaints, representing over 30 per cent of total complaints during the year. This is closely followed by multiple services (29.7 per cent) and internet services (27.8 per cent).³¹ The multiple services category was introduced to record a complaint which involves more than one type of service (for example, a complaint about a delay connecting both a landline and internet service).³² While mobile services represent the highest proportion of complaints, they represent the majority of services in operation at 26.8 million. Key complaints about mobile services include poor mobile phone coverage, excess data charges and misleading conduct making a contract.³³

Table 2.5: Complaints to the TIO by service type in 2017-18³⁴

Type of service	Percentage of complaints
Mobile	30.6
Internet	27.8
Landline	11.2
Multiple services	29.7
Property related	0.7

³¹ The TIO has introduced two new categories to record complaints; multiple services to record a complaint which involves more than one type of service; and property services to record a complaint involving access or damage to property.

³² TIO, *Telecommunications industry ombudsman annual report 2018*, 17 October 2018, p. 32.

³³ *ibid.*, p. 27, pp. 36-37.

³⁴ *ibid.*

NBN complaints

Of the total number of complaints received by the TIO in 2017–18, 25 047 were in relation to a connection or changing provider. Of these, 58 per cent were about a service delivered over the NBN.³⁵ The complaints include delays establishing a connection, unauthorised transfers and problems with telephone numbers.

There were 57 289 complaints about service quality in 2017–18. Of these, 47 per cent were in relation to services delivered over the NBN. Service quality issues include complaints about lack of service, intermittent service or drop-outs, slow data speed and poor mobile phone coverage.³⁶

However, the TIO's data shows overall NBN related complaints are dropping on a per premises basis. For example, between 1 January to 30 June 2018 connection related complaints and service quality complaints decreased from 9.2 to 9.0 and from 4.1 to 3.2 complaints per 1000 premises added to the NBN, respectively. In addition, total complaints about service quality for services delivered over the NBN are now on a downward trend, reducing by 7 per cent between July–December 2017 to January–June 2018.³⁷ Over the same period, the number of NBN SIOs increased by 19 per cent.³⁸

Complaints to the ACCC

The ACCC accepts consumer complaints under the Australian Consumer Law (ACL) from consumers and small businesses about a wide range of issues. The ACCC does not resolve individuals' complaints but they are referred to agencies that are best placed to resolve them.³⁹ The ACCC, however, uses the information provided by complaints to assist in identifying matters for further investigation which may result in industry-wide application.

During 2017–18 the ACCC received 6203 communications industry related consumer complaints, a 41 per cent increase from the previous year. We have referred over 59 per cent of complaints received by the ACCC to other agencies, mainly to the TIO. Of the top 10 communications industry complaints, only one category i.e. false representations regarding price, showed a reduction in complaints numbers while all other categories are on the increase during the year (table 2.6). The ACCC's investigations regarding communications matters are discussed further in chapter 3.

35 TIO, *Telecommunications industry ombudsman annual report 2018*, 17 October 2018, p. 37.

36 *ibid.*, p. 38.

37 TIO, *Telecommunications industry ombudsman annual report 2018*, p. 38 at https://www.tio.com.au/__data/assets/pdf_file/0006/257325/Telecommunications-Industry-Ombudsman-Annual-Report-2018.pdf.

38 NBN Wholesale market indicators report at <https://www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-wholesale-market-indicators-report/reports>.

39 ACCC, Compliance and enforcement policy at <https://www.accc.gov.au/about-us/australian-competition-consumer-commission/compliance-enforcement-policy>.

Table 2.6: Communications industry-related complaints to the ACCC by industry type

Type of conduct	Number of complaints (2016–17)	Number of complaints (2017–18)
Section 18—Misleading or deceptive conduct	1831	3264
Section 54—Guarantee as to acceptable quality	1166	1809
Section 36—Wrongly accepting payment	227	600
Section 29(1)(b)—False representations regarding services	521	566
Section 60—Guarantee as to due care and skill	180	234
Section 29(1)(m)—False representations regarding exclusion or effect of any condition, warranty, guarantee, right or remedy	62	155
Section 40—Assertion of right to payment for unsolicited goods or services	70	143
Section 29(1)(i)—False representations regarding price	152	96
Section 29(1)(a)—False representations regarding goods	90	93
Section 61—Guarantees as to fitness for a particular purpose	59	90

Source: ACCC complaints data.

Complaints to the ACCC follow the same trend reported by the TIO. The likely factor for the increase in complaints remains issues regarding the NBN migration and connection process as well as the quality and the performance of services over the NBN not meeting expectations. The number of complaints to the ACCC regarding all of the key fixed and mobile providers has increased in 2017–18. The largest number of complaints during the year was against Telstra (1776) with an increase of 35 per cent, followed by Optus (1386) with an increase of 75 per cent. TPG Group and VHA also reported increase in complaints against them by 81 per cent and 13 per cent respectively.

Complaints made to the ACCC from consumers often increase following ACCC actions that raise consumer awareness of these issues. Elevated levels of complaints to the ACCC may reflect that the ACCC pursued some significant matters during the year, discussed further in section 3.5.

In summary, both the ACCC and the TIO data suggest that internet services and specifically NBN services remain key contributors to consumer dissatisfaction in the communications sector. Further discussion of the ACCC's involvement in addressing these issues is contained in section 3.5.

3. ACCC activities in communications

The ACCC performs specific roles under the CCA (Parts XIB and XIC) in relation to communications markets, as well as other activities related to the communications sector such as market studies, merger assessments, enforcement and compliance activities, and consumer protection activities. These activities are reported in the ACCC's periodical publications such as the quarterly *ACCCount* and the yearly *ACCC Annual Report*.⁴⁰

This chapter describes activities undertaken by the ACCC within the communications sector during 2017–18 in relation to:

- market studies
- access to telecommunications networks including the NBN
- structural separation of Telstra
- monitoring and reporting
- enforcement and compliance
- merger, authorisation and third line forcing
- advice, advocacy and contributions to policy processes.

3.1 Access to telecommunications networks

Part XIC of the CCA allows the ACCC to declare certain communications services where it is in the long-term interests of end users to do so. Once a service is declared, the ACCC can set regulated terms and conditions of access, including price. This is often done via an access determination although it may also be effected through a binding rule of conduct. There are currently 11 declared communications services, further details of which are set out in appendix 4.1.

In 2017–18 the ACCC concluded a major inquiry into whether a domestic mobile roaming service should be declared followed by a court case initiated by VHA that sought judicial review our draft decision not to declare a domestic mobile roaming service, which was subsequently dismissed by the Federal Court. The ACCC also commenced an inquiry to review the existing declaration of the domestic transmission capacity service (DTCS).

Domestic transmission capacity services declaration inquiry

The ACCC commenced a public inquiry on 5 March 2018 to review the declaration of the DTCS which refers to the transmission services we regulate.

The regulated transmission services are high capacity data links primarily used by RSPs to deliver telecommunications products and services. Transmission networks are critical for the supply of nearly all telecommunications services including residential broadband, business services and mobile services.

Among other things, the inquiry will examine:

- whether the existing DTCS service description captures the domestic transmission service that is currently being sold and acquired in the market
- whether the 2014 methodology to measure effective competition remains appropriate
- the impact of the NBN on the transmission market and on investment in, and use of, transmission infrastructure
- whether there are new products or services (such as those offered by NBN Co or over 5G networks) which could be substitutes to the DTCS
- whether transmission services used to deliver mobile services in regional Australia should be considered separately to other DTCS services.

⁴⁰ The *ACCC Annual Report* and quarterly *ACCCount* publication can be found on the ACCC website at <https://www.accc.gov.au/site-search/ACCC%20AER%20annual%20report> and at <https://www.accc.gov.au/publications/acccount>.

Submissions to the discussion paper closed on 13 April 2018 and the ACCC published a draft decision on 5 December 2018. The ACCC plans to release its final decision in the coming year.

Decision not to declare a mobile roaming service

The ACCC issued its decision not to declare a domestic mobile roaming service on 23 October 2017. The decision followed an extensive public inquiry into competition for mobile services, including a focus on competition in regional areas. The ACCC concluded that declaration would not lead to lower prices or better coverage or quality of services for consumers. Further, declaration could harm the interests of consumers by undermining the incentives of mobile operators to invest and compete with each other in regional areas.

The ACCC separately identified regulatory and policy measures to address inadequate mobile coverage in regional Australia. These included establishing better transparency about network coverage, quality and operators' investments; reducing the cost of deploying mobile infrastructure in regional areas; and ensuring that competition is properly taken into account in the spectrum management framework. The ACCC also proposed a review of the Facilities Access Code to identify barriers to co-location or infrastructure deployment, and a review of the ACCC's own Infrastructure RKR to improve the information available about mobile networks.

Court dismissed VHA application to review the ACCC's conduct

Following the ACCC's draft decision in May 2017 VHA sought judicial review of the ACCC's conduct in holding the inquiry. VHA sought orders to quash the (then) draft decision not to declare the service, and to restrain the ACCC from proceeding with the inquiry on the basis of the draft decision. The ACCC proceeded with the inquiry and on 21 December 2017 the Federal Court dismissed VHA's application.

Quarterly reporting of access agreements

Carriers or carriage service providers who supply declared services must lodge quarterly reports with the ACCC regarding all new, varied, cancelled and in-force access agreements for declared services.

The total number of companies that provided these reports remained constant in 2017-18 compared to 2016-17 with 18 companies reporting.

