



TELSTRA CORPORATION LIMITED

PUBLIC INQUIRY TO MAKE FINAL ACCESS DETERMINATIONS FOR THE DECLARED FIXED LINE SERVICES

PART A OF TELSTRA'S RESPONSE TO THE COMMISSION'S DISCUSSION PAPER

SCHEDULE A.3: HISTORICAL BACKGROUND

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1. CORPORATE HISTORY

1.1. Period of Government ownership

1. In 1901 the Postmaster-General's Department (**PMG**) was established by the Commonwealth Government for the purpose of managing domestic telephone, telegraph and postal services.¹ The PMG's authority stemmed from a range of legislation, including the *Post and Telegraph Act 1901-1971*, the *Broadcasting and Television Act 1942-1973* and the *Wireless Telegraphy Act 1905-1967*.²
2. When telecommunications services linking Australia to the rest of the world became possible in 1946, the Commonwealth Government established the Overseas Telecommunications Commission (**OTC**). OTC was responsible for providing all forms of telecommunications linking Australia and the rest of the world (e.g. underwater cabling and global satellite systems) and was a separate government-owned entity to PMG.
3. In 1974, following a recommendation in the Commission of Inquiry into the Australian Postal Service, the Prime Minister Gough Whitlam announced that the Government would establish separate statutory corporations to administer the postal and telecommunications services.³
4. Telecommunications was officially separated from postal functions on 1 July 1975, by the *Telecommunications Act 1975, (1975 Act)* establishing two separate authorities: the Australian Postal Commission and the Australian Telecommunications Commission (trading as Telecom Australia). At this time, OTC continued to operate as a separate Government-owned entity.
5. The functions and responsibilities of Telecom were set out in the 1975 Act. Under s 5(a), the functions of Telecom were to "plan, establish, maintain and operate telecommunications services within Australia." Section 6 provided that Telecom shall perform its functions in a manner that would best meet the social, industrial and commercial needs of the Australian people for telecommunications services. In meeting these needs, Telecom was required to have regard to:
 - the desirability of improving and extending its telecommunications services in the light of developments in the field of communications;
 - the need to operate its services as efficiently and economically as practicable; and
 - the special needs for telecommunications services of Australian people who reside or carry on business outside the cities.
6. Section 73 of the 1975 Act required Telecom to pursue a policy each year directed towards covering all expenditure chargeable to revenue and providing an amount equal to not less than one half of its capital requirements. The other 50% of capital requirements were provided by the Commonwealth Government. In Telecom's annual reports for the period 1975 to 1990, the following text appeared in the front pages:

As derived from the Telecommunication Act 1975, Telecom Australia is responsible for the provision, maintenance and operation of telecommunications services to better meet the social, industrial and commercial needs of Australian people. It is required to make its services available throughout Australia so far as is reasonably practicable. Revenue must cover current expenses each year and provide not less than half of capital requirements. Services are to be kept up to date and operated efficiently and economically with charges as low as practicable.

¹ Telstra website, "The Telstra Story"; <http://www.telstra.com.au/abouttelstra/company-overview/history/telstra-story/>.

² PMG Annual Report 1973, p. 4.

³ PMG Annual Report 1975, Forward.

7. At the time of separation from the PMG in 1975, all budget appropriations for telecommunications back to 1901 were accumulated and treated as debt owed to the Commonwealth. The debt was repaid over time by Telecom and by 1996 all such debt (and accumulated interest) had been repaid at commercial interest rates, except for \$2 billion which was converted to equity (Telstra shares then owned by the Government).
8. Also at the time of separation from the PMG in 1975, following the Vernon Commission of Inquiry report, Telecom revalued its network assets. The Vernon Commission of Inquiry found that the values needed to be adjusted upwards in view of rising replacement values.⁴ Telecom noted:⁵

The revaluation provides in the financial statements a more realistic presentation of the Commission's [Telecom's] net worth, a fair determination of depreciation charges and, in consequence, a more accurate measurement of profitability of the Commission's [Telecom's] operations.

9. In 1989, the Australian Telecommunications Commission was renamed the Australian Telecommunications Corporation (**ATC**), however it continued to trade as Telecom Australia.⁶
10. In November 1991, the ATC was incorporated as an Australian public liability company, trading as Telecom Australia.⁷ The principal function of the ATC was to supply telecommunications services *within* Australia. A subsidiary function of ATC was to carry on, outside Australia, any business or activity relating to telecommunications.
11. Telecom and the OTC merged in 1992, forming the Australian and Overseas Telecommunications Corporation Limited (trading as Telecom).⁸
12. Telecom was renamed as Telstra Corporation Limited in April 1993, although it continued trading as Telecom in Australia until 1995.⁹ Also in 1993, Telecom entered into a Pay TV consortium with the aim of expanding from being a carrier of the service to an involved partner in the overall business of packaging and marketing programs.¹⁰
13. In 1995, the domestic trade name was changed from Telecom to Telstra. Telstra was now providing services such as Telstra MobileNet, telephone services (including payphones), international telephone services and multimedia (such as cable TV and interactive on-line messaging and information services) through joint ventures with New Corporation Limited and Microsoft.¹¹

1.2. Period of partial Government and partial private ownership

14. Telstra underwent a partial privatisation in November 1997 (**T1**). Under T1, the Commonwealth sold approximately 33% of issued shares to the public.
15. At the same time that Telstra was partly privatised, the Australian Government established a new regulatory framework aimed at opening telecommunications markets up to competition. This regulatory framework is discussed in more detail in section 4 below.

⁴ Telecom, *Annual Report 1975-76*, pp. 6-7.

⁵ Telecom, *Annual Report 1975-76*, p. 7.

⁶ Telstra website, "The Telstra Story"; <http://www.telstra.com.au/abouttelstra/company-overview/history/telstra-story/>.

⁷ Telstra website, "The Telstra Story"; <http://www.telstra.com.au/abouttelstra/company-overview/history/telstra-story/>.

