# Changes in the prices paid for telecommunications services in Australia 1997-98 to 2003-04 

Report to the Minister for Communications, Information Technology and the Arts March 2005

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## 1 Summary

Division 12 of Part XIB of the Trade Practices Act 1974 requires that the Australian Competition and Consumer Commission (ACCC) report each year to the Minister for Communications, Information Technology and the Arts on prices paid by Australian consumers for telecommunications services. This report meets this obligation for 2003-04.

This report covers prices consumers pay for PSTN (public switched telephone network) services and mobile telephony services. For PSTN services, it analyses prices paid by residential and business consumers for basic access service (or line rental) and for local, national long-distance, international and fixed-to-mobile calls. For mobile telephony services, this report covers prices paid by consumers for services on the global system for mobiles (GSM) and code division multiple access (CDMA) networks.

To determine price changes, the ACCC uses a price index methodology and data and other information provided by Telstra, SingTel Optus (Optus), AAPT, Primus, Vodafone and Hutchison Telecommunications. In summary, the methodology for deriving the price indexes for PSTN services involves estimating a yield, in real terms, for every service by consumer group for each year of the study. Individual indexes for each service and each consumer group—residential, small business and other business-are then combined to derive indexes for PSTN services consumed by the three groups. These indexes are then aggregated into an overall index for all PSTN services for all consumers.

A different method is used to derive the mobile telephony services index. Yield data has not been used to construct the index for mobile telephony services because these services are typically provided by service providers to consumers as a bundled package or plan. Accordingly, the method used by the ACCC to estimate prices for mobile services is to treat mobile telephony as a bundle of services and then to measure the prices paid by consumers for these bundles. The price of each bundle is determined by adding the cost of the handset, connection, monthly access and call charges, net of any discounts and free calls. The bundles cover usage by all consumers (both residential and business) of prepaid and post-paid mobile telephony services on GSM and CDMA networks. When overall indexes for PSTN and mobile telephony services have been derived, these are combined into a single overall index for all telecommunications services surveyed. The overall index provides a measure of how average prices have changed for consumers of telephony services as a whole. The different levels of aggregation of the PSTN and mobile service indexes are particularly useful for the ACCC. They allow it to monitor the changes in prices for all consumers by way of the overall index, as well as analyse how average prices change for individual services across particular consumer segments. Further detail on the methodology used is in section 2 of the report.

### 1.1 Main changes in prices paid for telecommunications services

Overall, the prices consumers paid for telecommunications services in Australia fell by 1.1 per cent in 2003-04.

This overall decline was driven by a fall of 3.2 per cent in prices paid for mobile telephony services, on the one hand, and a marginal increase of 0.2 per cent for PSTN services on the other hand. Details of underlying changes in prices paid by PSTN and mobile telephony consumers are outlined below.

### 1.1.1 PSTN services prices

Table 1A below sets out the main price changes for PSTN services for residential, small business and other business consumers by each service monitored for 2003-04 and since 1997-98.

ACCC analysis indicates that while overall PSTN prices increased marginally by 0.2 per cent in 2003-04, prices paid by residential and small business consumers on the one hand, and other larger business consumers on the other hand, are now moving in different directions. In recent years, average prices paid by residential and small business consumers for PSTN services have been going up, while average prices paid by large business consumers have been falling. Table 1A highlights this emerging divergence.

While the PSTN residential services index has decreased overall by 11.3 per cent since 1997-98, it rose by 1.4 per cent in 2003-04, after an increase of 5 per cent the previous year. Similarly, the PSTN small business index decreased by 11.4 per cent since 1997-98 overall, but rose by 3.1 per cent in 2003-04 and 1.1 per cent in 2002-03.

However, the PSTN other business index has decreased by a much larger 34.6 per cent since 1997-98. Most recently, it fell by 5.6 per cent in 2003-04 after an 8.6 per cent decrease the year before. The 3.1 per cent increase in the small business index together with the 5.6 per cent decrease in the other business index has led to the overall business index falling by 1.6 per cent during 2003-04.

When viewing changes in prices paid by service, table 1A also shows that the 'rebalancing' trend that the ACCC has observed in previous years has continued in 2003-04. Rebalancing refers to the process whereby carriers change the structure of their charges for PSTN services by increasing the fixed price of basic access while decreasing the price of per-call services.

However, unlike the effect of rebalancing in previous years, the decline in call prices for residential and small business consumers has not been enough to offset increases of 7.3 and 7.7 per cent respectively in the price of basic access in 2003-04. Further, these two groups also experienced price increases in fixed-to-mobile and national long-distance calls in 2003-04. An increase of 3.7 per cent in the price of basic access for other business consumers in 2003-04 was, however, more than offset by declines in the price of all other business call services in the study.

The ACCC notes, however, that the results reported for the average price paid for basic access service by PSTN residential consumers during 2003-04 should be treated with caution. The rate of
increase in their average price decreased significantly from 2002-03 to 2003-04 in spite of Telstra, the main provider of the service, increasing the line rental charges for its HomeLine products twice during 2003-04. The ACCC believes that the increase in average price for the basic access service for residential consumers is likely to have been underestimated in this report, based on the data provided by service providers. This is because Telstra treats its call discounts to pensioners as discounts off their line rental charges, with the effect of understating the basic access revenue reported by Telstra for the Division 12 report. This matter is explained further in section 5.2 of this report.

Table 1A Percentage changes in the PSTN price indexes by service and consumer group

|  | Residential |  | Small business |  | Other business |  | Overall |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { d } \\ & 1 \\ & 0 \\ & \text { N} \end{aligned}$ | $\begin{gathered} \stackrel{\infty}{\circ} \\ \stackrel{\circ}{\circ} \stackrel{\circ}{\circ} \\ \stackrel{\circ}{\circ} \end{gathered}$ | $\begin{aligned} & \text { J } \\ & \text { N} \\ & 0 \\ & \text { N} \end{aligned}$ | $\begin{aligned} & \stackrel{\infty}{\circ} \\ & \stackrel{\circ}{\wedge} \\ & \stackrel{\circ}{\sigma} \\ & - \end{aligned}$ | $\begin{aligned} & \text { す } \\ & \text { N } \\ & \text { O} \\ & \text { N } \end{aligned}$ | $\begin{gathered} \stackrel{\infty}{\circ} \\ \stackrel{\circ}{\circ} \stackrel{\circ}{\circ} \\ \stackrel{\circ}{\circ} \end{gathered}$ | $\begin{aligned} & \text { O} \\ & 1 \\ & \stackrel{y}{0} \\ & 0 \\ & \text { N} \end{aligned}$ | $\begin{gathered} \stackrel{\infty}{\circ} \\ \stackrel{\circ}{\circ} \\ \stackrel{\circ}{\circ} \\ \hline \end{gathered}$ |
| basic access | 7.3 | 84.4 | 7.7 | 54.2 | 3.7 | 38.7 | 6.8 | 70.5 |
| local calls | -3.8 | -37.3 | -3.0 | -31.6 | -1.6 | -45.3 | -3.3 | -39.2 |
| national long distance | 0.8 | -25.8 | 5.3 | -20.8 | -14.8 | -50.6 | -1.9 | -32.2 |
| international | -5.8 | -61.3 | -4.4 | -69.5 | -6.8 | -72.6 | -5.7 | -63.9 |
| fixed-to-mobile | 0.1 | -13.2 | 1.4 | -23.0 | -8.5 | -37.8 | -2.2 | -24.4 |
| Overall | 1.4 | -11.3 | 3.1 | -11.4 | -5.6 | -34.6 | 0.2 | -17.9 |

Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

### 1.1.2 Mobile services prices

Table 1B sets out the main percentage price changes for mobile telephony services in 2003-04. The overall price paid for mobile telephony services by consumers fell by 3.2 per cent in 2003-04. This fall in price was due to lower prices paid by consumers for prepaid services on both the GSM and CDMA networks, which fell by 5.6 per cent and 4.3 per cent respectively. Prices of post-paid services, on the other hand, fell by just 1.0 per cent for GSM services and 1.5 per cent for CDMA services. Overall, GSM mobile consumers enjoyed slightly larger price declines at 3.2 per cent, compared to CDMA users for whom prices fell on average by 2.2 per cent.

Prepaid consumers across all user groups and networks enjoyed price falls of between 0.9 per cent and 7.7 per cent in 2003-04.

The price trend for post-paid consumers was less uniform. For GSM services, all but one of the user groups ${ }^{1}$ in the study experienced a fall in prices in 2003-04. While low, average, high and very high users of mobile services experienced falls ranging from 0.4 to 2 per cent, very low users' prices

[^0]increased by 7.7 per cent. For CDMA services, there were falls of 3.7 and 7.6 per cent in prices paid by very low and very high user groups and increases of between 3.6 and 4 per cent in prices paid by the low, average and high user groups.

Table 1B Percentage change in the mobile services index by user group in 2003-04

|  | Very low | Low | Average | High | Very high | All |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| GSM |  |  |  |  |  | $-\mathbf{3 . 2}$ |
| post-paid | 7.7 | -1.9 | -0.5 | -0.4 | -2.0 | -1.0 |
| prepaid | -3.9 | -6.0 | -5.7 | -6.7 | -7.7 | -5.6 |
| CDMA |  |  |  |  |  | $-\mathbf{2 . 2}$ |
| post-paid | -3.7 | 3.6 | 3.6 | 4.0 | -7.6 | -1.5 |
| prepaid | -7.5 | -5.5 | -3.2 | -0.9 | -2.8 | -4.3 |
| All mobiles |  |  |  |  | $\mathbf{- 3 . 2}$ |  |

Source: data obtained from Telstra, Optus, Vodafone, Hutchison Telecommunications, AAPT, published plan and service information.

The ACCC observes that in 2003-04 nearly half of all mobile services in operation were prepaid services. ${ }^{2}$ The larger price falls for these services suggest more intense competition in this market segment, although historically, price levels for prepaid services were above those for post-paid services. ACCC analysis further shows that in recent years, prices for prepaid services have been converging toward post-paid levels and are now-with the exception of prepaid prices for higher user groups which are still much higher-roughly equivalent to post-paid service prices. ${ }^{3}$

Analysis of mobile pricing plans shows that while there are some simplified call plans, carriers are still generally offering plans with complex discounts, handset repayment plans, credits and free call options for consumers to choose from. Further, with the growth rate of mobile phone users slowing, carriers are now beginning to offer plans that encourage existing customers to increase their usage. This has been particularly noticeable in the past reporting period with the introduction of so-called 'bucket' or capped plans. ${ }^{4}$

[^1]
### 1.2 Structure of this report

This report takes a top down approach in reporting the results of the ACCC's analysis of changes in prices paid for telecommunications services in 2003-04. This means price changes at the broadest level, that is, for all telecommunications services, are discussed first, followed by detailed discussion of price changes for PSTN and mobile services. A complete series of index numbers and points contributions for all services covered in this report are included in tables 1 to 9 at the end of this report.