3.2 National Broadband Network

The *Telecommunications Act 1997* (Telecommunications Act) and Part XIC of CCA set out the legislative basis for access to NBN services. NBN Co's SAU which establishes principles for regulating access to the NBN until June 2040 is another key part of the framework. Appendix 4.2 provides further information on the ACCC's role in regulating the NBN.

In 2017-18 the ACCC made a decision to put on hold its assessment of a proposed variation to the NBN SAU. We commenced an inquiry into NBN wholesale service standards and also assessed NBN Co's revenue controls for the year.

NBN Co's special access undertaking variation

During the year NBN Co sought to vary its SAU, primarily to incorporate into it FTTN, FTTB and HFC technologies to reflect the multi-technology mix (MTM) NBN model adopted in 2014. The SAU sets out the key terms and conditions upon which NBN Co will supply its services to access seekers until 2040.

In June 2017 NBN Co withdrew its original proposed variation and lodged a revised version. The ACCC consulted on the proposal in August 2017, seeking submissions on the application of the SAU pricing framework to MTM services as well as other key changes.

On 9 October 2017 the ACCC announced it would not make a decision on a proposed variation to NBN Co's SAU until NBN Co had progressed consultation on its pricing model which NBN Co has now finalised. On 26 October 2018 NBN Co withdrew its variation application from the ACCC's assessment.

Inquiry into NBN service standards

The ACCC initiated an inquiry into whether NBN wholesale service standards are appropriate, and to consider whether regulation is necessary to improve customer experiences. Examination of non-price terms of access, particularly service standards, was a recommended action from the communications sector market study draft report.

Service standards are currently set out in agreements between NBN Co and its wholesale customers. The ACCC is examining whether these service levels are appropriate and effective or whether regulation is necessary to improve customer experience.

The ACCC released a discussion paper on 18 December 2017 considering the submissions. In conducting the inquiry the ACCC is closely liaising with the ACMA, which is also addressing NBN supply chain issues to determine how they affect outcomes at the retail level.

On 11 September 2018 the ACCC accepted a court enforceable undertaking from NBN Co to make changes to its wholesale service level commitments to support positive consumer experiences on the NBN. The ACCC's inquiry however is continuing with the aim of putting in place longer term arrangements, as the NBN rollout reaches final completion in 2020.

Determination on NBN revenue controls

Under the NBN Co SAU the ACCC must make annual determinations specifying the amount of revenue that NBN Co is allowed to earn for each financial year. In making its determination, the ACCC must review NBN Co's submission of regulatory information and decide whether NBN Co has complied with the relevant criteria set out in its SAU.

On 29 June 2018 the ACCC published its Final Determination for 2016–17, accepting the regulatory information submitted by NBN Co as complying with the requirements of the SAU.

Quarterly reports on the NBN wholesale market

We continued to report quarterly on NBN wholesale market indicators providing a detailed view of the size and structure of emerging NBN wholesale access markets as NBN services become more widely available. We have seen developments including an increase in competition as more access seekers have built sufficient scale to directly connect with the NBN at more POIs. Access seekers are also acquiring significantly more CVC to serve their customers following the introduction by NBN Co of its promotional 'Focus on 50' in December 2017.

In addition to obtaining services directly from NBN Co, RSPs have the option to obtain resell services offered by NBN access seekers. As our reports do not separately detail these services, they do not provide a comprehensive analysis on the structure of the NBN retail market.

3.3 Structural separation of Telstra

Telstra's compliance with its structural separation undertaking

Telstra's structural separation undertaking (SSU) implements the structural separation of Telstra through the migration of end users to the NBN. The SSU outlines how Telstra will progressively stop supplying telephone and broadband services over its copper and HFC networks and commence supplying these over the NBN.

To promote competition until the NBN is completed, the SSU contains interim equivalence and transparency measures, which require Telstra to supply regulated services to its wholesale customers and own retail business units on equivalent terms. These measures also require Telstra to identify and take steps to address any instance of non-equivalence. For further information on these frameworks and the ACCC's role, see appendixes 4.2 and 4.3.

Telstra's Migration Plan forms part of the SSU. The SSU and the Migration Plan together specifies Telstra's commitments to progressively migrate its fixed line voice and broadband customers onto the NBN and promote equivalence and transparency during the transition period.

During the 2017-18 period the ACCC approved two requests from Telstra to vary its Migration Plan and provided regulatory forbearance on four occasions in order to promote a better migration experience for end users.

Reporting obligations under the SSU

The SSU requires that the ACCC monitors and reports to the Minister each financial year on Telstra's compliance with its SSU obligations. The ACCC's report to the Minister for 2016-17 was tabled in Parliament on 9 May 2018 and was publicly released on 10 May 2018.

The ACCC's 2016-17 report notes that:

- Telstra continued to demonstrate a commitment to compliance with its SSU and Migration Plan
- there had been a reduction in the number of compliance matters reported by Telstra during the year compared to 2015-16
- the ACCC considered that Telstra's overall level of compliance had improved during the year and Telstra had acted responsibly to address breaches as they arose.

3.4 NBN migration activities

Telstra's variation to Migration Plan

Telstra's Migration Plan outlines the steps it will take to progressively migrate voice and broadband services from its existing copper and HFC networks to the NBN.

On 6 March 2018 the ACCC approved Telstra's proposed variation to its Migration Plan to enable FTTC as a new access technology for NBN connections. FTTC involves deploying fibre close to the end user's premises from which it uses existing copper lines to connect customers to the NBN, avoiding the need to dig new lead-in conduits to premises.

Telstra's variation to its Migration Plan also included changes to:

- amend the duration of the Order Stability Period (a period which allows Telstra time to clear pending orders before the process of permanently disconnecting existing services and connecting to the NBN commences)
- clarify the application of the Cease Sale restrictions to include all serviceable locations in multi-dwelling units.

Migration plan forbearance for ‘high security sites’

The ACCC approved a Telstra request for regulatory forbearance from its Migration Plan obligations on 7 September 2017. The request related to Commonwealth Government High Security sites, which because of their nature are posing difficulties for NBN connection. The regulatory forbearance aims to ensure that, where there are difficulties in making these sites serviceable, they can remain connected to existing services for a limited additional period.

Continuity of service to NBN

On 30 November 2017 the ACCC agreed to a request from Telstra for forbearance regarding cease sale obligations in the Migration Plan in relation to customers affected by NBN Co’s 27 November 2017 decision to delay connecting premises with NBN HFC.

On 30 May 2018 the ACCC agreed to a request from Telstra for additional forbearance in relation to its Migration Plan, including to:

- defer managed disconnection for HFC premises with disconnection dates between February and May 2018
- manage disconnection of premises within Service Continuity Regions (SCR) that remain non NBN-serviceable from three months before the SCR Disconnection Date.

On 12 June 2018 the ACCC approved Telstra’s request for regulatory forbearance to extend existing In-Train Order (ITO) arrangements for standard voice and broadband services which were due to expire on 30 June 2018.

On 26 October 2018 the ACCC approved a variation to the Migration Plan which included amendments to Telstra’s obligations relating to HFC services and ITO arrangements, for which it had previously received regulatory forbearance from the ACCC.

On 15 October 2018 Telstra advised the ACCC of a ‘Force Majeure Event’ under the Migration Plan. To the extent it is required to comply with the ACMA Telecommunications (Continuity of Service) Industry Standard 2018 (for example, to reconnect a legacy service to ensure a consumer is not left without a working service), Telstra will be complying with the Standard rather than the Migration Plan.⁴¹ Services will still be subject to the Migration Plan managed disconnection process at the end of the NBN switchover period.

3.5 Monitoring and reporting

Under s. 151BU of the *Competition and Consumer Act 2010* (the CCA), the ACCC has the power to make a RKR by written instrument and require that carriers and carriage service providers comply with it by providing certain information about their activities. The ACCC uses this information to monitor competition and market developments, and to inform regulatory decisions.

In 2017–18 the ACCC has reviewed a number of RKRs in response to the market developments in the sector. A summary of RKRs that were in operation as of 30 June 2018 is at appendix 4.4.

Reviews of record keeping rules

On 18 September 2017 the ACCC extended the NBN Services in Operation (SIO) RKR for a further three years until September 2020. This RKR requires NBN Co to report on the number of wholesale AVC services in operation and the amount of CVC capacity being acquired; and to provide relevant extracts for publication in the NBN wholesale market indicators report. In December 2017 we amended the RKR to require more detailed reporting of CVC information and, following consultation, the ACCC varied the related Disclosure Direction on 26 March 2018 to incorporate additional information to be included in the NBN wholesale market indicators report.

⁴¹ For more information see <https://www.acma.gov.au/theACMA/service-continuity-standard-your-obligations>.

To validate and assist in the reporting of the results of the ACCC's MBA program, the ACCC made a new Broadband performance monitoring and reporting RKR on 18 December 2017. The RKR requires NBN Co to report certain information quarterly to the ACCC to assist in validating and reporting of anonymised service information. The ACCC made minor amendments to the RKR to simplify its operation and update the reporting format in March 2018.

The ACCC also amended the Audit of Telecommunications Infrastructure Assets RKR to improve clarity and update the list of reporting parties on 19 December 2017.

The ACCC revoked the Regulatory Accounting Framework (RAF) RKR on 20 October 2017. This RKR had become redundant following changes in telecommunications markets and the availability of more recent RKR frameworks administered by the ACCC.