⁸ Telstra website, "The Telstra Story"; <http://www.telstra.com.au/abouttelstra/company-overview/history/telstra-story/>.

⁹ Telstra website, "The Telstra Story"; <http://www.telstra.com.au/abouttelstra/company-overview/history/telstra-story/>.

¹⁰ Telstra Annual Report 1993, p. 13.

¹¹ Telstra Annual Report 1995, p. 2.

16. The Commonwealth made a further offering of up to 16.6% of issued shares in Telstra (**T2**) in September 1999. The shares sold were also listed on the Australian Stock Exchange, the New Zealand Stock Exchange and the New York Stock Exchange on 18 October 1999.

1.3. Private ownership

17. In June 2003, the Government introduced legislation for “the sale of its remaining shareholding in Telstra (subject to taxpayers receiving a fair price for their shares)”.¹²
18. In August 2003, the *Telstra (Transition to Full Private Ownership) Bill 2003* was passed. In the Second Reading Speech, it was noted that:¹³

While the Government is moving to establish the legislation immediately, it has undertaken not to proceed with any further sale of Telstra until it is fully satisfied that arrangements are in place to deliver adequate telecommunications services to all Australians

... The bill provides for the timing of the sale to remain open. The Government, however, will be seeking to maximise the returns from the sale of its remaining holdings.

19. A final sale of 31% of issued shares in Telstra (**T3**) was completed by the Commonwealth in November 2006. The Commonwealth’s residual 17% shareholding in Telstra was transferred to the Future Fund in February 2007.¹⁴

2. PROVISION OF SERVICES OVER TIME

20. The PMG was originally established to manage the provision of domestic telephone, telegraph and postal services. By 1973, PMG was Australia’s largest business operation and its responsibilities included:
- telephone, telegraph and postal services – in 1973, PMG distributed over 5,000 letters and completed more than 6,000 telephone calls per day;¹⁵ and
 - transmitting services – through its networks, PMG transmitted and relayed radio and television programs and provided links between computers.
21. For most of the 20th century, PMG and Telecom experienced steadily increasing demand for telephone services, as Australia’s population grew and telecommunications slowly evolved from a luxury product to a household necessity.
22. Over the period 1970 to 2003, the number of telephone services in operation (SIOs) grew from less than 3 million to over 10 million. In 2003, telephone SIOs hit their peak at 10.5 million and since 2003, SIOs have been steadily declining (Figure 1 below).

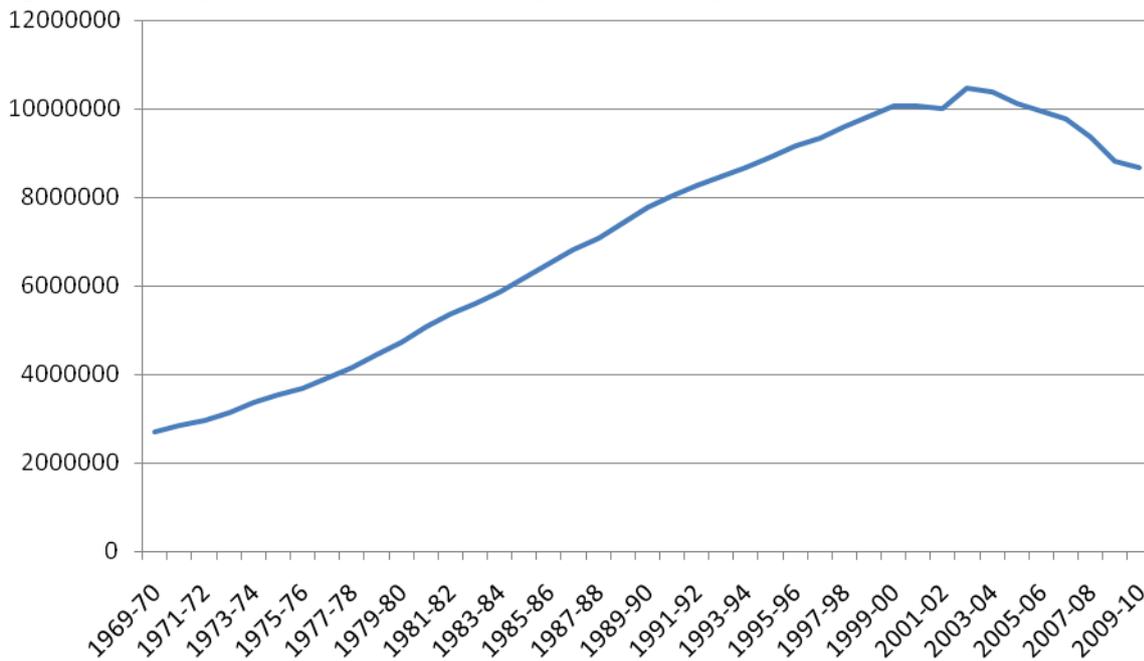
¹² Grahame O’Leary, *Telstra Sale*: <http://www.aph.gov.au/library/pubs/online/telstrasale.htm>.

¹³ Second Reading Speech, *Telstra (Transition to Full Private Ownership) Bill 2003*, 26 June 2003, Dr Brendan Nelson MP, House of Representatives, Hansard, p. 17630.

¹⁴ Telstra website, “The Telstra Story”; <http://www.telstra.com.au/abouttelstra/company-overview/history/telstra-story/>.

¹⁵ PMG Annual Report 1973, page 4.

Figure 1: Telephone SIOs over time (1970–2010)



Source: Annual reports.

23. In its annual report in 1975-76, Telecom accurately predicted that PSTN decline would start to occur in 2000 and demand for other services would increase:¹⁶

Today, six out of ten dwellings in Australia have a telephone service and, on present and expected trends, practically every household should be connected to the system within 15 to 20 years. Thus, towards the year 2000, it is expected that the rate of growth of the telephone network will decline.