Figure 1 Structure of the report


## 2 Methodology for determining price change

### 2.1 The index model

Since 1999-2000 the Division 12 report has used a basket approach to measure the prices consumers pay for telecommunications services. Under this approach, developed by the Communications Research Unit (CRU) of the Department of Communications, Information Technology and the Arts, index numbers are used to analyse movements in prices paid for a 'basket' of telecommunications services. An index number measures the price of the services in one period relative to another. They reflect price changes over time, but not price levels. The advantages and disadvantages of the index approach and the method of constructing indexes are detailed in the Division 12 report for 1999-2000. ${ }^{5}$

The price indexes are constructed using revenue, quantity and pricing plan data collected by the ACCC from several telecommunications service providers. They are then aggregated to derive a series of overall indexes.

The ACCC uses a different method to derive the PSTN services index than for the mobile telephony services index. Both methods are outlined below.

### 2.1.1 The PSTN services index

As the Act requires that the ACCC report on prices paid for telecommunications services, the ACCC monitors retail prices, after deducting discounts and concessions to reflect prices actually paid by consumers.

Data on actual prices paid by consumers is not readily available and would require regular and expensive sampling to obtain. Tariff documents also may not include information on discounts and short-term specials, which carriers increasingly offer, and many discount plans become effective only after a threshold value or number of calls has been made. As a result, it is extremely difficult to establish retrospectively the actual prices paid by consumers for particular services and the degree to which customers may have taken advantage of discounts. ${ }^{6}$

To try to capture the effects of discounts and specials on prices paid, carrier revenue and usage data have been used to derive a yield. The yield provides a proxy for price in the form of an estimate of the average price paid for a unit of a telecommunications service.

[^2]Participating carriers provided separate revenue and usage estimates for five basic PSTN servicesbasic access, local calls, national long-distance, international long-distance and fixed-to-mobile services. For each of these, carriers were asked to further disaggregate the data into usage by residential, small business and other business consumers.

Using this data, a yield has been estimated for every PSTN service by consumer group for each year of the study (1997-98 to 2003-04). These yields were then converted into real terms ${ }^{7}$ and, as indicated above, used to construct a series of price indexes—using a chained-Laspeyres index methodology ${ }^{8}$ that show how prices paid for individual PSTN services by different consumer groups changed over time.

Individual carrier indexes for each PSTN service and consumer group category were then combined to derive indexes for PSTN services consumed by the three consumer groups for which data was collected —residential, small business and other business. These three indexes were then aggregated into an overall index for all PSTN services for all consumers. As with all aggregated indexes, the expenditure share of a service determines its importance in the overall index. For a given change in price, the index is influenced most by those services on which consumers as a group spend the most money.

The different levels of aggregation of the PSTN indexes are particularly useful for the ACCC.
They allow it to monitor the changes in PSTN prices for all consumers via the 'overall' index as well as analyse how average prices change for individual services across particular consumer groups.

### 2.1.2 The mobile telephony services index

The Division 12 report monitors prices consumers pay for mobile telephony services provided on the GSM and CDMA networks, including both prepaid and post-paid (billed) mobile services.

In contrast to the PSTN index, yield data has not been used to construct indexes for mobile telephony services because of the marketing methods and pricing structures used to sell these services. To make a call on a mobile network, consumers require a mobile handset, connection and ongoing access to the network. Carriers and carriage service providers typically offer these services as part of a bundled package or plan. These plans include ongoing access to a carrier's network, charges for calls and other services and if required, connection and a handset.

Mobile plans can contain a high degree of cross-subsidisation. Historically, when carriers have offered low upfront charges for handsets, they have recovered these costs through higher charges for monthly access or outgoing calls. When choosing which plan to use, consumers can further trade off higher access charges for lower call charges and increasingly choose an array of discount options to suit their calling preferences.

[^3]The CRU's approach to the problem of estimating prices for mobile services has been to treat mobile telephony as a bundle of services and then to measure the prices paid by consumers for these bundles. The bundles ${ }^{9}$, updated by the ACCC in 2003, are based on the number and pattern of calls made by consumers and include voice calls and short messaging service (SMS) messages to all mobile networks, and voice calls to the fixed network. The bundles are derived from sample bill data provided by carriers in the study and so reflect the actual consumption patterns of Australian consumers. The price of each bundle is determined by adding the cost of the handset, connection, monthly access and call charges, net of any discounts and free calls.

The bundles used in this approach include all components necessary for the consumer to use a mobile telephone service including connection and access fees, handset costs, flagfall ${ }^{10}$ and call charges. They also take into account any discounts or free calls offered by carriers.

Separate indexes are then constructed to compare the cost of each bundle over time. These indexesGSM and CDMA, post-paid and prepaid—are then aggregated using a revenue-weighting process to form an overall mobile telephony index.

### 2.2 Other methodology issues

### 2.2.1 Real prices

Price changes in the report are calculated using 'real' prices. This is done by adjusting nominal prices for the effects of inflation using the consumer price index (CPI).

### 2.2.2 The goods and services tax (GST)

The GST affects the prices paid by consumers of telephony services. This affects business and residential consumers differently because while business consumers can claim a GST input credit on telecommunications services because these are business inputs, residential consumers cannot.

As a result, the estimated prices paid by business consumers for PSTN services are GST-exclusive while those paid by residential consumers include GST. ${ }^{11}$ The prices for mobile telephony services are GST-inclusive as information was not available to estimate the proportion of mobile services used exclusively or partly for business.

[^4]
### 2.2.3 Quality of service

Quality means all the non-price attributes of a product or service and includes performance, reliability and features of the product or service. The estimates obtained in the Division 12 report do not take into account the effect of quality changes on price and consumers' utility of the services (i.e. the enjoyment that consumers derive from consuming the services) due to the difficulty in quantifying such changes. The recent introduction of mobile phones with cameras and multimedia messaging service (MMS-allowing wireless messages that include images, audio and videoclips in addition to text) is a good example of how quality affects price. When these handsets were first introduced, they were more expensive than previous models but offered consumers more utility.

If changes in quality are ignored in the analysis of price changes for telecommunications services, those price changes will probably not reflect pure price changes, that is, price changes where quality remains unchanged. However, an adjustment for a change in quality is difficult to make. The Australian Bureau of Statistics (ABS) has no satisfactory arrangement for adjusting the prices of these services in the CPI to reflect changes in quality, however significant they are.

Therefore, it is not possible to do anything other than acknowledge that a bias may exist.

### 2.2.4 Percentage changes and points contribution

The percentage changes used in this report are based on changes in the price indexes constructed for each of the PSTN and mobile services analysed. A complete set of index numbers for the telecommunications services covered is included in tables at the end of this report. Percentage changes are useful when summarising and analysing price movements over time.

The points contribution of an index component is the number of points that a component contributes to the overall index in a particular year. For example, analysis might show that, of a 10 per cent increase in the price index for a certain basket of services, 3 per cent is due to an increase in the price of a given individual service. The points contribution for a component of a given index is calculated by multiplying the revenue share of a component in a basket by the value of the index in that year. Analysis of points contribution provides an insight into the underlying dynamics in the price of the basket and shows the effects of different price changes within the basket on the index. ${ }^{12}$

[^5]
### 2.2.5 Record keeping rules in relation to the Division 12 report

In December 2004 the ACCC implemented a record keeping rule (RKR) for the Division 12 report, after a consultation process with industry. Under s. 151 BU of the Act, the ACCC has the power to make an RKR by written instrument and require that carriers and carriage service providers comply with it. The rules may specify what records are kept, how reports are prepared and when these reports are provided to the ACCC. The ACCC cannot require the keeping of records unless they contain information relevant to its responsibilities. These responsibilities include the operation of Parts XIB and XIC of the Act. Under Part XIB, Division 12, paragraph 151CM(1)(a) the ACCC is required to monitor and report each financial year on charges paid by consumers for telecommunications services.

Before the RKR was implemented, carriers and service providers provided the ACCC with the raw data for Division 12 reports on a voluntary basis. Each year, the ACCC wrote to carriers outlining the information sought. In recent years, however, the ACCC has experienced significant difficulties in acquiring reliable, up-to-date and relevant information from some carriers. While some carriers have consistently provided timely and reliable data, others have not. Also, some carriers have submitted information that is very late and does not comply in all respects with the data request. This has contributed to previous Division 12 reports being presented to the minister later than is appropriate.

The ACCC therefore decided to implement an RKR to significantly enhance the quality and timeliness of information received from carriers and service providers in relation to the Division 12 report.

Further information about the Division 12 record keeping rule is on the ACCC website at www.accc.gov.au.

## 3 Overall telecommunications services index

The overall telecommunications services index shows how prices have changed, on average, for consumers of PSTN (fixed lines) and mobile services. Figure 1 in section 1.3 shows the structure of the overall index for telecommunications services. The index is derived using the price indexes for PSTN services for all consumers and for mobile telephony services. These sub-indexes are weighted in the overall index using expenditure aggregates derived from carrier revenue data. The sub-index for PSTN services for all consumers is constructed with reference to baskets of services for both residential and business consumers. The sub-index for mobile services is calculated by deriving sample prices for bundles of post-paid and prepaid mobile telephony services that represent the consumption patterns of five defined user groups. Details of the results of all sub-indexes are outlined in subsequent chapters of this report.

### 3.1 Main findings

Overall, the prices paid by consumers for telecommunications services in Australia fell by 1.1 per cent in 2003-04. This was caused by a fall of 3.2 per cent in prices paid for mobile telephony services and a marginal increase of 0.2 per cent in the average price paid for PSTN services.

Figure 3.1 shows that the overall index for telecommunications services has declined from 100 in 1997-98 to 79.0 in 2003-04, or by 21 per cent since 1997-98. Over the same time the PSTN services index has fallen from 100 to 82.1 or 17.9 per cent, while the mobile services index has fallen by 26.5 per cent from 100 to 73.5 .

Figure 3.1 Telecommunications services index by PSTN and mobile telephony services, 1997-98 to 2003-04


[^6]As these results show, the decline in the overall telecommunications index in 2003-04 has been driven by the fall in the prices of mobile telephony services. The points contribution of the PSTN and mobile services indexes to the overall telecommunications services index confirms this. This is demonstrated in figure 3.2 which shows that, of the overall index decline of -1.1 per cent, mobile services accounted for -1.3 points and PSTN +0.2 points.

Figure 3.2 Points contribution of the PSTN and mobile services indexes to the overall telecommunications index in 2003-04


## $4 \quad$ PSTN services index

The PSTN services index summarises price movements for all consumer groups. It is derived by calculating the weighted average price change of each PSTN service in the study for business and residential consumers. The price changes for each PSTN service are then aggregated into a single PSTN index for all consumers.

### 4.1 Main findings

In 2003-04 the average price of a basket of PSTN services consumed by all consumers, that is, both residential and business consumers, increased by 0.2 per cent. This marginal increase follows an increase of 1.0 per cent in 2002-03 and decreases of 2.6 per cent and 5.8 per cent in 2001-02 and 2000-01 respectively. Since the index base year of 1997-98, the average price of a basket of PSTN services consumed by all consumers has fallen by 17.9 per cent.

