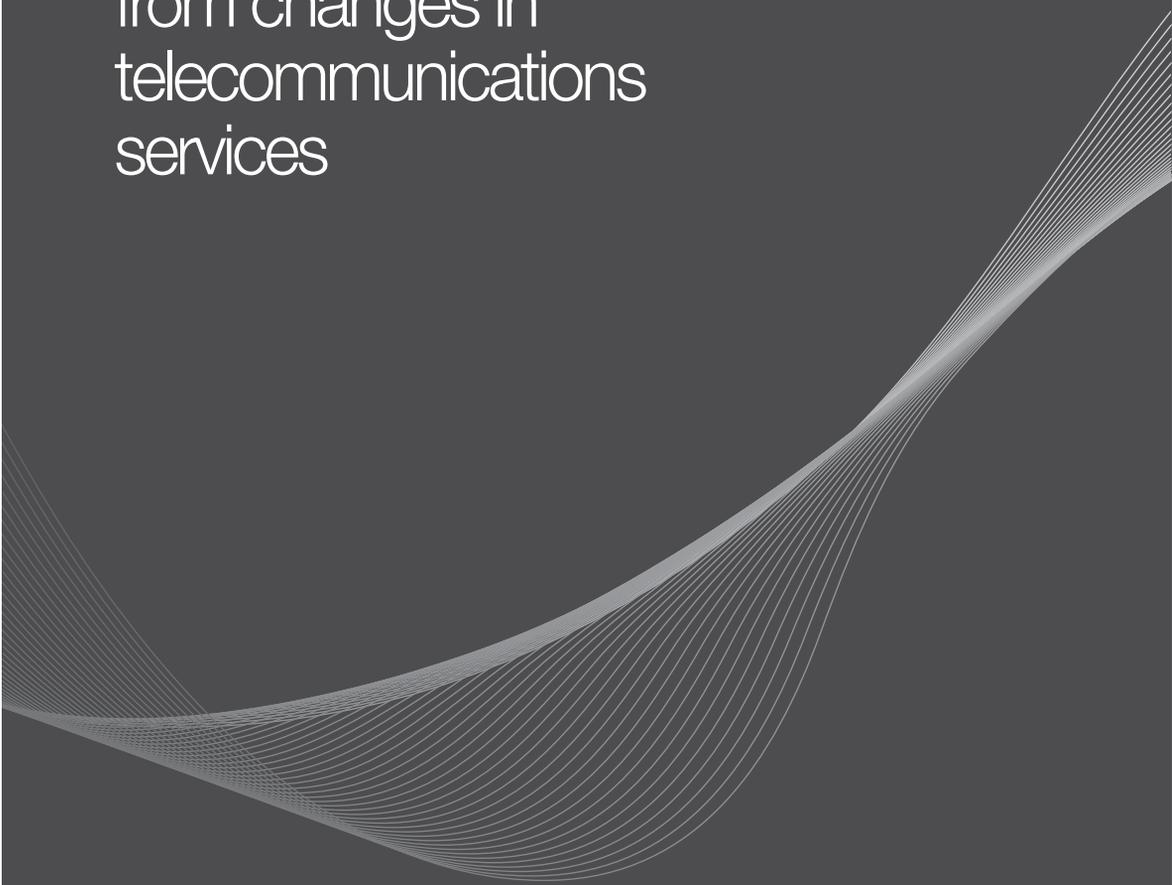

Chapter 7

Economic
benefits resulting
from changes in
telecommunications
services



Chapter summary

The telecommunications industry continued to experience rapid growth in the 2008–09 financial year, driven by rapid technological change and competition. Continuing the trend set in previous years, developments in the market have introduced new types of services and brought about lower prices, particularly in the internet sector.