The overall demand for telecommunications will, however, continue to expand, with new facilities and services and new uses being made of existing facilities: for example, in the decentralisation of education, health and welfare services. Services such as telex, data, facsimile and mobile telephones will increase greatly. There is also expected to be a growth in demand for wide-band services for business purposes, and, to a lesser extent, for homes.

24. Whilst the basic telephone service has been provided since the inception of the PMG in 1901, the means of provision (and the scale of provision) has changed significantly over time. For example in the 1980s, many of Telecom's manually operated exchanges became automated. In the 1990s, a major network modernisation program (known as "Future Mode of Operation") was undertaken in order to allow full digital transmission. At the time, the Future Mode of Operation program represented the biggest single investment in the history of the Australian telecommunications industry at some \$3.3 billion (in 1994 dollars).¹⁷ The network modernization program was launched in 1994 with the aim of fully digitizing the network by 2000.
25. Over the past three decades, the range of services being provided by Telstra has also greatly expanded. For example:
- In 1981, Telecom launched its first mobile phone service (although mobile services took some time to take off).¹⁸

¹⁶ Telecom, *Annual Report 1975-76*, p. 40.

¹⁷ Telstra, *Annual Report 1994*, p. 4.

¹⁸ Telstra website, "Telecommunications Timeline"; <http://www.telstra.com.au/abouttelstra/company-overview/history/tele-communications-timeline/>.

- In 1982, Telecom commenced supply of AUSTPAC, a public packet switching service, for business users as well as a digital data service.¹⁹
- In October 1995, Telstra commenced the rollout of its broadband cable network and launched FOXTEL, a cable television venture with News Corporation.²⁰
- Telstra launched high speed broadband to the public through its cable service in 1996 and launched BigPond (an internet service provider) in November of the same year.²¹
- In 1999, Telstra launched its CDMA mobile network.
- In 2000, Telstra launched ADSL broadband.

26. From 2000 onwards, Telstra continued to develop its broadband services, introducing ADSL, movies and music through BigPond, installing optical fibres into the domestic network, extending consumer access and introducing Talking Text messaging services for fixed telephone lines. Recent significant investments include Telstra's Next IP network (the largest fully integrated wireline and wireless national Internet Protocol network in the world) in 2007, the Arnhem Land Fibre Project (connecting indigenous communities to high-speed broadband) in 2009 and upgrades to Telstra's broadband network.²²

27. The services that Telstra and its predecessors provided over time are summarised in Table 1.

Table 1: Services provided by Telstra and its predecessors over its networks over time (1970–2010)

Period	Basic Telephone	Facsimile	Mobile phone	Dial up internet	Broadband (DSL / cable)	High-speed broadband (ADSL2+)
1970–1975	✓	✗	✗	✗	✗	✗
1975–1980	✓	✓	✗	✗	✗	✗
1980–1985	✓	✓	✓	✗	✗	✗
1986–1990	✓	✓	✓	✗	✗	✗
1991–1995	✓	✓	✓	✓	✗	✗
1996–2000	✓	✓	✓	✓	✓	✗
2001–2005	✓	✓	✓	✓	✓	✗
2006–2010	✓	✓	✓	✓	✓	✓

¹⁹ Telecom, *Annual Report 1981-82*, p. 16.

²⁰ Telstra website, "Telecommunications Timeline"; <http://www.telstra.com.au/abouttelstra/company-overview/history/tele-communications-timeline/>.

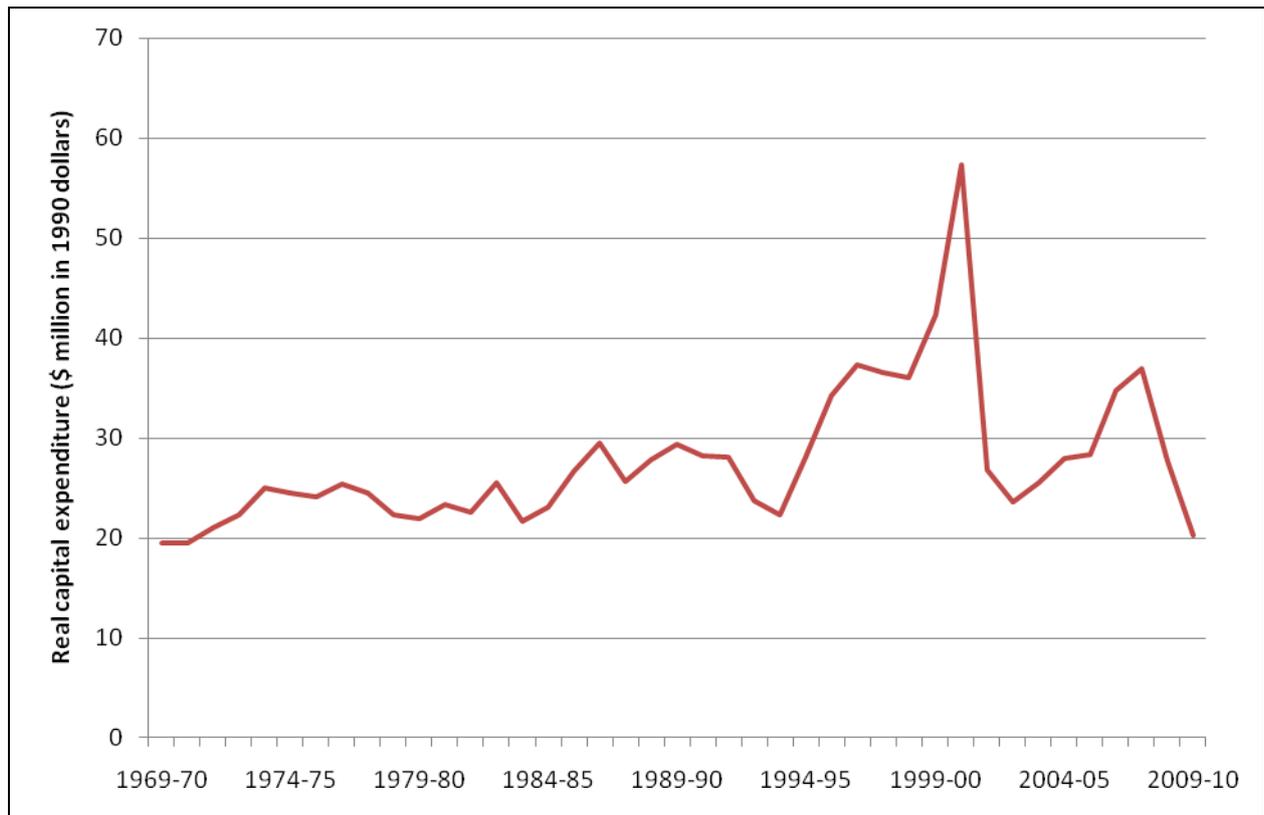
²¹ Telstra website, "Telecommunications Timeline"; <http://www.telstra.com.au/abouttelstra/company-overview/history/tele-communications-timeline/>.