ACCC analysis indicates that prices paid by residential and business consumers are now moving in different directions. This is shown in figure 4.1 and table 4.1 below. The PSTN residential services index (see section 5) increased by 1.4 per cent in 2003-04, after an increase of 5 per cent the previous year. In contrast, the PSTN business index decreased by 1.6 per cent during 2003-04 and 5.8 per cent in 2002-03.

The decline in the PSTN business index appears to be driven by decreases in the prices paid by other larger business consumers rather than the prices paid by small business consumers. In this regard, the results outlined in section 6 show that the average price paid by small business consumers for PSTN services has increased overall in each of the last two years surveyed by the ACCC.

Figure 4.1 PSTN services index by residential and business consumer group, 1997-98 to 2003-04


[^7]Table 4.1 Percentage changes in the PSTN services index by consumer group 1999-2000 to 2003-04

|  | $\mathbf{1 9 9 9} \mathbf{- 2 0 0 0}$ | $\mathbf{2 0 0 0} \mathbf{- 0 1}$ | $\mathbf{2 0 0 1} \mathbf{- 0 2}$ | $\mathbf{2 0 0 2 - 0 3}$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| PSTN residential | -7.4 | -3.5 | -2.2 | 5.0 | 1.4 |
| PSTN business | -6.5 | -9.2 | -3.2 | -5.8 | -1.6 |
| PSTN services index | $\mathbf{- 7 . 0}$ | $\mathbf{- 5 . 8}$ | $\mathbf{- 2 . 6}$ | $\mathbf{1 . 0}$ | $\mathbf{0 . 2}$ |

Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.
Note: base year is 1997-98

While figure 4.1 and table 4.1 above compare how prices of PSTN services have changed overall for residential and business consumers, table 4.2 below summarises the percentage changes in the aggregate PSTN index by each service in the PSTN basket. Sections 5 and 6 of this report disaggregate these results and show how the average price of each of the PSTN services has changed for residential, small business and other business consumers.

Table 4.2 Percentage change in the PSTN services index by service type from 1999-2000 to 2003-04

|  | $\mathbf{1 9 9 9} \mathbf{- 2 0 0 0}$ | $\mathbf{2 0 0 0} \mathbf{- 0 1}$ | $\mathbf{2 0 0 1} \mathbf{- 0 2}$ | $\mathbf{2 0 0 2 - 0 3}$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Basic access | 9.8 | 15.2 | 13.2 | 12.4 | 6.8 |
| Local calls | -9.3 | -17.9 | -11.7 | -3.8 | $\mathbf{- 3 . 3}$ |
| National long distance | -9.5 | -6.3 | -8.7 | -4.7 | $\mathbf{- 1 . 9}$ |
| International | -27.0 | -17.2 | -15.3 | -5.8 | $\mathbf{- 5 . 9}$ |
| Fixed-to-mobile | -7.9 | -6.2 | -3.2 | -2.4 | $\mathbf{- 2 . 2}$ |
| PSTN services index | $\mathbf{- 7 . 0}$ | $\mathbf{- 5 . 8}$ | $\mathbf{- 2 . 6}$ | $\mathbf{1 . 0}$ | $\mathbf{0 . 2}$ |

Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

In particular, table 4.2 shows that the overall increase in the average price of a basket of PSTN services in 2003-04 is due to a 6.8 per cent rise in the price of the basic access service during this period which was not fully offset by decreases in the prices of other PSTN services. This was the fifth consecutive increase in the average price for the basic access service and, since 1997-98, the average price of this service has grown by about 70 per cent.

While the average price of the basic access service increased in 2003-04, the average price of all of the other individual services in the PSTN basket decreased.

The average price of local calls fell by 3.3 per cent in 2003-04. This is the smallest reduction in the average price of local calls recorded since 1998-99. As outlined in further detail in sections 5.2, 6.3.4 and 6.4.2 of the report, although the average price of local calls has decreased every year since the base year of 1997-98, the rate of reduction has slowed substantially since 2000-01. In 2002-03
the average price of local calls fell by 3.8 per cent, in 2001-02 by 11.7 per cent, and in 2000-01 by 17.9 per cent. Since 1997-98 the average price of local PSTN calls has declined by about 39 per cent.

The average price of national long-distance calls has also been decreasing at a slower rate in recent years. In 2003-04 it fell by 1.9 per cent. This is substantially less than the decrease of 4.7 per cent in 2002-03 and the drop of 8.7 per cent in 2001-02. Since 1997-98 the average price of national longdistance calls has decreased by about 32 per cent.

The recent yearly changes in the average price of international long-distance calls tell a similar story. In 2003-04 it decreased by 5.9 per cent. This is similar to the previous year's fall of 5.8 per cent, but much less than the price decreases recorded each year from 1997-98 until 2001-02. Since 1997-98 the average price of international long-distance calls has decreased by about 64 per cent.

Similarly, the average price for fixed-to-mobile calls decreased in 2003-04, but the rate of reduction in the average price of this service has slowed in recent years. In 2003-04 it fell by 2.2 per cent, which is similar to the 2.4 per cent reduction in 2002-03. However, these are much less than the decreases of 7.9 per cent in 1999-2000, 6.2 per cent in 2000-01, and 3.2 per cent in 2001-02. Since 1997-98 the average price of fixed-to-mobile calls has decreased by about 24 per cent.

In summary, although there were decreases in 2003-04 in the average prices of local calls, national long-distance calls, international long-distance calls, and fixed-to-mobile calls, these price decreases were not enough to offset the increase in the average price of basic access. ${ }^{13}$ This is further illustrated in figure 4.2 which details each service's points contribution to the overall increase of 0.2 per cent in the PSTN services index. While local and fixed-to-mobile calls contributed -0.7 and -0.5 points, and national and international calls -0.4 and -0.3 points respectively, the increase in basic access prices contributed +2.2 points to the index change. Accordingly, there was an overall marginal increase in the average price of a basket of PSTN services consumed by all consumers in 2003-04.

Figure 4.2 Points contribution of PSTN services to the PSTN index in 2003-04


[^8]
## $5 \quad$ PSTN residential index

The index for PSTN residential services is derived from five individual sub-indexes for basic access (line rental), local calls, national long-distance, international and fixed-to-mobile calls. The indexes for each service are then combined by revenue-weighting the year-on-year price change for each PSTN service. Weights are based on each service's share of the previous year's overall revenue for residential PSTN services in the study. Figure 5.1 shows the structure of the PSTN residential index, explaining how the indexes for each PSTN service are combined to form an overall PSTN index for residential consumers.

Figure 5.1 The index for PSTN services consumed by residential consumers


### 5.1 Main findings

In 2003-04 the average price of PSTN residential services increased by 1.4 per cent. This follows an overall price increase of 5.0 per cent in the previous year. As figure 5.2 illustrates, these price movements have reversed the downward trend in the price index for residential PSTN services which had characterised the index until 2001-02.

Figure 5.2 Index for PSTN services for residential consumers, 1997-98 to 2003-04


Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

Note: base year is 1997-98

As shown in table 5.1 and figure 5.3 below, this overall increase in prices paid by residential consumers is mainly due to the change in the average price paid for basic access services, which increased by 7.3 per cent in 2003-04. The average price paid for national long-distance and fixed-to-mobile calls also increased marginally by 0.8 and 0.1 per cent respectively. Falls of 3.8 and 5.8 per cent in the average price paid for local and international calls in 2003-04 were not enough to offset increases in the average price paid for other services.

Table 5.1 Percentage changes in the PSTN residential index, 1999-2000 to 2003-04

|  | $\mathbf{1 9 9 9} \mathbf{- 2 0 0 0}$ | $\mathbf{2 0 0 0} \mathbf{- 0 1}$ | $\mathbf{2 0 0 1} \mathbf{- 0 2}$ | $\mathbf{2 0 0 2 - 0 3}$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Basic access | 11.1 | 16.0 | 15.1 | 16.6 | $\mathbf{7 . 3}$ |
| Local calls | -10.4 | -16.5 | -10.9 | -1.2 | $\mathbf{- 3 . 8}$ |
| National long distance | -10.3 | -3.1 | -8.5 | -2.4 | 0.8 |
| International | -26.3 | -14.6 | -15.6 | -3.5 | -5.8 |
| Fixed-to-mobile | -8.3 | -1.1 | -4.7 | 5.0 | 0.1 |
| PSTN residential | $\mathbf{- 7 . 4}$ | $\mathbf{- 3 . 5}$ | $\mathbf{- 2 . 2}$ | $\mathbf{5 . 0}$ | $\mathbf{1 . 4}$ |

Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

Figure 5.3 Year-on-year percentage price changes for individual PSTN services for residential consumers, 1998-99 to 2003-04


Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

### 5.2 Price movements for each individual PSTN service consumed by residential consumers

As indicated in section 5.1, the overall movement of the PSTN residential index is generated by changes in the average price paid for individual services comprising the residential PSTN basket. These are discussed in more detail below.

## Basic access service

In 2003-04 the average price paid for basic services by residential consumers rose by 7.3 per cent. This is the smallest increase in the price of basic access in five years and is due in part to the way Telstra has allocated discounted local calls for its pensioner customers.

It is important to treat with caution the results reported for basic access service prices during 2003-04. The rate of price increase for basic access for residential consumers more than halved between 2002-03 and 2003-04 from 16.6 to 7.3 per cent per year. This was despite Telstra increasing the prices of basic access for its HomeLine Plus and HomeLine Complete products by up to 7.3 per cent in July 2003, and again by up to 14.7 per cent in June 2004.

The 2003-04 increase in the average price paid for basic access is explained, in part, by Telstra's practice of treating the local call discounts offered to pensioners-who were given up to $\$ 9.25$ worth of free local calls a month as part of the HomeLine Complete service-as discounts off their basic access service. This reduced the basic access revenue, rather than local call revenue, reported by Telstra for the 2003-04 Division 12 report. As a result, the price increase for basic access services for residential consumers in the report is likely to have been underestimated. Conversely, had Telstra allocated the pensioner discounts to local call revenues, reported decreases in local call prices in the report are likely to have been greater.

Overall, from 1997-98 to 2003-04, the average price of basic access paid by residential consumers has increased by about 84 per cent.

## Local calls

The average price paid for local calls decreased by 3.8 per cent in 2003-04. This is greater than the decrease of 1.2 per cent in 2002-03, but much less than the 10.9 per cent and 16.5 per cent decreases of 2001-02 and 2000-01 respectively. Since the base year of 1997-98, the average price of local calls has decreased by 37.3 per cent. Local calls have traditionally been a relatively large, albeit declining, expenditure item for residential consumers of PSTN services.

## National long-distance calls

In 2003-04 the average price paid by residential consumers for national long-distance calls increased by 0.8 per cent. This is the first price increase for this service since the base year of 1997-98 and is consistent with the trend of progressively smaller price decreases recorded in recent years. The average price paid for national long-distance calls has fallen by 25.8 per cent since the base year of 1997-98 for residential PSTN consumers.