According to section 105 of the *Telecommunications Act 1997*, each financial year the ACMA must report on the consumer benefits attributable to the telecommunications sector. This report equates consumer benefits (the language used in the Act) with change in the consumer surplus attributable to the telecommunications industry over the year.¹ Consumer surplus is a measure of the welfare that people gain from the consumption of goods and services. The consumer surplus attributable to each of the three main sectors of the telecommunications industry is consistent with the economic fortune of each sector. Broken down by sector, the change in consumer surplus is estimated to be:

- > mobile phones: \$583 million
- > fixed-line phones: -\$189 million
- > internet: \$562.22 million.

Overall, the increase in consumer surplus attributable to changes in the telecommunications sector in 2008–09 is estimated to be \$957 million.²

The most significant development in the telecommunications sector in 2008–09 was a 41 per cent increase in the volume of data downloaded per subscriber via the internet. This growth was driven by the widespread take-up of the faster, lower cost (per gigabyte) internet technologies, at the expense of slower and more expensive narrowband services.

The mobile telecommunications market also experienced strong growth in 2008–09, driven by the rapid expansion and take-up of third generation (3G) services. As in previous years, mobile telephone call and SMS/MMS volumes, revenue and subscriptions were all up through the year. Mobile telephone subscriber numbers increased for the companies covered by the ACMA's 2008–09 data request, up 7.9 per cent from 21.8 million in 2007–08 to 23.4 million³ in 2008–09.

1 The ACMA employed the same methodology for the *Consumer Benefits Resulting From Australia's Telecommunications Sector 2007–08* report.

2 This year's estimate for the change in consumer surplus is lower than last year's estimate of approximately \$3.2 billion. This difference was in part brought about by changes in the reporting of data in the ACMA's data request.

3 Excludes wholesale services.

The fixed-line telephone market continued to decline in 2008–09 as a result of the continued shift to alternative communications such as mobiles and the internet. The only facet of the fixed-line market that grew in 2008–09 was the fixed-to-mobile service, which most likely benefited from the expanding mobile market.

For the telecommunications services covered in this chapter, total revenue for 2008–09 was approximately \$21.2 billion, compared with \$20.0 billion in 2007–08.⁴ The mobile sector accounted for 55 per cent of total revenue, fixed-line for 33 per cent and the internet 13 per cent.

Developments in the telecommunications sector in 2008–09

Internet

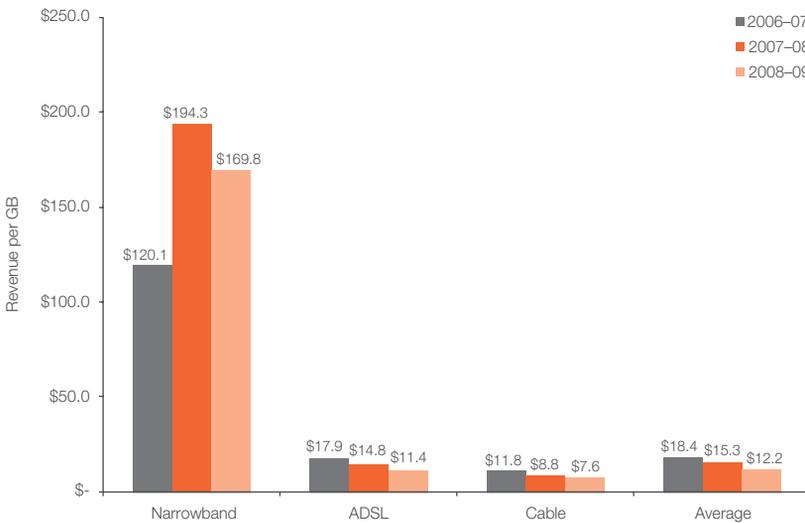
Following the trend set in previous years, Australian consumers sharply increased their use of internet data in 2008–09, with the volume of data downloaded per subscriber increasing by 41 per cent, from 30.5 gigabytes (GBs) in 2007–08 to 43.1 GBs in 2008–09.

A chief driver behind this increase in data downloaded is the reduction in the price of data. Internet subscribers spent \$12.24 per GB in 2008–09, compared with \$15.29 per GB in 2007–08, a 20 per cent reduction. The movements in the prices per GB in 2008–09 by technology type were as follows:

- > 23.3 per cent decline from \$14.80 to \$11.40 per GB for ADSL subscribers
- > 13.1 per cent decline from \$8.80 to \$7.60 per GB for cable subscribers
- > 12.6 per cent decline from \$194.30 to \$169.80 per GB for satellite subscribers.