²² Telstra website, "Telecommunications Timeline"; <http://www.telstra.com.au/abouttelstra/company-overview/history/tele-communications-timeline/>.

3. INVESTMENT

28. The pattern of Telstra's investment over time has closely tracked the pattern of service provision. Large amounts of the current asset base (as recorded in Telstra's fixed asset register) were invested in the 1990s and 2000s in response to growing demand for new and existing services. For example:
- From 1994 to 2000, the "future mode of operation" program for network digitisation was implemented;
 - In the late 1990s, significant investments were made in response to growing demand for second lines for fax and dial-up internet;
 - In the late 1990s and early 2000s, large investments were made in building capacity to account for increasing voice and data traffic.
29. As shown in Figure 2, over the period 1970 to 1980, Telstra's capital expenditure was incremental. Capital expenditure typically related to investments in cabling, conduits and exchange equipment to extend the reach of the network.²³
30. However in the mid to late 1990s, the rate of investment grew rapidly to account for the large subscriber growth of telephone services on the PSTN as well as additions of new services such as fax and internet services. The addition of these services required large lumpy investments in the network.

Figure 2: Telstra's (and its predecessors') real capital expenditure over time (1970-2010)



²³ See, for example, Telecom, *Annual Report 1974-75*, p. 34, Telecom *Annual Report 1977-78*, p. 8.

31. Of the current fixed line assets (i.e. those recorded in Telstra’s fixed asset register), a significant proportion were invested relatively recently as part of these large capital expenditure programs. As Table 2 and Figure 3 demonstrate, the vast majority of Telstra’s investment in current fixed line assets (roughly [c-i-c commences] [c-i-c] [c-i-c ends]) came after 1990.

Table 2: [c-i-c commences] [c-i-c] [c-i-c ends]

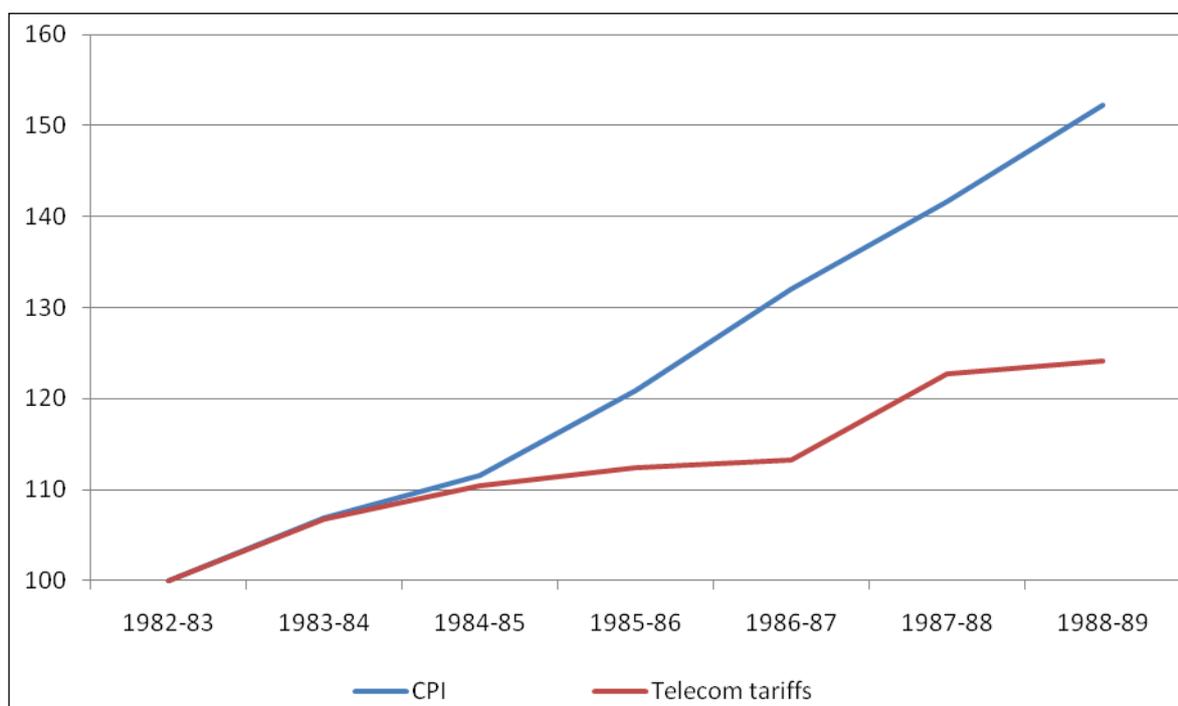
Figure 3: [c-i-c commences] [c-i-c] [c-i-c ends]

4. REGULATION

4.1. Pre-1988

32. Following the separation of Telecom and OTC from the PMG in 1975, a system of Ministerial pricing oversight was established. Although Telecom continued to be Government owned, it was recognised some oversight was required.
33. Prices charged by Telecom and OTC for standard or basic services were subject to Ministerial approval following consideration by the Prices Surveillance Authority. The effect of these Ministerial price controls was to generally reduce prices in real terms through the 1980s (Figure 4).