## International calls

In 2003-04 the average price paid by residential consumers for international long-distance calls decreased by 5.8 per cent. This average price decrease is greater than the previous year's of 3.5 per cent, but much less than those between 1999-2000 and 2001-02. The average price paid for international long-distance calls has fallen by 61.3 per cent since the base year for residential PSTN consumers.

## Fixed-to-mobile calls

In 2003-04 the average price paid by residential consumers for fixed-to-mobile calls increased by 0.1 per cent. This result follows a price rise of 5.0 per cent in 2002-03. The average price paid for fixed-to-mobile calls has decreased by 13.2 per cent for residential PSTN consumers since the 1997-98 base year.

## 5.3 <br> Analysis and tariff commentary on the reasons for changes in the price of individual PSTN residential services

For the second consecutive year, the average price paid for the basket of residential PSTN services increased overall. As in 2002-03 the overall price increase in 2003-04 was due to an increase in the average price of the basic access service which outweighed corresponding price decreases in some other residential PSTN services. This alters the trend of previous years when increases in the average price paid for basic access were offset by reductions in the average price paid for other PSTN services.

More specifically, in 2003-04 Telstra twice increased its monthly line rental charges for both its HomeLine Complete and HomeLine Plus products. The line rental charge for the HomeLine Complete product increased by about $\$ 1.60$ per month in July 2003, and again by about $\$ 3.45$ per month in June 2004. The line rental charge for the HomeLine Plus product increased similarly on the same months. Optus also increased its charges for basic access in 2003-04. It raised its basic access charges by $\$ 1.60$ in July 2003 and by a further $\$ 2.00$ in March 2004. There was also increased demand for AAPT's bundled offerings where unlimited local calls are priced into line-rental charges.

Increases in the average price of basic access were partially offset by decreases in the average price of other residential PSTN services. The average price of local calls continued to fall as a result of providers offering lower local call prices to customers who bundle services. For example, in November 2003 Telstra introduced 18-cent local calls for subscribers to the newly introduced Telstra Phone and Internet Package. This compares with non-bundled services which offer local call prices of up to 22 cents. Optus also reported an increased take-up of packages which include 50 or 100 'free' local calls, while AAPT reported increased demand for its $\$ 44.95$ bundled product which includes line rental, internet service and unlimited local calls.

Similarly, reduced charges for international long-distance calls were offered to end users who bought a bundle of residential PSTN services. For example, in November 2003 Telstra introduced \$1 call caps for the first 10 minutes for calls made by Telstra Phone-and-Internet Package customers to the United States of America, United Kingdom, New Zealand, Ireland and Canada. Then in June 2004 Telstra introduced a 20-minute call cap option for international calls made by HomeLine customers.

While the average price paid for international long-distance calls decreased, the average price paid for national long-distance calls for residential consumers increased marginally in 2003-04. The was the first such increase since the 1997-98 base year and may be explained, in part, by rises in connection fees charged for these calls. For instance, in 2003-04 Telstra increased its connection fee for national long-distance calls by 6 per cent from 33 cents to 35 cents per call.

The average price for fixed-to-mobile calls by residential consumers rose marginally during 2003-04. This may be explained by small increases in the prices offered for these services by some carriers. For example, in November 2003 Telstra increased its charges for calls from Telstra home phones to some non-Telstra mobile phones by up to five cents per minute.

### 5.4 Points contribution

The points contribution of individual service components to the weighted average price change for the PSTN residential services is shown in figure 5.5. The points contribution analysis outlines the number of points that a component (in this case, a service) contributes to the overall index in a particular year. That is, it shows how each service in the PSTN residential basket contributes to the movement in the PSTN residential services index.

As shown in figure 5.5 , while local and international calls contributed -0.8 and -0.4 points respectively to the change in the PSTN index for residential consumers, increases in the average price paid for basic access and national long-distance calls contributed +2.5 points and +0.1 points respectively. The small increase in the average price paid for fixed-to-mobile calls was not big enough to influence the change in the average price paid for PSTN services by residential consumers.

Figure 5.4 Points contributions by individual PSTN services to the residential index in 2003-04


## 6 PSTN business index

The index for PSTN business services is made up of the small business and other business sub-indexes. These sub-indexes can be disaggregated to show how prices have changed for each of the services in the business index basket. Figure 6.1 shows how all the sub-indexes are combined to form an overall index for all business consumers.

Figure 6.1 Construction of the index for PSTN services for business consumers


### 6.1 Definition of business type

There is no single definition for small business consumers across carriers. Telstra, for example, defines a small business customer as one who spends up to $\$ 25000$ annually on telecommunications services with Telstra. For Telstra, the small business category includes business customers with no more than two phone lines and with no complex services. It also includes business customers designated as 'SOHO' (small office/home office) businesses, that is, customers that are mainly homebased and have a mix of residential and business products with Telstra. However, for 2003-04 Telstra has changed its definition of small business in its Telstra Country Wide (TCW) segment. It stated that TCW customers that are account managed have been moved, irrespective of the $\$ 25000$ annual spending rule, to the enterprise segment, which corresponds with the 'other business' category of the Division 12 report.

Optus defines a small business customer as one with fewer than 20 phone lines, fewer than five employees, and a telecommunications bill spend with Optus of less than $\$ 1500$ per month.

Primus does not differentiate between residential and small business customers, noting that while its residential customers generally have five lines or less, a residential customer is simply one that acquires a residential service. If a small business chooses to acquire a residential package, Primus classifies it as a residential customer.

AAPT defines a small business customer as a customer that is business or commercial in nature and has a monthly billed revenue of less than $\$ 1000$ per month.

In previous periods, One.Tel had also defined small business customers as those business customers with less than five lines.

The 'other business' category is generally comprised of larger businesses that fall outside the respective carriers' definitions of small businesses.

### 6.2 Main findings

In 2003-04 the average price paid by business consumers for a basket of PSTN services decreased by 1.6 per cent. This price decrease is much less than the 5.8 per cent decrease in 2002-03 and the 3.2 per cent decrease in 2001-02.

The decrease in the PSTN business services index in 2003-04 was primarily driven by a decline of 5.6 per cent in the average price paid for telecommunications services by other (larger) business consumers. The average price paid by small business consumers, on the other hand, increased by 3.1 per cent.

Figure 6.2 and table 6.1 illustrate that, while the overall price index for business consumers has been declining since 1997-98, the results have diverged according to business type. That is, since 2000-01 the average price paid by small business consumers has been increasing while the average price paid by other businesses has been falling.

Since the base year of 1997-98, the average price paid for the basket of PSTN business services has decreased by 28 per cent. The decline for small and other business consumers over this period has been 11.4 per cent and 34.6 per cent, respectively.

Figure 6.2 PSTN business services index for all business, small and other businesses, 1997-98 to 2003-04



Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.
Note: base year is 1997-98.

Table 6.1 Percentage changes in the PSTN business services index by consumer group, 1999-2000 to 2003-04

|  | $\mathbf{1 9 9 9} \mathbf{- 2 0 0 0}$ | $\mathbf{2 0 0 0} \mathbf{- 0 1}$ | $\mathbf{2 0 0 1 - 0 2}$ | $\mathbf{2 0 0 2 - 0 3}$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Small business | -7.2 | -8.7 | 2.4 | 1.1 | 3.1 |
| Other business | -6.3 | -9.4 | -4.7 | -8.6 | -5.6 |
| PSTN business index | $\mathbf{- 6 . 5}$ | $\mathbf{- 9 . 2}$ | $\mathbf{- 3 . 2}$ | $\mathbf{- 5 . 8}$ | $\mathbf{- 1 . 6}$ |

Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

On a service-by-service basis, figure 6.3 shows that basic access for all business consumers increased at a slightly greater rate of 5.8 per cent in 2003-04, compared with an increase of 4.1 per cent in 2002-03. Figure 6.3 also shows that the rate of decrease in the average price paid for local calls and national long-distance calls has slowed since 1999-2000, while the rate of decrease for international long-distance calls has slowed since 1998-99.

Figure 6.3 Price changes for individual PSTN services for all business consumers from 1998-99 to 2003-04


Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

Figure 6.4 shows the points contribution made by the small business and other business indexes to the overall price movement in the all business index. The average price paid by small business consumers for the basket of PSTN services contributed +1.4 points, while the average price paid by other business consumers for the basket of PSTN services accounted for -3.1 points of the overall 1.6 per cent decrease in the all business index.

Figure 6.4 Points contributions by small and other business to the all business index in 2003-04


Similarly, figure 6.5 shows the points contribution made by each service in the overall PSTN business index. In particular, it shows that the 1.7 points increase in basic access in 2003-04 for business consumers was offset by falls for all of the call services.

Figure 6.5 Points contributions by individual PSTN services to the all business index in 2003-04


### 6.3 Small business index

### 6.3.1 Main findings

As indicated above, small business consumers paid 3.1 per cent more, on average, for the basket of PSTN services in 2003-04 than they did in 2002-03. This compares with an overall average increase in the basket of small business PSTN services of 1.1 per cent in 2002-03. Since the base year of 1997-98 this average price has decreased by 11.4 per cent.

Figure 6.6 shows the index for PSTN services consumed by small business consumers from 1997-98 to 2003-04. Figure 6.7 shows the changes in average prices paid for each individual service from 1997-98 to 2003-04.

Figure 6.6 Index for PSTN services for small business consumers, 1997-98 to 2003-04


Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

Note: base year is 1997-98

Figure 6.7 Year-on-year price changes for individual small business PSTN services, 1998-99 to 2003-04


Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

### 6.3.2 Price movements for each individual PSTN service consumed by small business consumers

The overall movement of the PSTN small business index has been influenced by the respective price changes of the services comprising the PSTN small business basket. These are discussed in more detail below and set out in table 6.2.

## Basic access

In 2003-04 the average price paid by small business consumers for basic access increased by 7.7 per cent. This follows a rise of 7.5 per cent in the average price in 2002-03 and a rise of 16.2 per cent in 2001-02. Since the 1997-98 base year, the average price paid for basic access has increased by 54.2 per cent.

## Local calls

In 2003-04 the average price paid for local calls by small business consumers decreased by 3.0 per cent. This follows average price decreases of 3.7 per cent in 2002-03 and 3.0 per cent in 2001-02. Since the 1997-98 base year, the average price paid for local calls consumed by small business consumers has fallen by 31.6 per cent.

## National long-distance calls

In 2003-04 the average price paid by small business consumers for national long-distance calls increased by 5.3 per cent. This rise contrasts with the falls of 6.8 per cent in 2002-03 and 6.6 per cent in 2001-02. Since the 1997-98 base year, the average price paid for national long-distance calls has decreased by 20.8 per cent.

## International calls

In 2003-04 the average price paid by small business consumers for international long-distance calls decreased by 4.4 per cent. This is less than the decrease of 7.3 per cent in 2002-03 and much less than the 13.4 per cent fall in 2001-02. Since the base year of 1997-98, the average price paid for international long-distance calls by small business consumers has decreased by 69.5 per cent.

## Fixed-to-mobile calls

In 2003-04 the average price paid by small business consumers for fixed-to-mobile calls increased by 1.4 per cent. This contrasts with decreases of 4.3 per cent in 2002-03 and 0.8 per cent in 2001-02. The average price paid for fixed-to-mobile calls has decreased by 23 per cent since the 1997-98 base year.