The fall in the average per GB price is also driven by the movement of subscribers from narrowband services to the lower cost (per GB) internet technologies such as ADSL and cable.

Figure 7.1: Revenue per gigabyte downloaded



Data source: Calculations based on telecommunication carriers' responses to the ACMA's Section 105 data request for 2006–07, 2007–08 and 2008–09.

4 ACMA 2008–09 data request to industry.

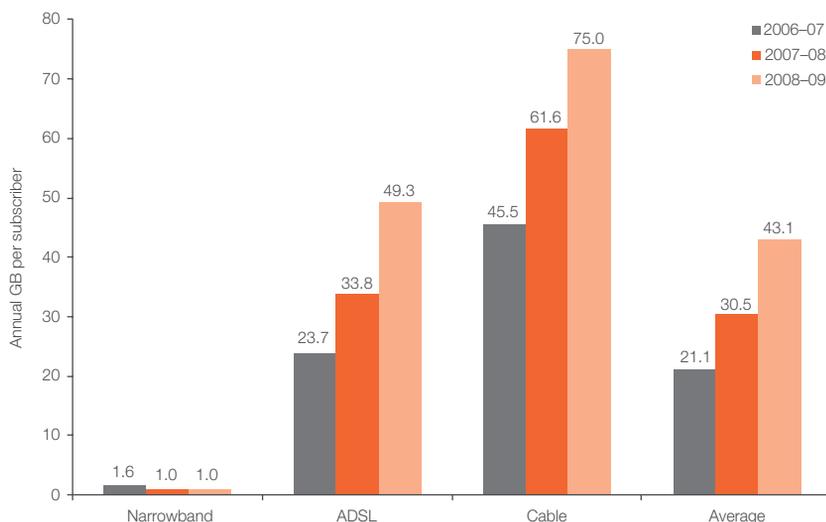
The total number of internet subscribers who subscribed to the companies covered by the ACMA's 2008–09 data request increased by three per cent from 4.8 million in 2007–08 to five million in 2008–09. The ACMA data request covers major companies, and therefore represents a subset of the ABS Internet Activity survey subscriber figures, which found that, at the end of June 2009, there were 8.4 million active internet subscribers in Australia. As in 2007–08, cable broadband subscribers consumed data more intensively than any other broadband subscribers identified in this study. On average, cable subscribers increased their volume of data downloaded by 21.8 per cent, from 61.6 GBs per subscriber in 2007–08 to 75.0 GBs per subscriber in 2008–09. ADSL subscribers increased their consumption of data by 45.8 per cent, from 33.81 GBs per subscriber to 49.3 GBs per subscriber.

Mobile phone services

In 2008–09, the Australian mobile telephone market continued to expand, with call and SMS/MMS volumes, revenue and subscriptions all up through the year. Following the trend set in previous years, total mobile telecommunications revenue of the companies covered by the ACMA's 2008–09 data request increased by 10.6 per cent, from \$10.8 billion in 2007–08 to \$12 billion in 2008–09.⁵

Mobile telephone subscriber numbers also increased during 2008–09 for the companies covered by the ACMA's 2008–09 data request, up 7.9 per cent from 21.8 million in 2007–08 to 23.4 million 2008–09.⁶ The growth in subscriber numbers is the result of a 43.6 per cent increase in the number of 3G subscribers, from 8.6 million in 2007–08 to 12.3 million in 2008–09. Subscribers to 2G services fell by 15.3 per cent from 13.2 million to 11.2 million. Third generation subscribers outnumber 2G subscribers for the first time in 2009–09.