Figure 4: Telecom retail call tariffs vs CPI (Indexed to 1982-83)



Source: Telecom Annual Report 1988-89.

34. In the 1987-88 annual report, Telecom noted in relation to these price controls:²⁴

Telecom’s pricing policies for basic telephone services are formulated with two basic objectives. The first objective is to meet the social and financial obligations incorporated in Telecom’s

²⁴ Telecom, *Annual Report 1987-88*, p. 14.

charter, and the second is Telecom's active commitment to continue to reduce the average real price of telephone services.

Telecom's social obligations have traditionally been supported by the policy of universal access to the network. The subsidies inherent in this obligation are focussed specifically on the customer access to the network, and generally to customers who live outside metropolitan areas.

Established pricing arrangements are increasingly facing pressure from issues such as technological trends, the rapid growth in non-voice communications (data, text, facsimile) and the need for increased efficiency in the utilisation of network capacity in order to contain prices and limit the need for further capital investment.

4.2. Regulatory reform and establishment of AUSTEL

35. In September 1987, the Federal Government initiated a wide-ranging review of telecommunications policy as part of its micro-economic reform agenda. This review gave rise to a set of policies with the following objectives:²⁵
- To ensure universal access to standard telephone services throughout Australia on an equitable basis and at affordable prices;
 - To maximise the efficiency of the publicly owned enterprises Telecom, OTC and AUSSAT;
 - To ensure accountability and responsiveness to customer and community needs on the part of these publicly owned enterprises;
 - To provide capacity for expansion and modernisation of the telecommunications system;
 - To enable participation in rapidly growing national and global markets for telecommunications services; and
 - To promote development of other sectors of the economy through commercial provision of a full range of modern telecommunications services at the lowest possible prices.
36. A Ministerial Statement published in May 1988 outlines a number of reforms coming out of the review, including replacing the existing system of Ministerial approval for Telecom/OTC pricing with a system of price controls to be administered by the new independent regulator, AUSTEL.²⁶
37. The Ministerial Statement makes clear that the Government was "determined to ensure that Telecom is an efficient, customer oriented organisation", by promoting efficiency improvements and ensuring these benefits were passed on to consumers through price reductions. Accordingly, the price control arrangements were designed to ensure that "in the absence of competition, Telecom and OTC will be subject to pressures to realise maximum efficiency gains and pass these on to consumers through continued reductions in average prices".²⁷

²⁵ Senator Gareth Evans, Minister for Transport and Communications, *Australian Telecommunications Services: A New Framework*, 25 May 1988, pp 190-191.

²⁶ Senator Gareth Evans, Minister for Transport and Communications, *Australian Telecommunications Services: A New Framework*, 25 May 1988.

²⁷ Senator Gareth Evans, Minister for Transport and Communications, *Australian Telecommunications Services: A New Framework*, 25 May 1988, pp 209-210.

38. The price control regime was designed to limit average price increases to a minimum annual percentage below the rate of inflation (i.e. a CPI minus X price cap). The price cap formulas were set by the Minister and compliance was monitored by AUSTEL.
39. The effect of the price cap regime was to reduce prices in real terms over time. The first Ministerial determination under the new regime established the weighted average price cap for a basket of Telecom services at CPI minus 4% (a real reduction in Telecom prices of 4%) for the period July 1989 to June 1992.²⁸

4.3. Regulation of interconnect pricing

40. In November 1990, the Hawke Government announced plans for further telecommunications industry reform. The Government intended to boost Australia's international competitiveness by fostering an efficient and competitive telecommunications sector. Part of the reform package included:
- the establishment of a private sector competitor to the merged Telecom/OTC and formation of a duopoly;
 - the issue of three mobile carrier licences; and
 - plans to end the fixed line duopoly in 1997.
41. With the establishment of a private sector competitor to Telecom/OTC, rules and guidelines for interconnection were required. The Government requested AUSTEL to undertake a study of arrangements and charges for interconnection and equal access. AUSTEL was required to formulate principles for determining interconnection charges that would promote fair and effective competition. AUSTEL published its final report in June 1991 (**AUSTEL Report**).²⁹
42. The AUSTEL Report notes that two clear principles could be drawn from the Government's policy framework at the time, namely that:³⁰
- The interconnection charging arrangements should promote greater efficiency levels within a vigorously competitive telecommunications industry; and
 - Charging arrangements should promote the development of an openly competitive market as of 1997.
43. Based on these underlying policy objectives, AUSTEL formulated a number of principles, which would form the basis for establishing interconnection charges:³¹
- All charges should be set with regard to economic efficiency;
 - Charges should strike a balance between encouraging a desirable level of facility investment by the carriers and discouraging wasteful duplication of resources;
 - Charging arrangements should be capable of being applied on a reciprocal basis;

²⁸ Minister of State for Transport and Communications, Determination of Price Control Arrangements and Price-Cap Arrangements under subsection 62(1) of the Telecommunications Act 1989, dated 23 October 1989.

²⁹ *AUSTEL study of arrangements and charges for interconnection and equal access: economic and commercial considerations: final report to the Minister for Transport and Communications*, 14 June 1991 (**AUSTEL Report**).

³⁰ AUSTEL Report, p. 22.

³¹ AUSTEL Report, p. 22.