Table 6.2 Percentage changes in the PSTN small business index by service type from 1999-00 to 2003-04

|  | $\mathbf{1 9 9 9} \mathbf{- 2 0 0 0}$ | $\mathbf{2 0 0 0} \mathbf{- 0 1}$ | $\mathbf{2 0 0 1} \mathbf{- 0 2}$ | $\mathbf{2 0 0 2 - 0 3}$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Basic access | 11.5 | 8.5 | 16.2 | 7.5 | 7.7 |
| Local calls | -8.3 | -23.2 | -3.0 | -3.7 | -3.0 |
| National long distance | -8.9 | -3.4 | -6.6 | -6.8 | 5.3 |
| International | -34.2 | -33.5 | -13.4 | -7.3 | -4.4 |
| Fixed-to-mobile | -5.4 | -8.6 | -0.8 | -4.3 | 1.4 |
| PSTN small business | $\mathbf{- 7 . 2}$ | $\mathbf{- 8 . 7}$ | $\mathbf{2 . 4}$ | $\mathbf{1 . 1}$ | $\mathbf{3 . 1}$ |

Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

### 6.3.3 Analysis and tariff commentary on the reasons for changes in the price of individual PSTN small business services

As with the basket for residential PSTN services, the increase in average price paid for a basket of small business PSTN services in 2003-04 was largely due to an increase in the average price paid for basic access services, national long-distance calls and fixed-to-mobile calls. These rises were only partially offset by decreases in the average price paid for other PSTN services.

As with residential PSTN services, providers of small business PSTN services increasingly promoted bundled offerings during 2003-04, whereby consumers pay higher charges for line rental services but less for each local call. For example, AAPT offered a $\$ 44.95$ per month plan which included internet services and unlimited local calls.

There was also an increase in charges for basic access in small business plans during the year. In July 2003 Optus increased its line rental charge to small business consumers by $\$ 3.00$ per month. Similarly, in June 2003 Telstra raised basic access monthly charges for its BusinessLine Complete and BusinessLine Plus products by $\$ 2.00$ and $\$ 3.00$ respectively, increasing them again in June 2004 by a further $\$ 1.00$ per month.

Decreases in the average prices paid by small business consumers for local calls and international long-distance calls were outweighed by the increases in the average prices paid for basic access, national long-distance and fixed-to-mobile calls.

This is confirmed by the results set out in figure 6.8 which shows the points contribution of each service to the 3.1 per cent increase in the small business index in 2003-04. On a weighted average basis, basic access, national long-distance and fixed-to-mobile calls contributed 2.6 per cent, 0.9 per cent and 0.4 per cent respectively to the overall increase. Local calls and international longdistance contributed -0.6 per cent and -0.1 per cent respectively.

Figure 6.8 Points contribution by individual PSTN service to the small business index, 2003-04


### 6.4 Other business index

### 6.4.1 Main findings

The PSTN index for other business consumers decreased by 5.6 per cent in 2003-04. This compares with a price decrease of 8.6 per cent in 2002-03. Since the base year of 1997-98, the average price paid for the basket of PSTN services consumed by other business consumers has fallen by 34.6 per cent, as shown in figure 6.9 below. Figure 6.10 shows the changes in average prices paid for each individual service from 1997-98 to 2003-04 for other business consumers.

Figure 6.9 Index of PSTN services for other business consumers, 1997-98 to 2003-04


Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.
Note: base year is 1997-98.

Figure 6.10 Price changes for individual PSTN services for other business consumers from 1998-99 to 2003-04


### 6.4.2 Price movements for each individual PSTN service consumed by other business consumers

The overall movement of the PSTN other business index has been influenced by the respective price changes of the services comprising the PSTN other business basket. These are discussed in more detail and set out in table 6.3 below.

Table 6.3 Percentage changes in the PSTN other business index by service type from 1999-2000 to 2003-04

|  | $\mathbf{1 9 9 9} \mathbf{- 2 0 0 0}$ | $\mathbf{2 0 0 0} \mathbf{- 0 1}$ | $\mathbf{2 0 0 1} \mathbf{- 0 2}$ | $\mathbf{2 0 0 2 - 0 3}$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Basic access | 6.2 | 15.4 | 7.9 | 0.7 | 3.7 |
| Local calls | -7.3 | -19.4 | -15.5 | -10.8 | $\mathbf{- 1 . 6}$ |
| National long distance | -7.7 | -14.7 | -9.4 | -9.1 | -14.8 |
| International | -24.9 | -22.4 | -13.2 | -15.8 | -6.8 |
| Fixed-to-mobile | -8.1 | -10.3 | -1.9 | -11.0 | $\mathbf{- 8 . 5}$ |
| PSTN other business | $\mathbf{- 6 . 3}$ | $\mathbf{- 9 . 4}$ | $\mathbf{- 4 . 7}$ | $\mathbf{- 8 . 6}$ | $\mathbf{- 5 . 6}$ |

Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.

## Basic access

In 2003-04 the average price paid for basic access services by other business consumers increased by 3.7 per cent compared with 0.7 per cent in 2002-03. The average price paid for basic access has increased by 38.7 per cent since the base index year of 1997-98.

## Local calls

In 2003-04 the average price paid by other business consumers for local calls decreased by 1.6 per cent, which is much less than the 10.8 per cent decrease in 2002-03. While the average price paid for local calls has fallen by 45.3 per cent since the base index year of 1997-98, the rate of decline has slowed in recent years.

## National long-distance calls

In 2003-04 the average price paid by other business consumers for national long-distance calls decreased by 14.8 per cent, compared with 9.1 per cent in 2002-03. The average price paid for national long-distance calls has decreased by 50.6 per cent since the base index year of 1997-98.

## International calls

In 2003-04 the average price paid by other business consumers for international long-distance calls decreased by 6.8 per cent, which is much less than the 15.8 per cent fall recorded for 2002-03. Since the base year of 1997-98, the average price paid for international long-distance calls has decreased by 72.6 per cent but, as with local calls, the rate of decline has been slowing in recent years.

## Fixed-to-mobile calls

In 2003-04 the average price paid by other business consumers for fixed-to-mobile calls decreased by 8.5 per cent compared with 11.0 per cent in 2002-03. Since the base index year of 1997-98, the average price paid has decreased by 37.8 per cent.

### 6.4.3 Analysis and tariff commentary on the reasons for changes in the price of individual PSTN other business services

As noted earlier in this report, the strongest price reductions for PSTN services have been experienced by other (or larger) business consumers. ACCC analysis indicates that the relatively large decreases for other business consumers compared with other PSTN consumers reflects their ability to better negotiate 'off-tariff' discounts with suppliers of PSTN services. This is because larger business consumers have a higher volume of calls and therefore greater expenditure. The ACCC considers it may also be a result of stronger facilities-based competition in central business district (CBD) areas where the proportion of major corporate and large business consumers is greatest, stimulating more active competition among service providers in this segment of the market.

The divergence in price changes also reflects the increasingly bundled services bought by large corporate consumers. These consumers often require many telecommunications services other than the five basic PSTN services currently reported on under Division 12 provisions. These may include data and internet solutions, managed information technology services, mobile communications, or voice over internet protocol (VoIP) services.

In summary, reductions in the average prices paid by other business consumers for local, national long-distance, international long-distance and fixed-to-mobile calls have offset the price increase for basic access and resulted in an overall average price decrease of 5.6 per cent.

The points contribution of each service to the overall index is shown in figure 6.11. On a weighted average basis, the decreases in average prices paid for fixed-to-mobile calls and national long-distance calls made the greatest contribution to the overall fall in the average price paid for the basket of PSTN services consumed by other business consumers.

Figure 6.11 Points contributions by individual PSTN services to the other business index in 2003-04


The mobile telephone services index shows how prices have changed, on average, for consumers of GSM and CDMA prepaid and post-paid mobile services. ${ }^{14}$ The ACCC calculates this index by estimating sample prices for bundles of mobile services representing the usage patterns of consumers with very low, low, average, high and very high consumption of mobile services. ${ }^{15}$ The prices of these bundles are then compared over time using indexes. ${ }^{16}$ The sub-indexes for post-paid and prepaid GSM and CDMA services are then aggregated to derive both an overall GSM and CDMA index. These are then further aggregated to derive an overall price index for mobile services. The sub-indexes are weighted in the index according to the proportion of mobile services in operation for each service. The complete series of index numbers for these services and user groups are at the end of this report.

### 7.1 Main findings

The ACCC estimates that the average price paid for mobile telephony services by consumers fell by 3.2 per cent in 2003-04. This was primarily due to lower prices charged by carriers and carriage service providers for prepaid services (on both the GSM and CDMA networks) which fell by 5.6 per cent and 4.3 per cent respectively. Prices of post-paid services, on the other hand, fell by 1.0 per cent for GSM services and 1.5 per cent for CDMA services. These results are summarised in table 7.1 below.

Table 7.1 Percentage change in price indexes for mobile services, 1999-2000 to 2003-04

|  | $1999-2000$ | $2000-01$ | $2001-02$ | $2002-03$ | $2003-04$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| GSM |  |  |  |  |  |
| post-paid | -13.4 | -5.4 | -0.9 | 2.2 | -1.0 |
| prepaid | -10.0 | -13.7 | -5.1 | -0.9 | -5.6 |
| All GSM | -13.2 | -6.8 | -2.2 | 1.1 | -3.2 |
| CDMA |  |  | -2.0 | -1.5 |  |
| post-paid |  |  | -3.6 | -4.3 |  |
| prepaid |  |  | -2.3 | -2.2 |  |
| All CDMA |  |  |  |  |  |
| Overall mobiles | -13.2 | -6.8 | -2.0 | 0.9 | -3.2 |

Source: data from Telstra, Optus, Orange, Primus; published plan and service information.

[^9]ACCC analysis indicates that in 2003-04 nearly half of all services in operation (SIO) were prepaid services. ${ }^{17}$ This represents substantial growth considering that five years ago, only about 5 per cent were prepaid. The larger price falls for prepaid services suggest that carriers are competing for new consumers in this market segment. They also indicate that average prices for prepaid services-which have been historically higher than those for post-paid services-have been converging toward levels for post-paid services, and both are now roughly equivalent. The only exception to this trend is that the average price paid by high users of prepaid services are still above that paid by high users of postpaid services. ${ }^{18}$

Overall, GSM mobile telephony consumers enjoyed slightly larger price declines at 3.2 per cent, compared to CDMA users for whom prices fell on average by 2.2 per cent.

### 7.2 GSM services

The average price paid for GSM services fell by 3.2 per cent in 2003-04. This was mainly due to decreases in the prices of prepaid mobile services which fell by 5.6 per cent over the period, while average prices paid for post-paid services fell by 1 per cent. Since 1997-98 the index for GSM services has fallen by a total of 26.4 per cent. The index for post-paid services has fallen by 22 per cent since 1997-98 while the index for prepaid services has declined by 31.4 per cent since 1998-99.