Figure 7.2: Data volumes downloaded per subscriber by internet technology



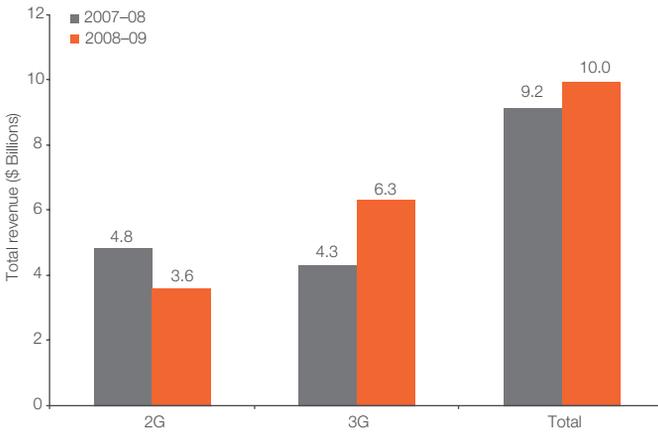
Data source: Calculations based on telecommunication carriers' responses to the ACMA's section 105 data request for 2006–07, 2007–08 and 2008–09.

5 The ACMA did not have access to data relating to the revenue and quantity of the data downloads from mobile wireless broadband.
 6 Retail only, excludes wholesale services.

As shown in Figure 7.3, the total revenue derived from mobile telephone voice calls increased during 2008–09. Over the year, total mobile telephone revenue from voice calls increased 8.7 per cent, from \$9.2 billion in 2007–08 to \$10.0 billion in 2008–09. Mirroring the changes in subscriber numbers, the growth in total voice call revenue resulted from a sharp increase in revenue from 3G subscribers. Total voice call revenue from 3G subscribers increased by 46.7 per cent, from \$4.3 billion in 2007–08 to \$6.3 billion in 2008–09. Conversely, 2G voice revenue fell by 25.2 per cent, from \$4.8 billion in 2007–08 to \$3.6 billion in 2008–09.

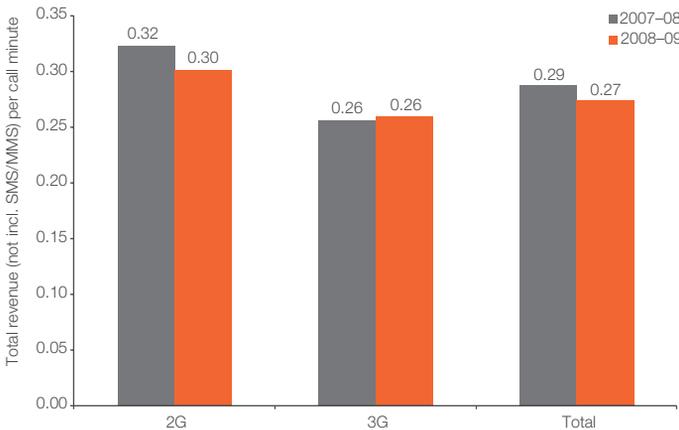
As in previous years, mobile telephone voice call costs per call minute continued to decline, falling 4.8 per cent in 2008–09, from 28.7 cents to 27.4 cents.⁷ As shown in Figure 7.4, the fall in call costs occurred in the 2G sector, with revenue per call minute falling 6.7 per cent from 32.2 cents in 2007–08 to 30 cents in 2008–09. Revenue per 3G voice call minute rose by 1.5 per cent in 2008–09, from 25.6 cents to 26 cents.

Figure 7.3: Total mobile revenue by service type (excluding SMS/MMS)⁸



Data source: Calculations based on telecommunication carriers’ responses to the ACMA’s section 105 data request for 2007–08 and 2008–09.

Figure 7.4: Total mobile revenue per call minute (excluding SMS/MMS)



Data source: Calculations based on telecommunication carriers’ responses to the ACMA’s section 105 data request for 2007–08 and 2008–09.

7 Due to changes in the way revenue and call volumes were reported, the per-minute price for a mobile call is higher than those reported last year.

8 Data for SMS/MMS could not be separated for 2G and 3G services. The ACMA was therefore unable to disaggregate total mobile telecommunications revenue for 2G and 3G services.