- To the greatest extent practicable, the charging structure should be clear and unbundled so that a carrier pays for what it uses and is not forced to pay for what it does not need;
 - In the interests of administrative efficiency, incentives should be created so that the information requirements of the charging arrangements, and the regulatory regime, flow as a natural outcome of the carriers' management information system.
44. The Government had directed AUSTEL to use directly attributable incremental costs (**DAIC**) as the basis for determining interconnection charges. However AUSTEL noted that this term was not defined and was open to interpretation. Having regard to its pricing principles and the broader policy objectives, AUSTEL concluded that incremental costs should be considered over the long run (ie DAIC was interpreted as LRIC). Among other things, AUSTEL considered that by including capital costs, prices based on long run incremental costs would provide appropriate incentives for efficient investment.³²
45. AUSTEL considered several alternative tools for estimating long run incremental costs of interconnection. Among these were the use of bottom up engineering models and the use of top down financial accounts. AUSTEL noted a number of benefits of the bottom up engineering approach, including that it had been used by many regulators in the United States and was based on sound economic principles. However, AUSTEL noted that such a model had not yet been formulated for the Australian network and hence this approach could not be used in the short term. AUSTEL indicated that it would investigate using this approach in future.
46. The only costing tool available to AUSTEL in the short term was the financial accounts of Telecom/OTC. AUSTEL noted that:³³
- this approach presented many difficulties because the existing accounts are basically oriented towards historic accounting reporting and do not contain the forward looking data necessary for an economic consideration of the future effects of a competitor on Telecom/OTC's network.*
47. AUSTEL indicated that "significant reworking of the available data was required" in order to ensure that prices reflected forward looking costs.³⁴
48. AUSTEL gave careful consideration to the issue of asset valuation, including whether written down accounting values could be used. In line with its pricing principles, AUSTEL considered that:³⁵
- In the determination of Telecom/OTC's cost of capital, the valuation of assets should not just reflect the written down historic cost, but the intrinsic economic value tied up in the asset. Such a value would reflect the effect of inflation, service potential, that is, the effect of technological change such as obsolescence, and other changes in the asset's value over time. Such changes may not be captured adequately by traditional depreciation rates alone. Also, the various effects on asset values may be of an off-setting nature, that is, inflation will tend to increase the asset's value and associated depreciation charges while the changes to service potential may have the opposite result.*
49. AUSTEL noted that there were potentially a number of alternative methodologies for valuing assets, including:³⁶
- Determining the value of the asset in a secondary market;

³² AUSTEL Report, p. 30.

³³ AUSTEL Report, p. 41.

³⁴ AUSTEL Report, p. 41.

³⁵ AUSTEL Report, p. 145.

³⁶ AUSTEL Report, p. 146.

- Estimating depreciated replacement cost;
 - Estimating the present value of a stream of expected earnings from the asset.
50. AUSTEL indicated a preference for the last option in the preceding paragraph, at least in principle, but noted that it would impose greater information requirements. In relation to the present value of expected earnings option, AUSTEL noted:³⁷

This is an alternative to depreciated replacement cost and is certainly more soundly based, especially for establishing the service potential of assets, which can be quite significant if the industry is subject to rapid technological change as is the telecommunications industry. It may, however, be subject to greater information requirements such as the need for soundly based earning streams over a number of years.

51. Despite the advantages of forward-looking valuations, AUSTEL noted that estimating replacement costs or future revenue streams was not feasible at that time as it would have required Telecom to (among other things) revalue its communication plant assets. In this context, AUSTEL noted that it “did not have any realistic option but to use written down book value”. However at the time, AUSTEL considered that this was not necessarily a problem since “written down book value... did not differ from replacement cost values to any material extent”.³⁸ This was partly because a number of assets had recently been re-valued and this revaluation was recorded in the accounts. On this basis, AUSTEL was satisfied that the use of book values for interconnection assets was an appropriate basis for determining charges based on forward looking incremental cost.

4.4. Price regulation post-1997

52. In July 1997, a package of further legislative reforms took effect. These further reforms were aimed at ending the fixed-line duopoly and facilitating greater competition.
53. Among the key reforms were substantial amendments to the *Trade Practices Act 1974* (Cth), including the introduction of the telecommunications access regime in Part XIC. At the same time, AUSTEL was abolished and responsibility for telecommunications competition regulation (including price regulation) shifted to the Australian Competition and Consumer Commission (**Commission**).
54. As part of its functions under the new access regime, the Commission established access pricing principles in July 1997 (**1997 Pricing Principles**).³⁹ These pricing principles established a total service long run incremental cost (TSLRIC+) basis for pricing of declared services, including those services that had been deemed to be declared at the commencement of the access regime. The Commission makes clear in its 1997 pricing principles paper that TSLRIC+ pricing was to be based on the forward-looking costs – that is, the ongoing costs of providing the service in the future using the most efficient means possible and commercially available. The Commission states that “in practice this often means basing costs on the best-in-use technology and production practices and valuing inputs using current prices”.⁴⁰
55. The 1997 Pricing Principles provide a clear rationale for the use of a TSLRIC+ pricing methodology. The Commission stated that TSLRIC+ has a number of attributes, including:⁴¹

³⁷ AUSTEL Report, p. 146.

³⁸ AUSTEL Report, p. 53.

³⁹ ACCC, *Access Pricing Principles – Telecommunications: a guide*, July 1997 (**1997 Pricing Principles**).

⁴⁰ 1997 Pricing Principles, p. 29.

⁴¹ 1997 Pricing Principles, pp. 29-30.

- TSLRIC encourages competition in telecommunications markets by promoting efficient entry and exit in dependent markets;
- TSLRIC encourages economically efficient investment in infrastructure by providing for a normal commercial return on efficient investments in infrastructure over the long term;
- TSLRIC provides for the efficient use of existing infrastructure since it “signals the long-term value of the resources embodied in that service”;
- TSLRIC provides incentives for access providers to minimise the costs of providing access by basing prices on the cost of the most efficient technology that is commercially available; and
- TSLRIC promotes the legitimate business interests of the access provider by allowing efficient access providers to fully recover the costs of producing the service.