Figure 7.1 GSM mobile services index, 1998-99 to 2003-04


Source: CRU estimates to 2000-01; data from Telstra, Optus, Vodafone, AAPT; published plan and service information.
Notes: base year is 1997-98; indexes/price changes are calculated in real price (2002-03) terms.

[^10]
### 7.2.1 Post-paid prices

The ACCC estimates that the price index for GSM post-paid services fell in 2003-04 by 1 per cent from 78.7 to 78.0 . Apart from an increase of 2.2 per cent in 2002-03, the average price paid for GSM post-paid services has fallen each year since 1997-98, although the rate of decline has slowed in recent years (see figure 7.1 and table 7.1 above). The cumulative decrease in the average price paid for GSM post-paid services from 1997-98 to 2003-04 is 22 per cent.

Figure 7.2 Year-on-year percentage changes in GSM post-paid prices by user group, 1998-99 to 2003-04


Source: CRU estimates to 2000-01; data from Telstra, Optus, Vodafone, AAPT; published plan and service information.
Notes: base year is 1997-98; indexes/price changes are calculated in real price (2002-03) terms.

User group sub-indexes (see figure 7.2 above and tables at the end of this report) show that all but one of the user groups in the study experienced a fall in prices in 2003-04. While low, average, high and very high users of mobile services experienced falls ranging from 0.4 to 2 per cent, very low users' prices increased by 7.7 per cent.

However, since 1997-98 the overall price declines have, on average, been greatest for very low to average user groups. These consumers have benefited from falls in fixed costs and restructuring of tariffs and plans, giving them access to discounts and lower call charges. Higher level users have experienced only about a third of these declines mainly because the call prices they paid were lower to begin with, particularly the per-minute charges for calls.

### 7.2.2 Prepaid prices

In 2003-04 the price index for GSM prepaid services fell by 5.6 per cent from 72.7 to 68.6 (see figure 7.1). The average price paid for GSM prepaid services has decreased every year in the study (see table 7.1 above), with a cumulative decrease of 31.4 per cent since 1998-99. The greater rate of decline in prepaid prices compared to post-paid prices is because prices were initially higher for prepaid services. In recent years the number of prepaid services in operation has surged and competition in this segment has seen prices fall for many users to levels similar to those available on post-paid plans.

In 2003-04 prices paid for prepaid services across all user groups fell (see figure 7.3 below), with the very high user group experiencing the largest fall ( -7.7 per cent) after increases of 4.1 per cent and 2.8 per cent in the two previous years. Low, average and high user groups all experienced declines in prices in 2003-04 of between 5.7 per cent and 6.7 per cent. Prices paid by very low users fell by 3.9 per cent in 2003-04, although this group has experienced a price fall of 60.2 per cent since 1998-99—the largest among all user groups.

Figure 7.3 Year-on-year percentage changes in GSM prepaid prices by user group, 1998-99 to 2003-04


Source: data from Telstra, Optus, Vodafone, AAPT; published plan and service information.
Notes: base year is 1997-98; indexes/price changes are calculated in real price (2002-03) terms.

### 7.3 CDMA services

The ACCC began reporting on prices paid by consumers for CDMA services in 2002-03. Telstra and Orange operate CDMA networks, with other carriers (including Optus) reselling this service to its customers. The average price paid for CDMA services fell by 2.2 per cent in 2003-04. As with GSM, price falls for CDMA prepaid services of 4.3 per cent exceeded those for post-paid services which fell by 1.5 per cent.

Figure 7.4 CDMA mobile services index, 2001-02 to 2003-04


Source: data from Telstra, Optus, Orange, Primus; published plan and service information.
Notes: base year is 2001-02; indexes/price changes are calculated in real price (2002-03) terms.

### 7.3.1 Post-paid prices

The average price paid for CDMA post-paid services fell by 1.5 per cent in 2003-04. This was driven by decreases of 3.7 and 7.6 per cent in average prices paid by very low and very high user groups respectively. These falls were offset by increases in average prices paid by the low, average and high user groups, of between 3.6 and 4 per cent.

Since 2001-02, while the average price paid for post-paid CDMA services has declined by a total of 3.4 per cent, prices have only fallen overall for high and very high user groups. Real prices paid for post-paid CDMA services by very low, low and high user groups have all risen.

Figure 7.5 Year-on-year percentage changes in CDMA post-paid prices by user group, 2001-02 to 2003-04


Source: data from Telstra, Optus, Orange, Primus; published plan and service information.
Notes: base year is 2001-02; indexes/price changes are calculated in real price (2002-03) terms.

### 7.3.2 Prepaid prices

The average price for prepaid CDMA services fell by 4.3 per cent in 2003-04. Unlike post-paid prices, average prices for CDMA prepaid services fell across all user groups, both in the current year 2003-04 and in 2002-03. In the current year, the largest decreases were for very low and low users, who paid 7.5 and 5.5 per cent less respectively.

Figure 7.6 Year-on-year percentage changes in CDMA prepaid prices by user group, 2001-02 to 2003-04


Source: data from Telstra, Optus, Orange, Primus; published plan and service information.
Notes: base year is 2001-02; indexes/price changes are calculated in real price (2002-03) terms.

### 7.4 Points contributions

The points contribution reflects the number of points that the GSM and CDMA indexes make to the overall change in the mobile services index. Figure 7.7 illustrates that this index declined by 3.2 per cent in 2003-04, of which GSM services contributed -3 points and CDMA services accounted for -0.2 points. This reflects that, while price falls for GSM and CDMA services were -3.2 per cent and -2.2 per cent respectively, the change in the GSM index is given more weight because more consumers use and spend money on GSM services compared to CDMA services.

Figure 7.7 Points contributions by GSM and CDMA indexes to the mobile services index in 2003-04


Source: data from Telstra, Optus, Orange, Primus; published plan and service information.

### 7.5 Analysis and tariff commentary on the reasons for changes in the price of individual mobile telephony services

To make a mobile call, consumers require a handset, connection and ongoing access to a mobile network. These are typically sold through a wide range of pricing plans. ${ }^{19}$ Because there can be a high degree of cross-subsidisation between the individual components of particular phone plans, it is impossible to analyse changes in the overall price of mobile telephony services by only looking at perminute charges, for example. That said, once overall price change trends have been established, it is useful to analyse pricing plans available to consumers to identify factors that may have contributed to this price change. ${ }^{20}$

ACCC analysis of mobile pricing plans has shown that while there are some simplified call plans, such as those offering flat rates regardless of the time of day a call is made, carriers usually offer a range of plans with complex discounts, handset repayment plans, credits and free call options for consumers to choose from. With the growth rate of mobile phone users slowing, carriers are now beginning to offer plans that encourage existing customers to increase their usage. One strategy is the introduction of so-called 'bucket' or capped plans although these were not yet widely available in 2003-04.

The ACCC identified a number of broad trends in post-paid and prepaid plans used to derive prices for mobile services in this year's report:

[^11]- Improvements in handset technology (e.g. cameras, MMS, radios, polyphonic ring tones) have raised their quality. While initially prices for these newer handsets were high, in 2003-04 they were being provided at low cost to prepaid and post-paid consumers and zero upfront cost to consumers on post-paid contract plans. The ACA reports that according to the Australian Mobile Telecommunications Association, sales of mobile handsets increased by 43 per cent to 7.1 million units in 2003-04 ${ }^{21}$, indicating that many consumers took advantage of these new handsets at low prices.
- Connection charges have been decreasing over the study. In 2003-04 most carriers either did not charge new customers a connection charge or provided the equivalent sum in free calls if they imposed a connection charge.
- Termination or exit fees may be charged when consumers sign up for a plan or a handset/plan package and they disconnect, or switch plans or carriers within the contract term. These charges may include outstanding amounts owed on a handset and also early termination fees for opting out of a pricing plan before the end of a minimum period. Some carriers, such as Vodafone, do not charge exit fees if subscribers opt out of a particular post-paid plan.
- Until 1998-99 mobile plan access charges were similar to fixed-line basic access in that a fee was payable solely for access to a network. The higher the access charge, the lower the cost per minute of each call. From about 1999-2000 carriers gradually introduced free calls with access to the point where consumers on an access plan of, for example, $\$ 35$ a month would receive the first \$35 of calls 'free'. In 2003-04 minimum spend plans were very common and were effectively the same as access plans-consumers must pay at least a minimum charge a month, with per-minute prices declining the higher the fixed minimum component.
- All carriers in the study charged flagfalls ${ }^{22}$ to consumers making mobile calls in 2003-04. Flagfalls have become a standard fixed component for most mobile users contrasting with earlier years when some carriers, such as Optus, did not have a flagfall. While the price of flagfalls overall has generally been increasing in the bundles priced for this study, there have been decreases for some consumers, such as Vodafone reducing post-paid flagfalls from 25 cents to 20 cents in 2003-04, although it increased flagfalls for prepaid customers from 15 cents to 20 cents at the same time.
- Voice call charges vary depending on the length of the call, the network to which the call is made and the time of day. Generally, call charges are set in increments of one or 30 seconds. Incremental call charges are usually more expensive when consumers choose a lower monthly access charge. While it is correct to say call charges have declined overall for all groups since 1998-99, the main change seems to be a restructuring of call charges within plans. SMS calls are priced per unit. In 2003-04 the ACCC has observed some falls in the prices of SMS calls. Vodafone, for example, has introduced post-paid plans with sliding SMS call rates, much like those for voice calls. Vodafone charged between 14 and 25 cents per SMS call in 2003-04 depending on the minimum monthly spend (access) selected by its customer. Orange is another carrier that has reduced its SMS charge to 11 cents for some of its higher minimum spend postpaid plans.

[^12]- Discounts on service prices provided by carriers have contributed to falling prices for all user groups. While 'free' minutes have become almost a standard part of most plans, carriers can also offer complex discount options within individual plans that depend on consumers having a good knowledge of their calling patterns to properly utilise-for example, choosing between discounted calls to fixed-line numbers, or other mobile numbers or cheaper SMS calls. Other examples of discounts include 'loyalty bonuses', further percentage discounts at set expenditure thresholds and discounts if consumers also buy other products from the carrier such as internet or fixed-line services.


## 8 Tables

Table 8.1 Telecommunications services index, 1997-98 to 2003-04

|  | $1997-98$ | $1998-99$ | $1999-00$ | $2000-01$ | $2001-02$ | $2002-03$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| PSTN services | 100.0 | 95.0 | 88.4 | 83.2 | 81.0 | 81.9 | $\mathbf{8 2 . 1}$ |
| mobile services | 100.0 | 94.9 | 82.4 | 76.8 | 75.2 | 75.9 | $\mathbf{7 3 . 5}$ |
| All telecommunications |  |  |  |  |  |  |  |
| services | $\mathbf{1 0 0 . 0}$ | $\mathbf{9 5 . 0}$ | $\mathbf{8 6 . 4}$ | $\mathbf{8 1 . 1}$ | $\mathbf{7 9 . 1}$ | $\mathbf{7 9 . 9}$ | $\mathbf{7 9 . 0}$ |

Source: data obtained from Telstra, Optus, AAPT, Primus, Vodafone, Hutchison Telecommunications, pricing plans and other published information.