Review of digital broadcast radio instruments

Following a review commenced in March 2018, the ACCC on 23 May 2018 made two new digital broadcast radio facilities legislative instruments: the Digital Radio Multiplex Transmitter Licences (Decision-Making Criteria) Determination 2018 and the Digital Radio Multiplex Transmitter Licences Procedural Rules 2018. The earlier instruments were due to cease on 1 October 2018.

These instruments are designed to promote transparency in decision-making and to promote the expeditious and efficient exercise of the ACCC's functions and powers under Division 4B of Part 3.3 of the *Radiocommunications Act 1992*.

The new instruments are due to cease on 1 October 2028.

Tariff filing

Tariff filing refers to the provision by service providers to the ACCC of certain information about changes in prices. The ACCC has general telecommunications tariff filing powers and Telstra-specific tariff filing powers under Part XIB of the CCA.

During 2017-18 Telstra has fulfilled its tariff filing information requirements by providing the required information to the ACCC. This information is now also published on Telstra's retail website.

3.6 Enforcement and compliance activities

The ACCC uses a range of enforcement and compliance tools to encourage compliance with the ACL. These tools include litigation, infringement notices, enforceable undertakings and administrative resolutions. We also help the industry to comply with the law by providing industry guidance. We have addressed misleading speed claims and statements made during the transition to the NBN by releasing industry guidance and implemented a dedicated program to report on broadband performance. In addition, the ACCC has taken enforcement action in relation to unconscionable conduct and false or misleading representations made to consumers in the provision of broadband services.

Measuring Broadband Australia program

In 2017-18 the ACCC finalised appointment of a third party testing provider to measure and report to the ACCC on the performance of various providers, technologies, speed plans and geographical areas.

We released the first MBA report on 29 March 2018, which focused on the speeds and performance of NBN fixed line services against a baseline of ADSL services. The report found:

- NBN plans with maximum download speed of 25 Mbps (or above) significantly outperform ADSL services which on average are providing consumers with download speeds of 7.99 Mbps during the busy hours (7 pm to 11 pm).
- The four largest retail brands (iiNet Limited, Optus, Telstra and TPG) each typically deliver speeds between 80-90 per cent of their maximum plan speed during the busy hours.

- A long tail of poorer speed results reduced the overall average speeds in this report, in both evening busy hours and at other times. As a result, 5 per cent of services tested operated at less than 50 per cent of their maximum plan speeds.
- Overall, broadband speeds did not reduce by a material extent during the evening busy hours. This indicates that network capacity is typically meeting demand in peak usage periods (including on the fastest NBN products).

The first report involved testing 400 NBN and ADSL services supplied by over 10 internet service providers.

We issued the second and the third quarterly reports in July and November 2018 containing additional brands and performance perspectives. Both reports showed that most NBN fixed broadband customers continue to enjoy fast internet speeds, including during busy hours.⁴² Future quarterly reports will provide additional performance data about a broader range of NBN fixed line services and new perspectives.

Broadband speed claims industry guidance

On 21 August 2017 the ACCC published *Broadband Speed Claims Industry Guidance*⁴³ addressing problematic speed advertising practices by retailers. The guidance encourages retailers to move from advertising their services based on the maximum speeds that may be delivered during off-peak periods, to advertise the speeds consumers can typically expect to achieve during the busy evening period (7 pm–11 pm).

The ACCC noted a significant shift in retailers' marketing practices following the issuance of the guidance. We noted retailers comprising over 90 per cent share of the retail market are now advertising the typical busy period speed of their NBN plans. As a result, consumers are now able to more efficiently shop around and select the best internet services for their needs. The guidance has encouraged performance-based competition among retailers, enabling consumers to make clearer comparisons on product choices including speeds as well as price.

The ACCC commenced a review of the guidance in September 2018.

Consumer education initiatives

The ACCC provides information, tips and tools to help consumers understand their consumer rights under the ACL and to raise awareness about communications issues. The ACCC website also includes tips on choosing phone, internet and mobile plans, guidance on how to manage data usage and in-app purchases, and information on international mobile roaming.⁴⁴

Following the release of the broadband speeds advertising guidance in August 2017, the ACCC developed materials for consumers to explain the information that they will have access to if RSPs follow the ACCC's guidance.⁴⁵

3.7 Anti-competitive conduct

The ACCC investigates anti-competitive conduct under both the telecommunications specific provisions (Part XIB) and general anti-competitive conduct provisions (Part IV) of the CCA. The ACCC also has a role under the Telecommunications Act in relation to a number of provisions including those concerning the NBN, access to facilities and the numbering plan, as set out in appendix 4.3.

⁴² Reports are available on the ACCC website at <https://www.accc.gov.au/regulated-infrastructure/communications/monitoring-reporting/measuring-broadband-australia-program>.

⁴³ ACCC, *Broadband speed claims: Industry guidance*, available at <https://www.accc.gov.au/publications/broadband-speed-claims-industry-guidance>.

⁴⁴ The ACCC website containing this consumer information is available at <https://www.accc.gov.au/consumers/internet-phone>.

⁴⁵ See <https://www.accc.gov.au/consumers/national-broadband-network/broadband-speeds>.

In 2017-18 the ACCC investigated five allegations of potential contraventions of the CCA and of the Telecommunications Act specific to telecommunications markets. These included complaints of misuse of market power under the telecommunications-specific anti-competitive conduct provisions in Part XIB of the CCA.

Investigations under Australian Consumer Law

In 2017-18 the ACCC advanced 14 in-depth investigations in the communications sector under the ACL. Twelve of these investigations were underway at the start of the reporting period and eight ACL investigations were ongoing as at 30 June 2018.

Litigation

The ACCC takes legal action where, having regard to all the circumstances, we consider litigation is the most appropriate way to achieve our enforcement and compliance objectives. The ACCC is more likely to proceed to litigation in circumstances where the conduct is particularly egregious, where there is reason to be concerned about future behaviour and/or where the party involved is unwilling to provide a satisfactory resolution.

Optus's \$1.5 million penalties for misleading customers during NBN transition

Following the ACCC's enforcement action, the Federal Court imposed penalties of \$1.5 million on Optus Internet Pty Limited (Optus Internet) for misleading its customers about Optus' right to cancel its customers' services and the need for them to acquire NBN based services from Optus. The court also ordered injunctive relief, that Optus improve its complaints handling system and that it pay a contribution towards the ACCC's legal costs of the proceeding.

In making his decision on 22 May 2018, Justice Moshinsky noted 'the inaccuracy of the representations was readily avoidable and a corporation the size, status and resources of Optus Internet should have had compliance arrangements in place to prevent the contraventions at the outset. The fact that the conduct occurred, and then continued for some 18 months, points to a serious compliance failure'.

Telstra's \$10 million penalties for making false or misleading representations

On 26 April 2018 the Federal Court ordered penalties against Telstra of \$10 million for making false or misleading representations to customers in relation to its third-party billing service known as 'Premium Direct Billing' (PDB). The PDB service which Telstra operated during 2015-16 on mobile phone accounts had billed customers even if they accessed content (such as games and ringtones) unintentionally because of its default settings.

Telstra admitted that more than 100 000 customers may have been affected and has commenced offering refunds to these customers. By the end 2017-18 it had already provided refunds of at least \$5 million and as part of the resolution, Telstra ceased operating the PDB service entirely.

Infringement notices

The ACCC can issue an infringement notice where it has reasonable grounds to believe a person has contravened certain consumer protection laws. The payment of infringement notice penalties is not an admission of a contravention of the CCA or other consumer protection laws.

Australian Private Networks—One notice totalling \$12 600

The ACCC issued an infringement notice to Australian Private Networks, trading as Activ8me, in relation to allegations that it had made false or misleading representations that its internet services were endorsed or approved by the ACCC as being superior to those offered by other providers, when this was not the case. Activ8me paid the infringement notice and has since removed the representations from its websites.

Court enforceable undertakings

The ACCC also resolves alleged contraventions of the ACL by accepting court-enforceable undertakings under s. 87B of the CCA.

During 2017–18 financial year, the ACCC accepted court-enforceable undertakings from the largest RSPs in relation to claims about speeds available to consumers on their FTTN and FTTB broadband plans supplied over the NBN. Undertakings were accepted from eight RSPs between November 2017 and March 2018.⁴⁶ These undertakings included a range of remedies including contacting affected customers to advise them of the speeds they are able to achieve and offering them the ability to exit plans and receive refunds.

NBN Co's 'Focus on 50' CVC credit offer discrimination complaint

During 2017–18 the ACCC examined NBN Co's proposed CVC⁴⁷ discounts and raised concerns with NBN Co about the impact of the discounts on competition in the supply of retail broadband services over the NBN. The ACCC's examination followed a complaint received in November 2017, alleging that NBN Co's CVC pricing discounts under its proposed 'Focus on 50' CVC credit offer discriminated between access seekers.

As a result, NBN Co subsequently made modifications to the CVC price discounts for the final 'Focus on 50 credit offer' introduced in December 2017 that addressed the competition concerns.

3.8 Merger, authorisation and third line forcing reviews

This section outlines the ACCC's activities in relation to communications-related merger reviews, exclusive dealing notifications and authorisations under the CCA.

Mergers

The ACCC assesses the impact on competition of proposed and completed mergers and acquisitions under s. 50 of the CCA, which prohibits mergers and acquisitions that would have the effect, or be likely to have the effect, of substantially lessening competition.⁴⁸

During 2017–18 the ACCC assessed two communications-related mergers under the informal merger review process.