56. The 1997 Pricing Principles also recognised the importance of asset valuation in determining TSLRIC+ access prices. The Commission noted that many of the declared services would be highly capital intensive and that capital costs would therefore comprise a significant proportion of total costs.⁴² It was emphasised that TSLRIC+ requires assets to be valued at their “economic cost”.⁴³

57. The Commission noted that there were potentially a number of ways of valuing assets, but concluded that a replacement cost approach was most consistent with TSLRIC.⁴⁴ Accordingly, the ACCC concluded that “replacement cost normally is the appropriate method of asset valuation under Part XIC”. The Commission stated that while historic costs might in some cases provide a starting point for determining replacement cost, use of historic cost would often be problematic:⁴⁵

Historical or original costs may provide a starting point for determining the replacement cost of a new asset. For older assets the use of historical costs is more problematic. For these assets, historical costs do not reflect the current cost of providing the service potential of the asset. This can be overcome to some extent by using a general price deflator to adjust the value of the asset to current prices. However, in telecommunications where technology advances rapidly, historically incurred expenditures often have little relationship with (and generally overstate) the true economic costs of replicating an asset’s service potential.

58. Following the establishment of its TSLRIC+ pricing principles, the Commission made a number of decisions establishing prices for declared fixed line services. In these decisions the Commission has reiterated its preference for use of forward-looking costs, in line with its 1997 Pricing Principles. The Commission frequently restated the key attributes of forward looking costing including:

- that it better promotes the LTIE, by allowing access seekers and Telstra to compete on the basis of relative efficiencies (thus promoting competition and efficient infrastructure investment); and
- that prices determined on this basis “allow Telstra to recover amounts necessary to protect its legitimate business interests, but not more than necessary”.⁴⁶

⁴² 1997 Pricing Principles, p. 41.

⁴³ 1997 Pricing Principles, p. 41.

⁴⁴ 1997 Pricing Principles, p. 41.

⁴⁵ 1997 Pricing Principles, p. 43.

⁴⁶ For example, ACCC, *Unconditioned Local Loop Service Access Dispute Between Telstra and PowerTel Ltd: Statement of Reasons for Final Determination*, March 2008, paragraph 370.

59. The earliest pricing decisions related to Telstra's initial undertakings for PSTN OTA. Telstra's first undertaking was lodged in November 1997 and was supported by historic cost estimates, in the absence of a fully developed forward-looking cost model. The Commission rejected this undertaking, noting that:⁴⁷

Historical costs are unlikely to be the same as forward-looking costs. There are a number of important differences. In particular, historical costs are not necessarily based on the use of modern equipment and are not always consistent with efficient operation of the network. In some cases, these differences will result in historical costs being greater than forward-looking costs, in other cases lower than forward-looking costs.

60. Telstra lodged another undertaking in October 1999, this time supported by forward-looking cost estimates. However this undertaking was also rejected by the Commission.
61. In its decision on Telstra's October 1999 undertaking, the Commission established its preferred approach to recovery of capital costs under TSLRIC+, the tilted annuity. The Commission made clear that it adopted a tilted annuity approach in order to address what it described as "the year 1 problem" – that is, where it is assumed that a new optimised network is installed each year and depreciation is higher in the earlier years of an asset's life, an asset owner may potentially be over-compensated because they would be continually receiving revenue to compensate for year 1 depreciation charges.⁴⁸ The Commission stated that the use of a tilted annuity overcomes this potential issue with the TSLRIC+ approach and prevents over-recovery.
62. The same point in relation to the tilted annuity is re-emphasised in the Commission's 2002 decision on ULLS pricing:⁴⁹

The Commission uses a tilted annuity approach to depreciation that leads to a smoothed depreciation expense over the life of an asset. Telstra uses economic depreciation that produces a higher depreciation expense in the earlier years of an asset's life. The Commission is of the view that its approach prevents over-recovery of capital costs and more closely accords with a market-based pricing approach. The annuity approach also overcomes the 'year 1' problem that arises when using a forward looking TSLRIC model, which assumes the network is brand new in each year which would result in higher asset values (and capital costs).

63. The Commission continued to apply the tilted annuity approach in setting the path of capital cost recovery through fixed line prices. The effect of the tilted annuity was to establish an upward path for prices and cost recovery over time, in line with the projected upward trends in the replacement costs of key assets such as ducts and cables. The effect of the tilted annuity on pricing can be clearly seen in recent pricing decisions for the ULLS (Table 3).⁵⁰ The prices in Table 3 (except those for 2009-10 which were simply rolled over from the previous year) were calculated from Telstra's PIE II cost model (a TSLRIC+ model) using the Commission's preferred inputs, including a tilted annuity. Accordingly, the effect of the tilted annuity is to establish an upward path for prices and recovery of capital costs.

⁴⁷ ACCC, *Assessment of Telstra's Undertaking for Domestic PSTN Originating and Terminating Access: Final decision*, June 1999, p. 62.

⁴⁸ ACCC, *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access services*, July 2000, p. 96.

⁴⁹ ACCC, *Pricing of unconditioned local loop services (ULLS): Final Report*, March 2002, p. 37.

⁵⁰ ACCC, Final determination in the ULLS access dispute notified by Optus on 18 November 2005, dated 21 April 2008; ACCC Final determination in the ULLS access dispute notified by Chime on 26 June 2008, dated 7 April 2010

Table 3: ULLS pricing established in recent Commission arbitration determinations

	2005-06	2006-07	2007-08	2008-09	2009-10*
Band 1	\$5.60	\$6.00	\$6.20	\$6.60	\$6.60
Band 2	\$12.30	\$13.70	\$14.30	\$16.00	\$16.00
Band 3	\$25.00	\$27.30	\$28.50	\$31.30	\$31.30