Table 8.2 PSTN services index by service; residential and business, 1997-98 to 2003-04

|  | 1997-98 | $1998-99$ | $1999-00$ | $2000-01$ | $2001-02$ | $2002-03$ | 2003-04 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## All PSTN

| basic access | 100 | 99.2 | 108.9 | 125.4 | 142.0 | 159.6 | $\mathbf{1 7 0 . 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| local calls | 100 | 99.5 | 90.3 | 74.1 | 65.4 | 62.9 | 60.8 |
| national long distance | 100 | 93.6 | 84.7 | 79.4 | 72.5 | 69.1 | $\mathbf{6 7 . 8}$ |
| international | 100 | 79.3 | 57.9 | 48.0 | 40.7 | 38.3 | $\mathbf{3 6 . 1}$ |
| fixed-to-mobile | 100 | 94.7 | 87.3 | 81.9 | 79.2 | 77.3 | $\mathbf{7 5 . 6}$ |
| All PSTN | 100 | 95.0 | 88.4 | 83.2 | $\mathbf{8 1 . 0}$ | $\mathbf{8 1 . 9}$ | $\mathbf{8 2 . 1}$ |
| PSTN residential |  |  |  |  |  |  |  |
| basic access | 100 | 99.4 | 110.4 | 128.1 | 147.4 | 171.9 | $\mathbf{1 8 4 . 4}$ |
| local calls | 100 | 99.0 | 88.7 | 74.1 | 66.0 | 65.2 | $\mathbf{6 2 . 7}$ |
| national long distance | 100 | 94.8 | 85.0 | 82.4 | 75.4 | 73.6 | $\mathbf{7 4 . 2}$ |
| international | 100 | 80.2 | 59.1 | 50.5 | 42.6 | 41.1 | $\mathbf{3 8 . 7}$ |
| fixed-to-mobile | 100 | 95.6 | 87.7 | 86.7 | 82.6 | 86.7 | $\mathbf{8 6 . 8}$ |
| All residential | 100 | 95.3 | 88.2 | 85.1 | 83.3 | 87.5 | $\mathbf{8 8 . 7}$ |
| PSTN business |  |  |  |  |  |  |  |
| basic access | 100 | 98.9 | 106.4 | 120.9 | 133.0 | 138.5 | $\mathbf{1 4 6 . 6}$ |
| local calls | 100 | 100.5 | 92.9 | 74.1 | 64.4 | 58.5 | $\mathbf{5 7 . 2}$ |
| national long distance | 100 | 91.7 | 84.3 | 74.5 | 67.8 | 62.0 | $\mathbf{5 7 . 8}$ |
| international | 100 | 77.4 | 55.4 | 41.4 | 35.9 | 30.8 | $\mathbf{2 9 . 0}$ |
| fixed-to-mobile | 100 | 94.1 | 86.9 | 78.3 | 76.9 | 69.5 | $\mathbf{6 6 . 2}$ |
| All business | $\mathbf{1 0 0}$ | $\mathbf{9 4 . 7}$ | $\mathbf{8 8 . 5}$ | $\mathbf{8 0 . 3}$ | $\mathbf{7 7 . 7}$ | $\mathbf{7 3 . 2}$ | $\mathbf{7 2 . 0}$ |

[^13]Table 8.3 PSTN business services index; small and other business, 1997-98 to 2003-04

|  | $1997-98$ | $1998-99$ | $1999-00$ | $2000-01$ | $2001-02$ | $2002-03$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Small business |  |  |  |  |  |  |  |
| basic access | 100 | 94.7 | 105.6 | 114.6 | 133.2 | 143.2 | $\mathbf{1 5 4 . 2}$ |
| local calls | 100 | 107.2 | 98.4 | 75.5 | 73.2 | 70.5 | $\mathbf{6 8 . 4}$ |
| national long distance | 100 | 98.2 | 89.5 | 86.4 | 80.7 | 75.2 | $\mathbf{7 9 . 2}$ |
| international | 100 | 90.7 | 59.7 | 39.7 | 34.4 | 31.9 | $\mathbf{3 0 . 5}$ |
| fixed-to-mobile | 100 | 92.4 | 87.4 | 79.9 | 79.3 | 75.9 | $\mathbf{7 7 . 0}$ |
| All small business | $\mathbf{1 0 0}$ | 97.9 | 90.8 | 82.9 | 84.9 | 85.9 | $\mathbf{8 8 . 6}$ |
| Other business |  |  |  |  |  |  |  |
| basic access | 100 | 100.5 | 106.7 | 123.1 | 132.8 | 133.7 | $\mathbf{1 3 8 . 7}$ |
| local calls | 100 | 98.6 | 91.4 | 73.7 | 62.3 | 55.6 | $\mathbf{5 4 . 7}$ |
| national long distance | 100 | 89.4 | 82.5 | 70.4 | 63.8 | 58.0 | $\mathbf{4 9 . 4}$ |
| international | 100 | 69.0 | 51.8 | 40.2 | 34.9 | 29.4 | $\mathbf{2 7 . 4}$ |
| fixed-to-mobile | 100 | 94.5 | 86.8 | 77.9 | 76.4 | 68.0 | $\mathbf{6 2 . 2}$ |
| All other business | $\mathbf{1 0 0}$ | $\mathbf{9 3 . 7}$ | $\mathbf{8 7 . 8}$ | $\mathbf{7 9 . 5}$ | $\mathbf{7 5 . 8}$ | $\mathbf{6 9 . 3}$ | $\mathbf{6 5 . 4}$ |
| PSTN business | $\mathbf{1 0 0}$ | $\mathbf{9 4 . 7}$ | $\mathbf{8 8 . 5}$ | $\mathbf{8 0 . 3}$ | $\mathbf{7 7 . 7}$ | $\mathbf{7 3 . 2}$ | $\mathbf{7 2 . 0}$ |

Source: data obtained from Telstra, Optus, AAPT, Primus, pricing plans and other published information.

Table 8.4 Mobile telephony services index, 1997-98 to 2003-04

|  | $1997-98$ | $1998-99$ | $1999-00$ | $2000-01$ | $2001-02$ | $2002-03$ | 2003-04 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| GSM |  |  |  |  |  |  |  |
| post-paid | 100 | 94.9 | 82.2 | 77.7 | 77.0 | 78.7 | 78.0 |
| prepaid |  | 100 | 89.6 | 77.3 | 73.3 | 72.7 | 68.6 |
| All GSM | 100 | 94.9 | 82.4 | 76.8 | 75.2 | 76.0 | 73.6 |
| CDMA |  |  |  |  |  |  |  |
| post-paid |  |  |  |  | 100 | 98.0 | 96.6 |
| prepaid |  |  |  | 100 | 96.4 | 92.3 |  |
| All CDMA |  |  |  | 100 | 97.7 | 95.6 |  |
| All mobile services | 100 | 94.9 | 82.4 | 76.8 | 75.2 | 75.9 | 73.5 |

Source: data obtained from Telstra, Optus, AAPT, Vodafone, Hutchison Telecommunications, pricing plans and other published information.

Table 8.5 Mobile telephony services index by network type and user group, 1997-98 to 2003-04

|  | $1997-98$ | $1998-99$ | $1999-00$ | $2000-01$ | $2001-02$ | $2002-03$ | 2003-04 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| GSM post-paid |  |  |  |  |  |  |  |
| very low | 100 | 80.5 | 57.2 | 47.6 | 44.0 | 46.0 | $\mathbf{4 9 . 6}$ |
| low | 100 | 92.4 | 73.9 | 63.6 | 59.6 | 59.5 | $\mathbf{5 8 . 4}$ |
| average | 100 | 98.3 | 84.0 | 74.4 | 67.7 | 67.0 | $\mathbf{6 6 . 7}$ |
| high | 100 | 93.3 | 81.5 | 76.5 | 73.6 | 72.7 | $\mathbf{7 2 . 4}$ |
| very high | 100 | 95.9 | 84.3 | 82.0 | 83.7 | 86.7 | $\mathbf{8 4 . 9}$ |

GSM prepaid

| very low | 100 | 92.0 | 62.3 | 41.2 | 41.5 | 39.8 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| low | 100 | 87.7 | 78.7 | 78.9 | 76.9 | $\mathbf{7 2 . 3}$ |
| average | 100 | 88.3 | 79.8 | 76.9 | 78.4 | $\mathbf{7 3 . 9}$ |
| high | 100 | 90.5 | 85.7 | 86.4 | 83.4 | $\mathbf{7 7 . 8}$ |
| very high | 100 | 89.4 | 80.1 | 83.4 | 85.7 | $\mathbf{7 9 . 1}$ |

CDMA post-paid

| very low | 100 | 107.9 | $\mathbf{1 0 4 . 0}$ |
| :--- | :--- | ---: | ---: |
| low | 100 | 102.7 | $\mathbf{1 0 6 . 4}$ |
| average | 100 | 106.3 | $\mathbf{1 1 0 . 1}$ |
| high | 100 | 88.7 | $\mathbf{9 2 . 3}$ |
| very high | 100 | 97.2 | $\mathbf{8 9 . 9}$ |

CDMA prepaid

| very low | 100 | 97.6 | 90.3 |
| :--- | :--- | :--- | :--- |
| low | 100 | 99.3 | 93.9 |
| average | 100 | 97.6 | $\mathbf{9 4 . 5}$ |
| high | 100 | 94.3 | 93.4 |
| very high | 100 | 91.8 | $\mathbf{8 9 . 3}$ |

Source: data obtained from Telstra, Optus, AAPT, Vodafone, Hutchison Telecommunications, pricing plans and other published information.

Table 8.6 Points contribution to telecommunications services index, 1998-99 to 2003-04

|  | $1998-99$ | $1999-00$ | $2000-01$ | $2001-02$ | $2002-03$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| PSTN services | -3.7 | -4.8 | -3.6 | -1.6 | 0.6 | $\mathbf{0 . 2}$ |
| mobile services | -1.3 | -4.2 | -2.5 | -0.8 | 0.4 | $\mathbf{- 1 . 3}$ |
| All telecommunications services | $\mathbf{- 5 . 0}$ | $\mathbf{- 9 . 1}$ | $\mathbf{- 6 . 1}$ | $\mathbf{- 2 . 5}$ | $\mathbf{1 . 0}$ | $\mathbf{- 1 . 1}$ |

Source: data obtained from Telstra, Optus, AAPT, Primus, Vodafone, Hutchison Telecommunications, pricing plans and other published information.
Note: The sum of the components' points contribution may not add up to the overall index change due to rounding.