Merger of Foxtel and Fox Sports

The ACCC announced on 7 December 2017 that it did not oppose the proposed merger of Foxtel Management Pty Ltd (Foxtel) and Fox Sports. In general, the ACCC considered that the parties' commercial incentives and competitive constraints would be similar with or without the merger or the parties are not close competitors.

Foxtel (owned by Telstra and News Corporation with 50 per cent each) is the largest Australian subscription television service. Fox Sports (wholly owned by News Corporation) operates a number of 24/7 sports channels that are shown on Foxtel and in licenced venues. The merged Foxtel and Fox Sports have common ownership with News Corporation and Telstra holding 65 per cent and 35 per cent respectively. The transaction also involved the merged entity entering into a number of supply agreements with Telstra.

⁴⁶ Dodo Services Pty Ltd, M2 Commander Pty Ltd, Primus Telecommunications Pty Ltd, iiNet Limited, Internode Pty Ltd, TPG Internet Pty Ltd, Optus Internet Pty Ltd and Telstra Corporation Ltd.

⁴⁷ Connectivity Virtual Circuit (CVC) refers to network capacity on the NBN.

⁴⁸ More information on mergers is available from the ACCC's website at <http://registers.accc.gov.au/content/index.phtml/itemId/750991>.

Birketu Pty Ltd and Illyria Nominees Television Pty Limited—proposed joint bid for interests in Ten Network Holdings Limited

On 24 August 2017 the ACCC announced that it did not oppose the proposed joint bid by Birketu Pty Ltd (Birketu) and Illyria Nominees Television Pty Ltd (Illyria) to each acquire a 50 per cent interest in Ten Network Holdings Limited (Ten).

The ACCC took into account that Birketu and Illyria were each wholly owned entities of Bruce Gordon and Lachlan Murdoch, respectively. The ACCC considered that the proposed acquisition would lead to greater alignment of Ten's interests with Mr Gordon's interests in Win Corporation and Mr Murdoch's interests in Nova, News Corporation, Foxtel and Twenty First Century Fox. The ACCC also considered the potential for parties' interest in acquisition of broadcast rights for sporting events and potential for anti-competitive bundling for other types of content, reaching a view that Ten would not be likely to be able to foreclose other networks because different platforms have different preferences for content and other networks could partner with streaming services.

The transaction ultimately did not proceed as Ten was acquired by CBS Corporation.

TPG and VHA's proposed merger

On 24 September 2018 the ACCC commenced a public review of the proposed merger between TPG and VHA. The review is examining the likely competitive impacts of the merger on mobile services, where TPG is in the process of building its own network, and fixed broadband services, where VHA is a recent entrant. The ACCC is also considering the likely impact of the merger in the context of the potential convergence of mobile and fixed technologies in the future.

On 13 December 2018 the ACCC expressed preliminary concerns about the proposed merger and invited submissions on a statement of issues.

Media merger guidelines

The ACCC publishes guidelines to provide information on the analytical framework that it applies when reviewing mergers under s. 50 of the CCA. On 31 October 2017 the ACCC published media merger guidelines⁴⁹ providing guidance on its approach to assessing media mergers and outlining potential areas of focus for the ACCC when assessing mergers in the media sector.

These guidelines are timely for two reasons:

- There have been significant changes to the way media is delivered and consumed over the past decade and these changes are altering the nature of competition in media markets. Technology is rapidly changing the ways in which consumers can access content and facilitating increasing convergence between old and new media.
- In 2017 the Australian Government introduced changes to Australia's media control and ownership laws under the *Broadcasting Services Act 1992* (Cth). These changes create the potential for new merger proposals in the Australian media sector, all of which would be subject to s. 50 of the CCA.

Authorisation applications

Under the ACCC's authorisation and notification review function, we also review and make decisions about applications for authorisation and/or notification for arrangements or conduct (including proposed mergers) that may otherwise breach the competition laws. We do this primarily by evaluating whether the arrangements or conduct are likely to result in a net public benefit. With the revisions to the CCA which came into effect on 6 November 2017, we may now also grant authorisation for certain forms of conduct if we are satisfied that no substantial lessening of competition is likely.

In 2017-18 the ACCC did not receive any communications-related authorisation applications.

⁴⁹ ACCC, *Media merger guidelines 2017*, 31 October 2017, available at <https://www.accc.gov.au/publications/media-merger-guidelines-2017>.

Exclusive dealing notifications

Notification is an alternative to authorisation for certain arrangements such as exclusive dealing. Like authorisation, the notification process provides protection from legal action under the CCA if the conduct is in the public interest. The November 2017 revisions to the CCA resulted in third line forcing (a particular form of exclusive dealing) no longer being a *per se* breach of the CCA and parties need only notify the ACCC if such conduct is at risk of substantially lessening competition. Following this development, the ACCC did not receive any notifications of exclusive dealing involving participants in the communications industry.

From 2017–18 the ACCC received, and did not object to, a number of third line forcing notifications involving participants in the communications industry, including:

- In July 2017 Converged Communications Pty Ltd proposed to offer a range of telecommunications products and services to business customers on condition they acquired telecommunications services and related goods and services from Telstra.⁵⁰
- In July 2017 Stan Entertainment Pty Ltd proposed to provide eligible customers of American Express Australia Ltd with discounted access to subscription video on-demand services in the Stan Standard package or Stan Premium package for three months.⁵¹
- In August 2017 Foxtel proposed to offer discounted subscriptions for its Foxtel Now streaming service on condition that a customer acquired certain telecommunications plans from Telstra.⁵²
- In August 2017 Oz Communications Solutions Pty Ltd proposed to offer products to business customers on condition that the customer acquired telecommunication services and products or service plans from Telstra.⁵³
- In November 2017 Foxtel proposed to offer its commercial customers discounted 'Foxtel for Business' subscriptions on condition that the customer acquired certain electrical goods or services from Rexel Holdings Australia Pty Ltd.⁵⁴

3.9 Advice, advocacy and contributions to policy processes

The ACCC provides advice to government on certain communications matters and contributes views to policy and law reform processes affecting the sector. During the year, the ACCC completed its communications sector market study and provided advice to the Minister on spectrum allocation and also participated in a number of policy processes concerning the communications sector.

ACCC communications sector market study

The ACCC released its final report on the communications sector market study on 5 April 2018.⁵⁵ The market study set out 28 recommendations and actions that covered a wide range of competition and consumer issues in the Australian communications sector. The study took a five-year horizon in examining developments including:

- progress in the transition of the sector to a new structure with the rollout of the NBN
- network competition (between fixed and mobile networks) with the upcoming deployment of 5G technologies

50 Converged Communications Pty Ltd—Notification—N99769—<https://www.accc.gov.au/public-registers/authorisations-and-notifications-registers/exclusive-dealing-notifications-register/converged-communications-pty-ltd-notification-n99769>.

51 Stan Entertainment Pty Limited—Notification—N99746—<https://www.accc.gov.au/public-registers/authorisations-and-notifications-registers/exclusive-dealing-notifications-register/stan-entertainment-pty-limited-notification-n99746>.

52 Foxtel Management Pty Ltd—Notification—N99829—<https://www.accc.gov.au/public-registers/authorisations-and-notifications-registers/exclusive-dealing-notifications-register/foxtel-management-pty-ltd-notification-n99829>.

53 Oz Communication Solutions Pty Ltd—Notification—N99825—<https://www.accc.gov.au/public-registers/authorisations-and-notifications-registers/exclusive-dealing-notifications-register/oz-communication-solutions-pty-ltd-notification-n99825>.

54 Foxtel Management Pty Ltd—Notification—N100025 at <https://www.accc.gov.au/public-registers/authorisations-and-notifications-registers/exclusive-dealing-notifications-register/foxtel-management-pty-ltd-notification-n100025>.

55 ACCC, *Communications sector market study final report*, 5 April 2018, available at <https://www.accc.gov.au/publications/communications-sector-market-study-final-report>.

- emerging services such as the Internet of Things
- the impact of OTT services.

We undertook the market study to deepen our understanding of developments in the Australian communications sector so that we are well placed to continue to address instances of market failure, promote competition and benefit consumers into the future. The process took around two years and the ACCC facilitated a number of consultation activities to seek the views of stakeholders.

Overall, the market study found that the current regulatory framework remains fit for purpose in addressing current and emerging issues and ensuring that the long term benefits of competition are realised.

However, we also found that there are a number of policy issues that will be relevant in continuing to support competitive outcomes in the future. In particular, we expressed support for establishing structural arrangements that would further promote competition ahead of any privatisation of the NBN.

We found that there is strong price competition between the major service providers despite considerable concentration in both fixed and mobile retail markets.

A number of positive developments occurred around the time we published the draft report in October 2017. These include positive industry take up of the ACCC's broadband speed advertising guidance, the publication of the ACCC's first Measuring Broadband Australia report on typical busy period broadband speeds, and NBN Co's announcement that it would undertake a review of its pricing structure. The ACCC also commenced an inquiry in to NBN's wholesale service standards on 2 November 2017.

In December 2017 NBN Co introduced promotional pricing for its 50 and 100 Mbps products and began consulting on longer-term pricing and product changes, which go some way towards addressing industry concerns over NBN pricing.

The ACCC commenced a number of actions identified in the final report during the reporting year and they are at various stages of progress.