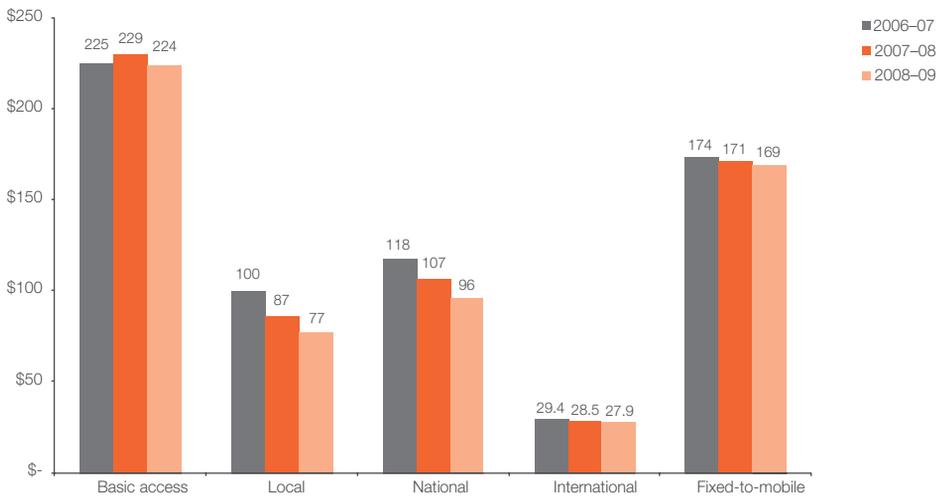
As in 2007–08, SMS/MMS costs fell in 2008–09. Revenue per SMS/MMS message sent fell 4.7 per cent, from 9.1 cents in 2008–09 to 8.6 cents in 2008–09.

Fixed-line developments

Australia's fixed-line telephone market shrunk in 2008–09, with revenue, subscriber numbers and call volumes all decreasing through the year. Underlining the decreasing significance of fixed-line telecommunications is the continuing fall in fixed-line subscriber numbers. Following the trend set in recent years, fixed-line PSTN subscriber numbers fell 1.8 per cent in 2008–09, from 9.5 million to 9.3 million.

As shown in Figure 7.5, fixed-line call revenue per subscriber fell for each component of the market in 2008–09. The largest fall occurred for local calls, with subscribers on average spending 11 per cent less on local calls in 2008–09 than in 2007–08 (\$77 compared with \$87). Spending on national long-distance calls fell 9.6 per cent, from \$107 per subscriber in 2007–08 to \$96 in 2008–09. The average amount that subscribers paid for basic access fell by 2.6 per cent, from \$229 in 2007–08 to \$224 in 2008–09. On average, subscribers also spent less on international calls in 2008–09, with individual expenditure falling 1.9 per cent from \$28.50 in 2007–08 to \$27.90 in 2008–09. Fixed-to-mobile per subscriber call revenue fell 1.4 per cent, from \$171 in 2007–08 to \$169 in 2008–09.

Figure 7.5: Fixed-line call revenue per subscriber



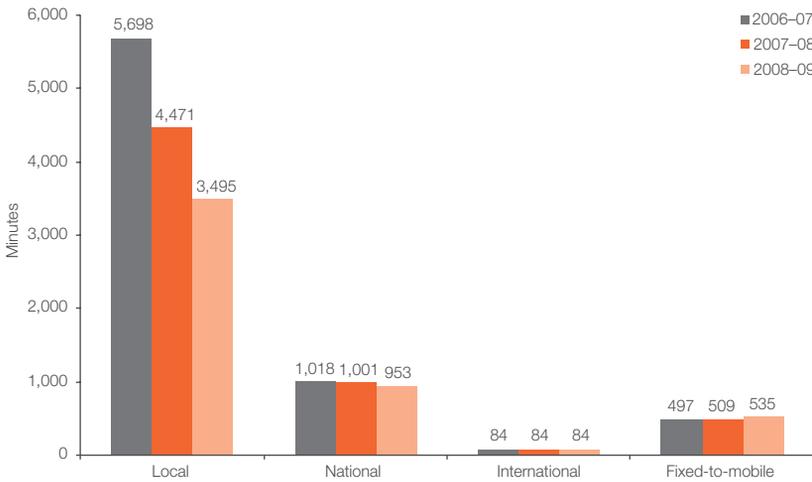
Data source: Calculations based on telecommunication carriers' responses to the ACMA's section 105 data request for 2006–07, 2007–08 and 2008–09.