Table 8.7 Points contribution to PSTN services indexes by service, residential and business, 1998-99 to 2003-04

|  | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| All PSTN |  |  |  |  |  |  |
| basic access | -0.2 | 1.9 | 3.3 | 3.7 | 3.7 | 2.2 |
| local calls | -0.1 | -2.8 | -5.0 | -2.6 | -0.8 | -0.7 |
| national long distance | -1.6 | -2.3 | -1.5 | -1.9 | -0.9 | -0.4 |
| international | -2.3 | -2.6 | -1.5 | -1.1 | -0.4 | -0.3 |
| fixed-to-mobile | -0.7 | -1.3 | -1.1 | -0.7 | -0.5 | -0.5 |
| All PSTN | -5.0 | -6.9 | -5.9 | -2.6 | 1.1 | 0.2 |
| PSTN residential |  |  |  |  |  |  |
| basic access | -0.1 | 2.3 | 3.7 | 4.4 | 5.1 | 2.5 |
| local calls | -0.3 | -3.3 | -4.7 | -2.4 | -0.3 | -0.8 |
| national long distance | -1.3 | -2.6 | -0.7 | -1.9 | -0.5 | 0.1 |
| international | -2.5 | -2.9 | -1.6 | -1.5 | -0.3 | -0.4 |
| fixed-to-mobile | -0.4 | -0.9 | -0.2 | -0.8 | 0.9 | 0.0 |
| All residential | -4.7 | -7.5 | -3.5 | -2.1 | 5.0 | 1.4 |
| PSTN business |  |  |  |  |  |  |
| basic access | -0.2 | 1.3 | 2.7 | 2.5 | 1.1 | 1.7 |
| local calls | 0.1 | -2.2 | -5.5 | -2.9 | -1.7 | -0.4 |
| national long distance | -2.1 | -1.8 | -2.5 | -2.0 | -1.7 | -1.2 |
| international | -2.0 | -2.1 | -1.3 | -0.4 | -0.5 | -0.2 |
| fixed-to-mobile | -1.2 | -1.8 | -2.6 | -0.5 | -3.0 | -1.5 |
| All business | -5.3 | -6.5 | -9.3 | -3.2 | -5.8 | -1.6 |

[^14]Table 8.8 Points contribution to PSTN business services indexes; small and other business, 1998-99 to 2003-04

|  | $1998-99$ | $1999-00$ | $2000-01$ | $2001-02$ | $2002-03$ | $\mathbf{2 0 0 3 - 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Small business |  |  |  |  |  |  |
| basic access | -0.3 | 0.5 | 0.4 | 1.0 | 1.0 | $\mathbf{1 . 2}$ |
| local calls | 0.4 | -0.6 | -1.4 | -0.1 | -0.1 | $\mathbf{- 0 . 3}$ |
| national long distance | -0.1 | -0.5 | -0.2 | -0.3 | -0.3 | $\mathbf{0 . 4}$ |
| international | -0.3 | -1.0 | -0.5 | -0.1 | 0.0 | $\mathbf{- 0 . 1}$ |
| fixed-to-mobile | -0.3 | -0.2 | -0.4 | 0.0 | -0.2 | $\mathbf{0 . 2}$ |
| All small business | -0.5 | $-\mathbf{1 . 7}$ | $-\mathbf{- 2 . 0}$ | $\mathbf{0 . 5}$ | $\mathbf{0 . 3}$ | $\mathbf{1 . 4}$ |
| Other business |  |  |  |  |  |  |
| basic access | 0.1 | 0.8 | 2.3 | 1.5 | 0.1 | $\mathbf{0 . 5}$ |
| local calls | -0.3 | -1.6 | -4.1 | -2.8 | -1.5 | $\mathbf{- 0 . 1}$ |
| national long distance | -1.9 | -1.3 | -2.3 | -1.7 | -1.4 | $\mathbf{- 1 . 6}$ |
| international | -1.7 | -1.1 | -0.9 | -0.3 | -0.5 | $\mathbf{- 0 . 1}$ |
| fixed-to-mobile | -0.9 | -1.6 | -2.1 | -0.4 | -2.8 | $\mathbf{- 1 . 7}$ |
| All other business | -4.8 | -4.8 | -7.2 | -3.7 | $\mathbf{- 6 . 1}$ | $\mathbf{- 3 . 1}$ |
| PSTN business | -5.3 | -6.5 | -9.3 | -3.2 | $\mathbf{- 5 . 8}$ | $\mathbf{- 1 . 6}$ |

Source: data obtained from Telstra, Optus, AAPT, Primus, pricing plans and other published information.
Note: The sum of the components' points contribution may not add up to the overall index change due to rounding.

Table 8.9 Points contribution to mobile telephony services index, 1998-99 to 2003-04

|  | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GSM |  |  |  |  | 1.0 | -3.0 |
| CDMA |  |  |  |  | -0.1 | -0.2 |
| All mobile services |  |  |  |  | 0.9 | -3.2 |
| GSM |  |  |  |  |  |  |
| post-paid | -5.1 | -12.6 | -4.6 | -0.6 | 1.4 | -1.9 |
| prepaid |  | -0.6 | -2.2 | -1.4 | -0.3 | -1.3 |
| All GSM | -5.1 | -13.2 | -6.8 | -2.0 | 1.1 | -3.2 |
| CDMA |  |  |  |  |  |  |
| post-paid |  |  |  |  | -1.1 | -1.3 |
| prepaid |  |  |  |  | -1.5 | -0.9 |
| All CDMA |  |  |  |  | -2.7 | -2.2 |

[^15]
## ACCC contacts

## ACCC Infocentre

for all business and consumer inquiries
infoline 1300302502
website www.accc.gov.au

ACT (national office)
PO Box 1199
DICKSON ACT 2602
Tel: (02) 62431111
Fax: (02) 62431199

## New South Wales

GPO Box 3648
SYDNEY NSW 2001
Tel: (02) 92309133
Fax: (02) 92231092

## Victoria

GPO Box 520J
MELBOURNE VIC 3001
Tel: (03) 92901800
Fax: (03) 96633699

## South Australia

GPO Box 922
ADELAIDE SA 5001
Tel: (08) 82133444
Fax: (08) 84104155

## North Queensland

PO Box 2016
TOWNSVILLE QLD 4810
Tel: (07) 47292666
Fax: (07) 47211538

## Queensland

PO Box 10048
Adelaide Street Post Office
BRISBANE QLD 4000
Tel: (07) 38354666
Fax: (07) 38320372

## Western Australia

PO Box 6381
EAST PERTH WA 6892
Tel: (08) 93250600
Fax: (08) 93255976

## Tasmania

GPO Box 1210
HOBART TAS 7001
Tel: (03) 62159333
Fax: (03) 62347796

## Northern Territory

GPO Box 3056
DARWIN NT 0801
Tel: (08) 89469666
Fax: (08) 89469600


[^0]:    1 The mobile telephony services user groups are defined under the ACCC index model as follows: very low user group: occasional consumers making 1-2 calls a week; low user group: occasional to regular consumers making 5-7 calls a week; average user group: regular to frequent consumers making 2 calls a day; high user group: frequent consumers who make $4-5$ calls a day; very high user group: very frequent consumers who make 8-10 calls a day.

[^1]:    2 Based on information provided by carriers for the report.
    3 While the indexes do not explicitly provide results on comparative price levels, the trend of converging prices is based on observation of respective prepaid and post-paid sample prices for each user group calculated for this study.

    4 'Bucket' plans in mobile services refer to deeply discounted packages of services for a fixed price or a maximum price. For example, a bucket plan may involve a carrier offering $\$ 500$ worth of standard calls charged at rates of 60 cents per minute, plus text, picture messaging and data browsing, all for a fixed price of $\$ 79$ per month.

[^2]:    5 A full description of the construction of the index and the underlying theory is contained in appendix 1 of Changes in the prices paid for telecommunications services in Australia 1999-2000, ACCC, April 2001.

    6 The difficulty in obtaining data on prices paid meant that the standard or list prices were used to construct the weighted averages for each service reported in the first two Division 12 reports, but at a cost. Standard prices are the maximum consumers pay-they exclude all discounts and short-term specials.

[^3]:    7 All the revenue and price data are expressed in 1999-2000 dollars in the index model. The nominal values were converted to 1999-2000 values using the consumer price index.

    8 Full details of this methodology can be found in appendix 1 of Changes in the prices paid for telecommunications services 1999-2000, ACCC, April 2001.

[^4]:    9 The new user group bundles are set out in the appendix for chapter 5 at the end of the 2002-03 Division 12 report.
    10 Flagfall is a fee applied at the start of a mobile voice call for the purpose of call connection, regardless of the length of the call.
    11 As the GST was not in operation in Australia before 1 July 2000, no services included a GST component in their prices before 2000-01.

[^5]:    12 ACCC, Changes in the prices paid for telecommunications services in Australia 1999-2000, April 2001.

[^6]:    Source: data supplied by Telstra, AAPT, Primus, Vodafone, Hutchison Telecommunications, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.
    Note: base year is 1997-98

[^7]:    Source: data supplied by Telstra, AAPT, Primus, Optus (except 2001-02 data, which was excluded from the index) and (until 2000-01) One.Tel.
    Note: base year is 1997-98

[^8]:    13 Data from reporting carriers shows that, during 2003-04 their customers' expenditure for the basic access service forms the largest part of expenditure for the five basic PSTN services. Of the total consumer spending for the basket of PSTN services during the year, 34 per cent was spent for basic access, 24 per cent for fixed-to-mobile calls, 19 per cent for local calls, 18 per cent for national long-distance calls, and 5 per cent for international calls. Consequently, the average price changes for basic access would have the greatest impact on the average price change for the basket of PSTN services.

[^9]:    14 GSM is defined as global system for mobile communications; CDMA is defined as code division multiple access services. Both are digital cellular networks.

    15 very low user group: occasional consumers making 1-2 calls a week; low user group: occasional to regular consumers making 5-7 calls a week; average user group: regular to frequent consumers making 2 calls a day; high user group: frequent consumers who make 4-5 calls a day; very high user group: very frequent consumers who make 8-10 calls a day.

    16 This approach was developed by the CRU, Department of Communications, Information Technology and the Arts. Refer to ACCC, Changes in the prices paid for telecommunications services in Australia 1999-2000, for a detailed discussion estimating the average price paid for mobile telephony services.

[^10]:    17 Based on information provided by carriers for the report.
    18 While the indexes do not explicitly provide results on comparative price levels, the trend of converging prices is based on observation of prepaid and post-paid sample prices for each user group calculated for this study.

[^11]:    19 While consumers are able to sign up to plans without handsets, the CRU approach prices plans with a handset as it is a basic component for using a mobile service.

    20 ACCC, Changes in the prices paid for telecommunications services in Australia 1999-2000, April 2001, p. 67.

[^12]:    21 ACA, Telecommunications performance report 2003-04, p. 73.
    22 Flagfall is a fee applied at the start of a mobile voice call for the purpose of call connection, regardless of the length of the call.

[^13]:    Source: data obtained from Telstra, Optus, AAPT, Primus, pricing plans and other published information.

[^14]:    Source: data obtained from Telstra, Optus, AAPT, Primus, pricing plans and other published information.
    Note: The sum of the components' points contribution may not add up to the overall index change due to rounding.

[^15]:    Source: data provided by Telstra, Optus, AAPT, Vodafone, Hutchison Telecommunications, pricing plans and other published information.

    Note: The sum of the components' points contribution may not add up to the overall index change due to rounding.