Regional mobile issues forum

The ACCC hosted a forum with regional, industry and government groups to discuss measures to address issues with mobile services affecting regional consumers on 28 February 2018. The forum was held as a follow up to the ACCC's decision in October 2017 not to declare a domestic mobile roaming service and to further explore the issues raised during the roaming inquiry with relevant stakeholders.

During the declaration inquiry, the ACCC highlighted the need for further measures to address regional mobile issues.

The forum brought together mobile network operators, industry groups, NBN Co, officials from Commonwealth and state and territory governments, and regional and consumer representative groups with the aim of developing a collaborative approach to addressing these issues.

The ACCC made progress on these issues during the reporting year, writing to MNOs and the Australian Mobile Telecommunications Association, and commencing the review of the DTCS declaration. The review of the Facilities Access Code commenced in August 2018.

The ACCC provides updates and reports on progress on these measures.⁵⁶

⁵⁶ The reports are available at <https://www.accc.gov.au/regulated-infrastructure/communications/mobile-services/regional-mobile-issues>.

Advice on spectrum allocation and competition limits

Spectrum management is an area where the ACCC has been particularly active in engaging and collaborating with other government agencies, such as the Department of Communications and the Arts (DoCA) and the ACMA. The ACCC considers that spectrum is a critical input to the provision of wireless services in downstream markets and is interested in ensuring such markets are competitive. However the ACCC's role in the current spectrum management framework is limited, only providing advice on appropriate allocation limits to the Minister for Communications and the Arts when asked.

During 2017–18 we have provided our views on spectrum management on several occasions as follows:

- A submission to the DoCA's consultation on a proposed Radiocommunications Bill—July 2017.
- The ACCC Chair gave a keynote speech at the ACMA's RadComms Conference, in which he emphasised the ACCC's interest in spectrum allocation due to its impact on competition—November 2017.
- A submission to the ACMA's Five-Year Spectrum Outlook consultation process to highlight the vitality of taking into account potential competition implications in the process of planning future spectrum allocations—June 2018.⁵⁷

Advice on competition limits

As noted above, under the *Radiocommunications Act 1992*, the ACMA may impose allocation limits restricting the amount of spectrum anyone, a specified person or a group of specified persons may acquire as a result of an allocation of spectrum licences, if directed by the Minister. The Minister may seek the ACCC's advice when directing the ACMA on whether and what allocation limits should be imposed however the competition limits that are ultimately imposed is a matter for the Minister.

On 14 August 2017 the ACCC provided advice to the Minister on the auction of unsold spectrum of 1800 megahertz (MHz), 2 GHz, 2.3 GHz and 3.4 GHz bands. Following a targeted consultation, we recommended that no allocation limits be placed on the 2 GHz, 2.3 GHz and 3.4 GHz bands. We also recommended the retention of the current allocation limit for spectrum in the 1800 MHz band. The Minister accepted and implemented the ACCC's advice.

On 4 May 2018 the ACCC provided advice to the Minister in response to his request on whether allocation limits should apply for an auction of 125 MHz of spectrum in the 3.6 GHz band in metropolitan and regional areas of Australia. This spectrum represents the first band harmonised for 5G technology in Australia. Following targeted industry consultation, we recommended that limits of 45 MHz apply in Sydney and Melbourne and 60 MHz elsewhere, across the 3.4–3.7 GHz band. Our reasons were to:

- prevent NBN Co from trying to acquire spectrum that could be used by the MNOs to provide 5G wireless services in competition with broadband services over the NBN
- ensure that no one operator has a 5G first mover advantage
- ensure that the new MNO entrant has an opportunity to acquire sufficient spectrum to compete with the incumbents.

The Minister did not accept the ACCC's advice instead imposing limits of 60 MHz in metropolitan areas and 80 MHz in regional areas.

Submissions to policy processes

During the year, the ACCC contributed to policy processes examining consumer issues in communications markets and participated in several working committees.

The ACCC made submissions to two ACMA consultations on proposed measures to improve consumer experience in migrating to and using the NBN. These measures included rules on NBN RSPs relating to:

- the handling of consumer complaints about their NBN services

⁵⁷ The ACCC submission is available at <https://www.acma.gov.au/-/media/Spectrum-Review-Implementation-Taskforce/Issue-for-comment/IFC-12-2018/ACCC---FYSO-submission-pdf.pdf>.

- consumer information in marketing their NBN broadband plans
- service continuity and line testing.

The ACCC's submissions supported the objectives of the new rules in addressing some of the key issues and market failures experienced by consumers migrating to the NBN. In addition, the submissions proposed that additional NBN access technologies be subject to the rules and made a number of suggestions to assist with their implementation.⁵⁸ The rules were finalised and brought into effect in July 2018.⁵⁹

In August and September 2018 the ACCC made submissions to a number of key reviews including the:

- Telecommunications Consumer Protection Code review
- Regional Telecommunications Review 2018
- Consumer Safeguards Review, and
- Review of the International Mobile Roaming Standard 2018.

The ACCC has continued to participate as an observer on the Telecommunications Consumer Protection (TCP) Code review and attended a number of working group meetings on key issues addressed under the TCP Code.

The ACCC also continues to be an observer on Communications Alliance working groups set up to consider NBN migration issues, including:

- VDSL2 and Vectoring Working Committee, and
- NBN FTTN/B/C and HFC Migration Processes Working Committee.

Digital platforms inquiry

On 4 December 2017 the Australian Government directed the ACCC to conduct an inquiry into the impact of digital search engines, social media platforms and other digital content aggregation platforms on the state of competition in media and advertising services markets. In particular, the inquiry requires the ACCC to examine the impact of digital platforms on the supply of news and journalistic content and the implications of this for media content creators, advertisers and consumers.

On 26 February 2018 the ACCC released an issues paper seeking submissions to inform the inquiry. The ACCC received over 60 submissions from interested parties. The submissions canvassed a wide range of issues, including the degree of market power held by the digital platforms, the digital advertising supply chain and the use of news content by digital platforms. They also detailed the impact of digital platforms on the quality and choice of news in Australia and the extent to which consumers are aware of how their data is collected and used. The public versions of submissions to the inquiry, including responses to an online consumer questionnaire are available on the ACCC website.

The ACCC is continuing to have significant engagement with a range of interested parties including various platforms, media businesses, consumer representative bodies and other government agencies advertisers, journalists, consumers, small businesses and academics to inform the inquiry. As part of this engagement, in the first half of 2018 the ACCC held a public forum for consumers and a public forum for businesses that advertise using digital platforms. A public forum for journalists was held in August 2018. Summaries of the public forums are published on the ACCC's website.

The ACCC published its preliminary report on 10 December 2018 and must provide its final report to the Treasurer by 3 June 2019.

⁵⁸ Information on consultation is available at <https://www.acma.gov.au/theACMA/nbn-migration-complaints-handling-rules> and <https://www.acma.gov.au/theACMA/nbn-rules-consumer-information-service-continuity>.

⁵⁹ The ACMA rules are available at <https://www.acma.gov.au/theACMA/acma-finalises-new-telco-rules-for-nbn-migration>.

4. Appendixes

Appendix 4.1: Access to telecommunications services

Declared services

Under Part XIC of the *Competition and Consumer Act 2010* (the CCA), a carriage service, or service that facilitates the supply of a carriage service, can be declared. Once a service is declared, an access seeker can then obtain access to that service. There is no general right of access without declaration. A telecommunications service can be declared if:

- the ACCC declares a service after holding a public inquiry
- the ACCC accepts a SAU for the service, or
- in the case of a service supplied by NBN Co—NBN Co publishes a standard form of access agreement (SFAA) relating to access to the service on its website.

Providers of declared services must comply with certain access obligations, including a requirement to supply the service on request and to provide interconnection or access to facilities.

There are currently 11 declared services under Part XIC (excluding NBN services). The table below describes each of these services.

Declared telecommunications services as of 30 June 2018

Service	Description	Duration
Wholesale asymmetric digital subscriber line (ADSL)	A point-to-point service that allows access seekers to provide a broadband ADSL internet service to a customer using Telstra's equipment.	14 February 2012 to 13 February 2022 ⁶⁰
Local carriage service (LCS)	A service that carries local telephone calls from one end user to another. Access seekers use the service to resell local calls.	1 August 2014 to 31 July 2019 ⁶¹
Fixed originating access service (FOAS)	Allows a customer of a retail service provider that does not have its own fixed line network to make a telephone call on another service provider's network (pre-selection and override). The FOAS does not include pre-selection and override services for telephone calls provided over the NBN.	1 August 2014 to 31 July 2019
Fixed terminating access service (FTAS)	Allows a customer who is provided a fixed line phone from one retail service provider to receive a call from a person using another service provider's network.	1 August 2014 to 31 July 2019
Wholesale line rental (WLR)	Allows an access seeker to rent an active copper line from an access provider and on-sell the rented line to customers. When bundled with other services (such as the LCS and FOAS pre-selection and override), WLR allows access seekers to provide customers with a fixed voice service package to make local, national, long-distance, international and fixed to mobile telephone calls.	1 August 2014 to 31 July 2019
Line sharing service (LSS)	A service for access to the non-voice frequency spectrum of unconditioned wire between a customer and a telephone exchange. It allows access seekers to provide broadband services to customers using their own equipment, if the customer has an active voice service.	1 August 2014 to 31 July 2019

⁶⁰ On 3 February 2017 the ACCC extended the operation of the declaration for another five years.