Like call revenue and subscriber numbers, overall fixed-line call volumes fell in 2008–09. As shown in Figure 7.6, following a sharp fall in 2007–08, fixed-line local call minutes per subscriber fell again in 2008–09 to an average of 3,495 minutes, a 21.9 per cent fall from 2007–08. National call minutes per subscriber fell by 4.7 per cent from 1,001 in 2007–08 to 953 in 2008–09, while international call minutes fell by 0.05 per cent from 84.02 minutes to 83.97 over the year. Fixed-to-mobile call minutes per subscriber increased 5.11 per cent from 509 minutes in 2007–08 to 535 in 2008–09.

As in 2007–08, there were cost reductions for all service types in the fixed-voice market in 2008–09. The changes in per-unit prices of each service were as follows:

- > fixed-to-mobile call costs decreased by 6.2 per cent to 31.6 cents per call minute
- > national call costs decreased by 5.1 per cent to 10.1 cents per call minute
- > international call costs decreased by 1.8 per cent to 33.3 cents per call minute
- > local call costs decreased by 0.5 per cent to 12.9 cents per call.

Figure 7.6: Fixed-line call minutes per subscriber



Data source: Calculations based on telecommunication carriers' responses to the ACMA's section 105 data request for 2006–07, 2007–08 and 2008–09.

Estimating benefits from telecommunications services

Methodology

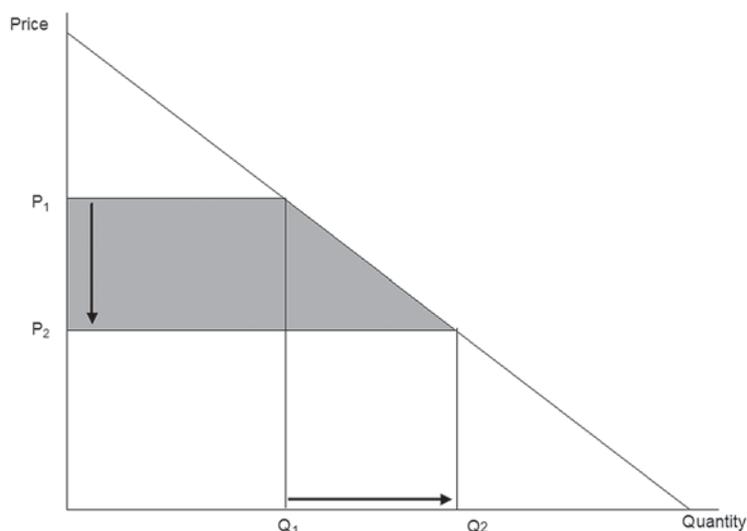
The methodology used in this report equates consumer benefits (the language used in the *Telecommunications Act 1997*) with change in the consumer surplus attributable to the telecommunications industry over the year.⁹ A positive estimate for the change in consumer surplus equates to positive consumer benefits and a negative estimate for the change in consumer surplus equates to negative consumer benefits.

Consumer surplus for a customer is defined as the gap between what a customer actually pays and his or her willingness to pay (walk-away value). Consumer surplus is the economic benefit to a customer of being able to purchase a good or service for a price less than what he or she would be willing to pay. Consumer surplus for a whole market is the sum of the consumer surpluses of each customer in that market.

Consumer surplus in a market alters with changes in price and also with changes in the non-price characteristic of the good or service, such as the quality of the good or service, or the price of a substitute good or service.