⁶¹ On 26 November 2018 the ACCC concluded a review of six fixed line services declarations (LCS, FOAS, FTAS, WLR, LSS and ULLS) by extending them for further five years. The ACCC decision is available at <https://www.accc.gov.au/regulated-infrastructure/communications/fixed-line-services-declaration-inquiry-2018/final-decision>.

Service	Description	Duration
Unconditioned local loop service (ULLS)	A service for access to the unconditioned wire between a customer and a telephone exchange. It allows an access seeker to provide voice and broadband services to customers using their own equipment.	1 August 2014 to 31 July 2019
Mobile terminating access service (MTAS)	A service provided by a mobile network operator to fixed line operators and other mobile network operators to connect and terminate a voice call or an SMS on its mobile network.	1 July 2014 to 30 June 2019 (under review)
Domestic transmission capacity service (DTCS)	A wholesale only point-to-point high capacity service used for the transmission of communications traffic (such as voice, data or video).	1 April 2014 to 31 March 2019 (under review)
Local bitstream access service (LBAS)	A point-to-point superfast carriage service used to carry communications in digital form between a point of interconnection and an end customer. It is a non-NBN fixed network service capable of offering download speeds of 25 Mbps or more that was built or extended more than 1 km since 1 January 2011 (unless exempted).	The declaration took effect on 13 April 2012. It does not expire.
Superfast broadband access service (SBAS)	A point-to-point superfast carriage service used to carry communications in digital form between a point of interconnection and an end customer. It is a non-NBN fixed network service capable of offering download speeds of 25 Mbps or more, or a Fibre Access Broadband service with maximum download speeds of 30 Mbps or 100 Mbps, that is not captured or exempted from the LBAS declaration (unless otherwise exempted from the SBAS declaration).	29 July 2016 to 28 July 2021

Access determinations

Under Part XIC of the CCA, parties are free to negotiate the terms and conditions of access to declared services. Where parties are unable to agree on the terms and conditions of access, an access seeker can rely on the regulated terms set by the ACCC in an access determination. An access determination contains a base set of price and non-price terms and conditions of access to a declared service.⁶² Where there are inconsistencies between a commercial agreement (access agreement) and an access determination, the terms and conditions in the access agreement will prevail over the regulated terms and conditions set by the ACCC. The ACCC must undertake a public consultation process (public inquiry) before making a final access determination (FAD).

Binding Rules of Conduct

The binding rules of conduct (BROC) are rules that specify the terms and conditions relating to compliance with the standard access obligations. Under s. 152BD of the CCA, the ACCC can, where it considers there is an urgent need to do so, make a BROC. BROCs can also specify the manner in which a carrier or carriage service provider must comply with any or all the standard access obligations. The maximum duration of a BROC is 12 months.

⁶² The ACCC maintains a register of access determinations under s. 152BCW which can be accessed at <http://registers.accc.gov.au/content/index.phtml/itemId/971651>.

Appendix 4.2: NBN and non-NBN superfast services regulatory frameworks

The ACCC has a number of responsibilities in the regulation of the NBN as well as the non-NBN superfast declared services such as SBAS and LBAS under Part XIC of the CCA. We have a role in determining the terms and conditions of access to services provided over the NBN, including through special access undertakings and access determinations. We also publish and maintain explanatory material about the non-discrimination obligations that apply to NBN Co.

Points of interconnection

An NBN POI is a physical location that allows retail service providers and wholesale service providers to connect to the NBN. In 2012 the ACCC published a list of POIs under s. 151DB of the CCA. This list is available on our website.⁶³

By the end of March 2018, all 121 POIs had at least five access seeker groups acquiring services directly from NBN Co. At least six groups were connected at 120 of the POIs, and 95 POIs had at least seven groups acquiring services.⁶⁴

Non-discrimination provisions

NBN Co and providers of layer 2 bitstream services over designated superfast telecommunications networks are subject to certain non-discrimination obligations. In general, these providers must not discriminate:

- between access seekers in complying with their standard access obligations
- between access seekers in the carrying out of activities related to the supply of declared services, and
- in favour of themselves in the supply of declared services.⁶⁵

The ACCC has a role in enforcing the non-discrimination provisions under both the CCA and the Telecommunications Act. The ACCC can seek orders from the Federal Court under s. 152BB(1AA) of Part XIC of the CCA.

Level playing field provisions

Non-NBN networks capable of supplying a superfast carriage service, wholly or principally to residential or small business customers, must not be used unless:

- a layer 2 bitstream service is available for supply, and
- services supplied on the network are supplied on a wholesale-only basis.

These provisions only apply to services supplied over superfast networks built, extended, altered or upgraded since 1 January 2011. The provisions do not apply to services provided over wireless, satellite or NBN networks. There are also a number of statutory and Ministerial exemptions from the level playing field provisions. The intent of these 'level playing field' provisions is to ensure that non-NBN networks capable of supplying a superfast carriage service operate on a similar basis to NBN networks.⁶⁶

⁶³ ACCC, *NBN Points of Interconnect POIs*, 13 December 2013, <https://www.accc.gov.au/publications/nbn-points-of-interconnection>.

⁶⁴ ACCC, *NBN Wholesale market indicators report 30 June 2018*, available at <https://www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/nbn-wholesale-market-indicators-report/previous-reports>.

⁶⁵ Sections 152ARA and 152AXC of the CCA.

⁶⁶ The level playing field provisions are set out in Parts 7 and 8 of the Telecommunications Act.

Appendix 4.3: Telstra's structural separation and other Telecommunications Act provisions

Telstra's structural separation undertaking

Telstra's SSU implements structural separation of Telstra through the migration of end users to the NBN. The SSU outlines how Telstra will progressively stop supplying telephone and broadband services over its copper and HFC networks and commence supplying these services over the NBN.

The SSU contains interim equivalence and transparency measures, which require Telstra to supply regulated services to its wholesale customers and own retail business units on equivalent terms. This is to promote competition until the NBN is completed. The measures also require Telstra to identify and take steps to address any instance of non-equivalence.

On 27 February 2012 the ACCC accepted Telstra's SSU. The SSU commenced on 6 March 2012.⁶⁷ The SSU contains four key elements:

- a commitment by Telstra to cease the supply of fixed line carriage services using telecommunications networks over which Telstra is in a position to exercise control from the Designated Day—which is expected to be the day on which the construction of the NBN will be concluded
- interim equivalence and transparency obligations regarding access to Telstra's regulated services in the period leading up to the Designated Day
- compliance monitoring processes, to provide the ACCC with transparency over Telstra's compliance with the SSU, and
- the Migration Plan⁶⁸, which forms part of the SSU. The Migration Plan sets out how Telstra will progressively transfer its fixed line customers onto the NBN.

Reporting obligations under the SSU

Telstra has reporting obligations under the SSU that require it to provide the ACCC with financial reports from the Telstra Economic Model (TEM).⁶⁹ The TEM is Telstra's internal financial reporting management system used in its day to day business, and it relies on the same financial accounts that Telstra uses for its public reporting.

The ACCC monitors and reports to the Minister for Communications and the Arts on Telstra's compliance with its SSU obligations each year.⁷⁰

The ACCC has noted that Telstra's SSU continues to deliver significantly better outcomes in terms of equivalence for wholesale customers and enhanced transparency regarding Telstra's compliance than were realised under the previous operational separation arrangements.

⁶⁷ Further information on Telstra's structural separation undertaking is available from the ACCC website at <https://www.accc.gov.au/regulated-infrastructure/communications/industry-reform/telstras-structural-separation-undertaking>.

⁶⁸ The information on Migration Plan and subsequent variations to the Migration Plan is available at <https://www.accc.gov.au/regulated-infrastructure/communications/industry-reform/telstras-migration-plan/telstras-migration-plan>.

⁶⁹ Clause 18 and schedule 9 of the SSU.

⁷⁰ ACCC issues an Annual Compliance Report under Telstra's SSU. The reports are available on the ACCC website at <https://www.accc.gov.au/publications/telstras-structuralseparation-undertaking>.

Migration Plan

The Migration Plan outlines how Telstra will progressively migrate voice and broadband services from its copper and HFC networks to the NBN as the new network is rolled out. On 27 February 2012 the ACCC approved Telstra's draft Migration Plan which commenced on 7 March 2012. Since then there has been a number of variations to the original Migration Plan.

Replacement required measures

Telstra's Migration Plan requires Telstra to develop, and provide to the ACCC, six 'required measures' that relate to the operating processes it will follow when disconnecting customers from its copper and HFC networks.

Other activities under the Telecommunications Act

Access to facilities

Under the Telecommunications Act access providers must give other communications providers access to certain telecommunications facilities for them to install their own equipment.

Access disputes

While the ACCC no longer has an arbitration role under the CCA, the ACCC continues to have a role arbitrating disputes under the Telecommunications Act about access to certain facilities, the provision of pre-selection and number portability, and where parties fail to agree on the appointment of an arbitrator. The ACCC has also made a code relating to access to certain telecommunications facilities under the Telecommunications Act.⁷¹ This is under review.

Numbering Plan

The ACCC is a member of the ACMA's Numbering Advisory Committee and actively engages with the ACMA about numbering issues. The ACMA is responsible for developing and administering a numbering plan, which may include rules about number portability. The numbering plan sets out the framework for the numbering of carriage services in Australia and the use of numbers in connection with the supply of these services.⁷²

Number portability

Number portability allows consumers to change their service provider and retain the same telephone number. The ACMA can only include rules about number portability in the numbering plan if directed to do so by the ACCC. Any rules the ACMA includes about number portability must be consistent with ACCC directions. The ACCC has previously directed the ACMA to include rules in the numbering plan regarding local number portability, free phone and local rate number portability, and mobile number portability. The ACMA's Numbering Plan 2015 includes rules consistent with the ACCC's number portability directions.

⁷¹ ACCC, Facilities access code, final decision, 2013.

⁷² Part 22, Division 2 of the Telecommunications Act.

Report on international rules of conduct

Division 3 of Part 20 of the Telecommunications Act sets out a mechanism for the government to deal with unacceptable conduct by international operators. An international telecommunications operator is considered to be engaging in unacceptable conduct if it:

- uses its market power in a manner that is, or is likely to be, contrary to the national interest
- uses any legal rights or legal status that it has as a result of foreign laws in a manner that is, or is likely to be, contrary to the national interest, and
- engages in any other conduct in a manner that is, or is likely to be, contrary to the national interest.

The Minister for Communications and the Arts is empowered by the Telecommunications Act to make rules of conduct to prevent, mitigate or remedy any unacceptable conduct by an international telecommunications operator. The Minister introduced such rules in 1997, which:

- authorise the ACCC to make determinations of a legislative nature, imposing requirements, prohibitions or restrictions on carriers or carriage service providers
- authorise the ACCC to give directions to carriers or carriage service providers of an administrative nature that impose requirements, prohibitions or restrictions
- require carriers and carriage service providers to comply with ACCC determinations and administrative directions, and
- authorise the ACCC to make information available to the public, a specified class of persons or a specified person.

The ACCC did not conduct any investigations into unacceptable conduct by an international carrier during 2017-18.

Appendix 4.4: Record keeping rules (RKR)

The following table sets out the record keeping rules in operation as at 30 June 2018.⁷³

Record keeping rule	Information collected	Rationale	Reporting period and disclosure
Audit of Telecommunications Infrastructure Assets	Specified carriers must report on the location of their core network and Customer Access Network (CAN) infrastructure.	To provide the ACCC with a consistent and coherent infrastructure database to inform regulatory decisions.	Annually. The ACCC publishes aggregated data on a periodic basis.
Broadband Performance Monitoring and Reporting	NBN Co to report certain information about the Superfast Carriage Services provided to residential customers who have volunteered to be active participants in the ACCC's Measuring Broadband Australia (MBA) program.	To assist the ACCC in validating and reporting of anonymised service information.	Quarterly. The ACCC publishes quarterly reports under the MBA program.
Building Block Model (BBM)	Telstra must provide data on actual usage and historical asset values. It must also provide forecast data on service demand, operating expenditure and capital expenditure.	The ACCC uses this data in the Fixed Line Services Model which is used to determine prices for the regulated fixed line services.	Actual usage data—annually. Other required data—at the ACCC's request and at the start of a price review prior to each regulatory period. The ACCC makes the information available in accordance with a disclosure notice. ⁷⁴
Division 12	Specified carriers must report on the retail prices charged for certain services including fixed line voice, mobile and internet services. Carriers must also provide data on revenue and usage, which enable the ACCC to calculate price movements.	To provide information that enables the ACCC to report annually, as required, to the Minister for Communications and the Arts on the changes in the prices paid for telecommunications services in Australia (the Division 12 Report).	Annually. No direct public disclosure. However, the ACCC's annual Division 12 Report (incorporated into the communications market report) contains estimated price indices for telecommunications services based on this RKR data.
NBN Services in Operation ⁷⁵	NBN Co must provide information on the take-up of NBN access services, the amount of capacity being acquired and the average utilisation of that capacity over the NBN.	To allow the ACCC to monitor the rate and level of take-up of different NBN services, assess competition as it develops on the NBN and to inform regulatory decisions.	Quarterly. NBN Co must provide a quarterly NBN wholesale market indicators report containing certain data collected under the RKR for publication by the ACCC.
Telstra CAN	Telstra must provide information on the number of retail and wholesale services in operation on its network. This data is disaggregated by exchange service areas and access seekers.	To allow the ACCC to analyse competition and industry trends in telecommunications markets.	Quarterly. No public disclosure of the data but Telstra provides a summary of the quarterly results for publication by the ACCC.

⁷³ Further details of these record keeping rules can be found on the ACCC website at <https://www.accc.gov.au/regulated-infrastructure/communications/monitoring-reporting/telecommunications-reports-record-keeping-rules#record-keeping-rules>.

⁷⁴ The ACCC gave Telstra a disclosure notice regarding the RKR information provided as part of the inquiry into making final access determinations for the fixed line services. The disclosure notice provides that the ACCC will publish a public version of the RKR information and establishes confidentiality arrangements for full disclosure of the RKR information to access seekers.

⁷⁵ The ACCC extended the NBN SIO RKR for a further three years until September 2020 and amended the RKR to include more detailed information in 2017–18.

Appendix 4.5: Price monitoring methodology: calculating real changes in weighted average prices through a ‘plan matching’ approach

The 2017-18 report uses a ‘plan matching’ approach to calculate real changes in average prices. This is the same approach used in the 2016-17 report. However, this approach has been refined for improved accuracy which means that results differ from those previously published.

One of these improvements involved making changes to the treatment of non-matching plans (i.e. plan types that existed for one year but did not match to any plans in the corresponding year).

In this report non-matching plans do not contribute to the average price change results.

Other refinements include allowances for the different marketing and pricing strategies of retail service providers by comparing average price changes across similar providers as well as changes to the post-paid and prepaid mobile bill sample calculations. Bill samples are drawn from the Division 12 RKR and are used to weight results to better reflect consumer behaviour.

Each plan as a bundle of characteristics

When measuring price changes for telecommunications services, ideally, like-for-like comparisons would be made between similar products. However this is complicated by the heterogeneous, complex nature of telecommunications services. That is, these services are sold as plans which dictate that, for a given price, consumers will receive certain:

- quantities of services (e.g. data allowances, call inclusions)
- qualities of services (e.g. speed)
- conditional or per unit charges (e.g. call rates)
- contract conditions (e.g. length, minimum term).

The markets for fixed and mobile telecommunications services are each comprised of a range of plans from retail service providers that differ across both price and non-price characteristics. These differentiated plans have varying degrees of substitutability, as consumers make trade-offs between the characteristics in order to maximise value according to their own preferences. Changes in non-price characteristics over time can make it difficult to compare products from different time periods. Given that there are several characteristics that define each plan (and hence, its value to a consumer), the ACCC has conceptualised telecommunications service plans as a collection, or bundles, of characteristics that are valued by consumers.

Comparing categories of service plans

The ACCC chose to focus its analysis on retail service plans (as opposed to aggregated revenue or demand data), in order to better account for the changes in non-price characteristics. This allowed for a method that is well suited to the nature of the products and markets, the available data, and the objective of estimating year-on-year price changes.⁷⁶ The method used in the 2017-18 report involves classifying service plans into product categories; calculating the average price for a given product category in a given year; and comparing those average prices between years. Categories were set according to the following characteristics:

- for broadband plans, by RSP, data allowance (split into classes), NBN or non-NBN, download speed, the bundling of voice and entertainment packages, specific call inclusions (unlimited local, unlimited national and/or unlimited mobile) and specific access circumstances (HFC, off-net)
- for post-paid mobile plans, by RSP, contract length, data allowance (split into classes), unlimited calls, and unlimited SMS inclusions

⁷⁶ For examples of hedonic approaches, see Triplett, J (2004), *Handbook on Hedonic Indexes and Quality Adjustments in Price Indexes: Special Application to Information Technology Products*, OECD Science, Technology and Industry Working Papers, 2004/09.

- for prepaid mobile plans, by RSP, data allowance (split into classes), unlimited calls, and unlimited SMS inclusions, and
- for mobile broadband plans, by RSP, contract length, and data allowance (split into classes).

The price comparisons for each product category are then aggregated in order to calculate the average price change for NBN fixed broadband, non-NBN fixed broadband, post-paid mobile, prepaid mobile, and mobile broadband services.

An example of a matching plan (with a limited selection of matching variables shown).

	2016–17: Plan Y	2017–18: Plan Y
Price	\$70	\$59
RSP	RSP Y	RSP Y
Data allowance	500 GB	500 GB
NBN/non-NBN	NBN	NBN
Download speed	25 Mbps	25 Mbps
Per cent change in price		18.6%

An example of a non-matching plan (with a limited selection of non-matching variables shown).

	2016–17: Plan X	2017–18: Plan X
Price	\$89	\$80
RSP	RSP X	RSP X
Data allowance	100 GB	500 GB (the smallest available plan)
NBN/non-NBN	NBN	NBN
Download speed	50 Mbps	50 Mbps
Per cent change in price		n/a

Relevance of price changes to consumers

While the ACCC has focused its analysis on service plans in order to better account for non-price characteristics, it also sought to produce estimates of price changes that would reflect the perspective of consumers. As such, price changes were adjusted to reflect consumer spending behaviour and inflation. The range of plans available in each of the telecommunications service markets suggests a wide range of consumer preferences and/or willingness to spend.