Price changes do not alter a consumer's willingness to pay and so market demand remains constant. Decreases in price increase consumer surplus while increases in price decrease consumer surplus. Figure 7.7 shows an example of a price decrease in a generic demand diagram. The shaded region in Figure 7.7 represents the increase in consumer surplus due to the price decrease.

Figure 7.7: Change in consumer surplus due to a change in price



9 The ACMA employed the same methodology for the *Consumer Benefits Resulting From Australia's Telecommunications Sector 2007–08* report.

Changes in non-price characteristics change a consumer's willingness to pay, and so shift market demand. Market demand can increase or decrease (represented diagrammatically by a shift in the market demand curve either to the right or the left) depending on the nature and direction of the change in the non-price characteristic. Non-price characteristics include:

- > the price and quality of a substitute good or service
- > the price and quality of a complementary good or service
- > the quality of the good or service
- > the income of consumers
- > the tastes and preferences of consumers.

For example, on the first point, the price of substitute services, such as local (fixed-line) calls, has an impact on the consumption of mobile calls. If the price of local (fixed-line) calls is significantly increased, mobile calls become comparatively cheaper, which would be likely to lead to an increase in the consumption of mobile calls.

In telecommunications markets, there are some services where both supply and demand change simultaneously. Data on price and quantity changes in that market will indicate this. A price decrease accompanied by a decrease in quantity demanded, or a price increase accompanied by an increase in quantity demanded, can only be caused by a change in demand as well as a change in supply.¹⁰ When this is the case, the estimate of consumer surplus takes this into account. For a detailed explanation, see the full report on the ACMA's website.

Data request

The key data source used in this report is the major telecommunications carriers. There were several instances whereby data from previous years was revised, both upwards and downwards. Additionally, the ACMA updated estimates of elasticity used in the calculations of the change in the consumer benefits. Note that the ACMA did not have access to data relating to the revenue and quantity of the data downloads from mobile wireless broadband.

Table 7.1: Consumer surplus estimates

Service	Percentage change in price	Percentage change in quantity	Change in consumer surplus (\$ million)
Mobile phones			
Calls	-4.8%	5.9%	490.9
SMS/MMS	-4.7%	17.3%	92.4
Fixed-line			
Access	1.0%	-1.8%	-33.2
Local	-0.5%	-10.6%	-178.7
National	-5.1%	-4.7%	-78.1
International	-1.8%	-0.1%	-0.1
Fixed-to-mobile	-6.2%	5.1%	101.3
Internet			
Data	-20.0%	41.0%	562.2
Total			956.8

Data source: Calculations based on telecommunication carriers' responses to the ACMA's section 105 data request for 2006-07, 2007-08 and 2008-09.

10 Where price and quantity changes would be consistent with no shift in the demand curve, no shift has been modelled. It is not within the scope of the study to estimate the effects of other non-price factors on demand. Any bias due to this assumption is likely to cause the reported estimates of increases in consumer surplus to be conservative.

The change in consumer surplus

In this report, the ACMA measures consumer benefits attributable to changes in the telecommunications sector by estimating the partial equilibrium effect of consequent changes in consumer surplus. Table 7.1 summarises these estimates.

As shown in Table 7.1, the positive change in consumer surplus attributable to changes in the telecommunications sector in 2008–09 is estimated to be approximately \$957 million.

- > Table 7.1 emphasises the continuing growth of the mobile telephone and internet sectors of the telecommunications market. This year's figures closely reflect the changes in consumer surplus arising from the ACMA's *Consumer Benefits Resulting From Australia's Telecommunications Sector 2007–08*. The figures encapsulated in Table 7.1 show the extent to which prices fell and subscriber demand grew in the mobile telephone and internet sectors.

The fixed-line telephone market, as in 2007–08, continued to decline in 2008–09. The only facet of the fixed-line market that exhibited growth in 2008–09 was the fixed-to-mobile service, clearly benefiting by being peripherally related to the still expanding mobile market.

Further information

Documents

- > The ACMA, *Consumer Benefits Resulting from Australia's Telecommunications Sector – Methodology, 2008–09*.