The ACCC assumes that consumer preferences are segmented by levels of monthly expenditure. This assumption implies that price changes that occur in one market segment may not be relevant to consumers in other segments. For example, if price changes were observed in only one segment of the market (say, the higher priced, high download plans), then consumers who were not interested in those plans would not experience any price change. As such, the average price changes for each product category were weighted according to the likely proportion of consumers who would be affected by the change.⁷⁷ Furthermore, the observed changes in average price were then adjusted for inflation, using the Consumer Price Index. This allowed the reported price changes to reflect the context of changing prices in other consumer goods and services.

Inference and caveats

The method outlined above is intended to provide an indication of how, on average, prices have changed for consumers in each of the relevant service markets. However, inferences should be made with care, in recognising the limitations of the analysis.

⁷⁷ As part of the Division 12 Record Keeping Rule, the ACCC collects anonymised samples of consumer bills for fixed broadband and mobile. These samples are used as a guide to consumer behaviour (in terms of monthly expenditure). No bill samples were collected for the 2017–18 financial year. Bill samples used for this report were collected in 2016–17 for mobile services and 2015–16 for fixed and mobile broadband services.

Changes in price or value?

Service plans were grouped according to their characteristics, and the average prices of those categories were compared over time. This means that the observed price changes may reflect changes in sticker prices, or changes in the value of service inclusions at a given price, or both. As such, the price changes could be interpreted as either the changes in prices for a given type and quantity of service, or the change in value consumers obtain for a given price.

Changes in price and value are also linked to the consumer experience. For many characteristics (such as data allowances), all else being equal, consumers would prefer to maximise their consumption at a given price point. As plan offerings change, consumers may find that they could move to a plan with the same price but with more data, or a plan with the same data at a lower price. Regardless of which plan they choose, the consumer is facing an improved set of choices in both price and value.

The focus on average prices

Price changes are estimated by comparing average prices of each product group. This means that price changes can be influenced by the introduction or removal of plans, as opposed to changes in the prices of existing plans. This approach was taken in recognition that within each product category, plans would still vary in terms of some non-price characteristics. For instance, data allowances were classified by ranges as opposed to the exact number of gigabytes. The alternative approach of narrowing each product category would risk reducing the number of products that were deemed comparable from year to year.

Product categories being introduced or dropped

If a new product category is introduced for the first time, a price change would not be estimated for that product category until the subsequent year. This is due to the lack of a comparable average price for that product category. If a product category that existed in a previous year is no longer offered, a price change would not be estimated for that product category. This limitation has led the ACCC to investigate a new 'hedonic' approach, details of which can be found in appendix 4.6.

Plans being introduced or dropped

For a given year, the average price for each product category is calculated based on all plans within that category available that year. If a new plan is introduced that fits an existing product category, it would be included in the analysis. Plans would only be included in the price analysis of a given year if they were available during that year.

Customer experience

The grouping of 'like-for-like' plans based a set of plan features, such as data inclusion and download speed relies on certain assumptions that may not reflect the true customer experience. For example, although the doubling of a plan's download allowance represents an improvement in the quality of the plan it may have no impact on the end user's experience of the product if the current download allowance is sufficient for their current usage. As result, it may appear that average prices have fallen and plan quality has improved but there may be zero difference to the end user experience.

Average movements in data allowance

Changes in average data allowance follows the same methodology as price changes with the following differences:

- When comparing categories of service plans, categories are set according to a group of categories. For data allowance changes, price was held constant and plans were split into price classes. This is in contrast to the aforementioned method for calculating price changes, where data allowances were held constant.
- Data allowance changes have only been calculated for mobile technologies (mobile phone services and mobile broadband). Data allowance changes were not calculated for fixed broadband using the 'plan matching' approach due to the prevalence of unlimited data allowance plans as a proportion of

the total market. Given the high, and increasing, proportion of fixed broadband plans falling within the unlimited data category, a plan-matched data allowance change would be:

- irrelevant, as the prevalent plan type in the market were unlimited data allowance plans
- inaccurate, as the end percentage change figure would be based on the subjective selection of a proxy gigabyte value assigned to unlimited data allowance plans.

Analysis was instead focused on changes to the proportion of unlimited data allowance plans within the fixed broadband market. For other descriptive analyses of data allowance movements within the sector, unlimited data allowance plans were assigned a proxy value of 1500 GB, which is consistent with figures used by the DoCA⁷⁸ and the Centre of International Economics.⁷⁹

For this year's report, unlimited mobile plans were assigned data allowance values that corresponded to the 'unshaped' data that consumers can use. For example, if a plan had a 40 GB data allowance at an 'unshaped' download speed but an unlimited gigabyte allowance at a shaped download speed, the ACCC used a data allowance of 40 GB for analysis on these plans. However, given the increasing prevalence of plans of this nature within the mobile sector, the ACCC will continue to investigate how to best include such plans into analysis in future reports.

78 Department of Communications and the Arts, Trends and drivers in the affordability of communication services for Australian households, 2017, <https://www.communications.gov.au/documents/trends-and-drivers-affordability-communications-services-australian-households-0>.

79 Centre of International Economics, *Final report—Telstra's price premium—The premium paid by consumers for fixed and mobile services*, 2016, http://www.thecie.com.au/wp-content/uploads/2017/03/CIE-Report_VHA_Price-Premium-Update-VHA-01122016.pdf.

Appendix 4.6: Price monitoring methodology: calculating real changes in weighted average prices through a ‘hedonic’ approach

For the 2017–18 communications market report, the ACCC investigated a new approach for calculating the real change in average prices known as the ‘hedonic’ approach. This was developed in collaboration with Economic Insights, an economic consulting firm. This approach aims to provide a better indication of overall price changes in a continually changing telecommunications market. The hedonic approach achieves this by estimating how prices change with time, while controlling for the differences in the characteristics of plans. The percentage price changes provide information about price movements by comparing prices in one year to the prices in another year. However, they do not provide any information about price levels (i.e. the sticker price).

The ‘hedonic’ approach employs the following method:

- products are defined to be bundles of characteristics. A fixed broadband product, for example, is a bundle of characteristics, including (among other characteristics) data allowance and download speed, and
- the estimation of the index involves a regression equation. The regression equation describes how the price of a plan depends upon the characteristics of the plan and the relevant time period.

One of the key differences between the hedonic approach and the existing ‘plan matching’ approach (as described in appendix 4.5) is that the hedonic approach is able to account for new and discontinued plans. When a new type of plan is introduced, the existing plan matching approach would exclude this plan from analysis altogether, as it cannot find a similar plan in the previous year to ‘match’ with. This is also the case when a plan is discontinued, where the plan matching approach would not be able to match the discontinued plan with the later year. The effect of these omissions is the price change calculated as part of the ‘plan matching’ approach would not account for any price increases or decreases occurring in the market as a result of the introduction and/or discontinuation of plans.

Hedonic pricing methodologies

For the purposes of this report two approaches were investigated, the pooled data approach and the moving windows method.

The pooled data approach involves combining or ‘pooling’ data across all reference years. This is implemented by estimating one regression equation for all the reference years.

The moving windows approach, in contrast, involves the estimating a regression equation for each pair of consecutive reference years. For example, if there are four years of data there would be three regression equations, one for Years 1 and 2, another for Years 2 and 3 and a final equation for Years 3 and 4.

For this report the pooled data approach was chosen so as to increase the number of available observations. For the pooled data method five years of data were used but as noted above the moving windows approach only uses two consecutive years of data for each regression equation.

Variables used

For the regression analysis the following variables were used:

- For fixed broadband and mobile broadband plans, the variables were monthly price, data allowance, download speed, voice inclusions (including local, national and mobile calls), TV bundling, access technology, access network and RSP, as well as variables for each financial year.
- For post-paid and prepaid mobile plans, the variables were monthly price, unlimited calls, unlimited SMS, handset inclusion, data inclusions and RSP, as well as variables for each financial year.

Assumptions

The regression model was specified as follows:

- Observations were not weighted

In some hedonic pricing models, the observations are weighted to reflect the relative importance of the observations. As the ACCC's estimates of weights are not based on actual frequencies of plans, but rather are approximations, our consultants suggested that weighted models are not necessarily preferred. Thus, the ACCC used an unweighted model because of its greater simplicity.

- Log-log regression

Our consultants found that a log-log regression provided a substantially better fit than other specifications of the functional form (linear and log-linear) of the regression equation.

- Random effects model

Our consultants found that, first, a regression with retailer-specific effects was a better fit than an equation that does not include retailer-specific effects. Second, the hypothesis that random effects are zero was rejected, and the hypothesis that the random effects estimator is efficient and consistent was not rejected.

- Right Hand Side (RHS) continuous variables are cubic

For the continuous variables on the RHS, the equation included (i) the log of the variable, (ii) the square of the log and (iii) the cube of the log. The square and cube of the log of the variable were included because this gives rise to a more general functional form, and, in many of the regression equations estimated, the square and cube of the log of the variable were found to be statistically significant.

Inference and caveats

Changes in price or value?

Accounting for new plans into a price index is not a simple process. New plans can differ considerably from older plans in their characteristics. For example, newer plans can have faster download speeds and greater data allowances than older plans. As a result of these changes we are no longer comparing prices of like-for-like products and price changes for a product may occur due to changes in quality and/or sticker price. Price statisticians refer to this issue as the need to price to constant quality. A price index should measure 'pure' price changes and as a result adjustments must be made for changes in characteristics (or changes in quality) of individual products. These adjustments are referred to as quality adjustments. As such, a decrease in prices does not necessarily indicate a drop in sticker price but may instead indicate an increase in quality.



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