*Note: prices for 2009-10 were rolled over from the previous year

64. The early Commission pricing decisions also included consideration of the relationship between the retail price controls (which had been in place since the 1980s) and the new framework for wholesale pricing. The Commission noted that the retail price controls had created an "access deficit" (i.e. a situation where Telstra was unable to fully recover line costs as a result of retail price controls)⁵¹ and that some contribution to this deficit may need to be made in wholesale pricing. The Commission was prepared to allow recovery of part of the access deficit through PSTN OTA pricing⁵², but did not make the same allowance in ULLS pricing.⁵³ The Commission's reason for this was that while PSTN OTA services are provided over lines that are forced to be sold at a loss (as a result of the Government price controls), the ULLS simply involves the leasing of "cost-recovering lines".⁵⁴
65. The "access deficit" issue appears to be one reason why the Commission chose not to price LCS at TSLRIC+ when it was initially declared. Despite the 1997 Pricing Principles and submissions from Telstra proposing that LCS pricing be TSLRIC-based in line with those principles⁵⁵, the Commission chose to base LCS prices on retail minus retail costs (**RMRC**). In making this decision, the Commission noted that TSLRIC may have in fact been *above* the retail price (and therefore above RMRC) by virtue of the access deficit. The Commission did not consider it appropriate to impose wholesale charges that were above Telstra's retail charges, and accordingly determined wholesale prices commensurate with what Telstra was able to recover from retail customers rather than what it cost to supply local calls. The Commission noted:⁵⁶
- The Commission is also mindful of the possibility that the forward looking costs of a local call (including indirect costs and an access deficit contribution) may be above the maximum price allowed under the retail price controls on Telstra. The Commission believes that the retail-minus approach ensures that Telstra only recovers from access seekers the network costs that it directly recovers when it supplies local calls to end-users.*
66. The RMRC methodology was subsequently used to derive prices for the LCS, and following the declaration of WLR in 2006, RMRC was used to set prices for both WLR and LCS. In its decision to adopt RMRC for WLR (and continue it for LCS), the Commission indicated a preference for moving to a cost-based standard for both services.⁵⁷ At the time however, the Commission did not have a cost model which would have enabled it to do this.
67. Most recently, the Commission has initiated a review of the 1997 Pricing Principles, and at the same time has sought to implement cost-based pricing for WLR and LCS.

⁵¹ The ACCC found the access deficit to be around \$1.2 billion in 2000-01 (ACCC, *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access services*, July 2000, p. 59).

⁵² ACCC, *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access services*, July 2000, pp. 24-26.

⁵³ ACCC, *Pricing of unconditioned local loop services (ULLS): Final Report*, March 2002.

⁵⁴ ACCC, *Pricing of unconditioned local loop services (ULLS): Final Report*, March 2002, p. 22.

⁵⁵ As noted by the Commission, Telstra advocated the use of TSLRIC+ for the LCS, since this would have ensured recovery of costs, including a contribution to the access deficit (ACCC, *Local Carriage Service pricing principles and indicative prices: final report*, April 2002, p. 2).

⁵⁶ ACCC, *Local Carriage Service pricing principles and indicative prices: final report*, April 2002, p. 2.

⁵⁷ ACCC, *Pricing principles and indicative prices - Local carriage service, wholesale line rental and PSTN originating and terminating access services: Final Determination and Explanatory Statement*, 29 November 2006, pp. 9-10.

4.5. Social policy obligations

68. In addition to the competition regulatory framework, a number of social policy obligations were imposed on Telstra during the move to privatization in the late 1990s. Whilst a number of these obligations had previously been borne by Telstra and its predecessors as Government-owned enterprises, the move to privatisation created a need to formalize these obligations and provide funding.
69. One of the most significant social policy obligations which continues to be imposed on Telstra is the universal service obligation (**USO**), which was formalised through the *Telecommunications Act 1997* (**1997 Act**). At the time of introduction, s 137 of the 1997 Act set out the key objects of the USO as follows:

...to ensure that all people in Australia, wherever they reside or carry on business, should have reasonable access, on an equitable basis, to:

(a) standard telephone services; and

(b) payphones; and

(c) prescribed carriage services.

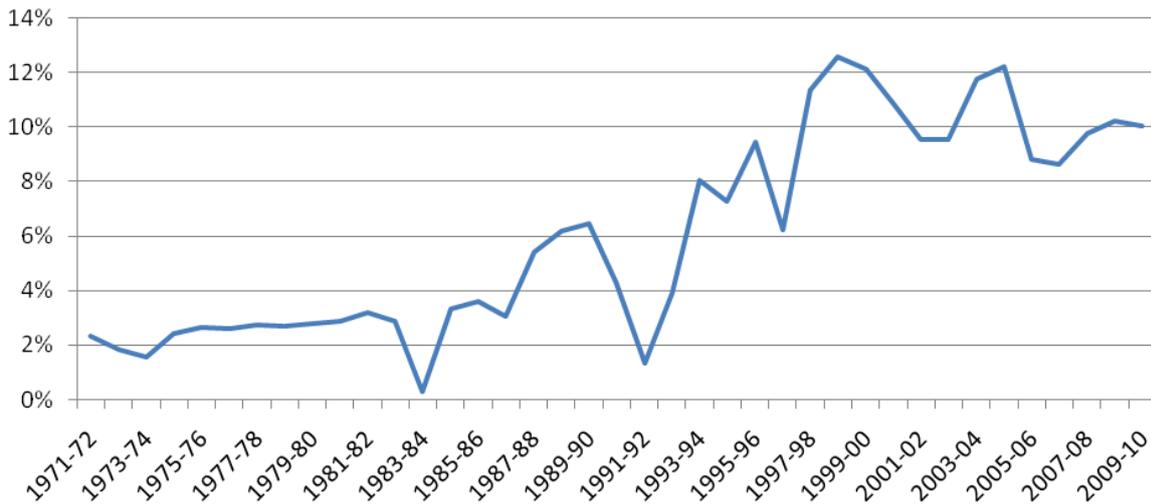
70. A key tenet of the USO is that all people can access telephone services on an equitable basis, meaning that customers in high-cost areas should be able to access telephone services comparable to those in metropolitan areas at comparable prices. To the extent that this creates a revenue shortfall in high-cost areas for Telstra as the universal service provider, funding may be provided by the Minister. Since the establishment of the USO regime, Telstra has consistently argued that the USO funding provided by the Minister is insufficient to cover the costs of meeting this social policy obligation.

5. RETURNS

71. In the 40 year period spanning from 1970 to 2010, Telstra's return on total assets⁵⁸ increased overall (Figure 5).
72. From year to year, the return on total assets increased with the introduction of new services and revenue streams. For example, the introduction of broadband services on HFC cable and later ADSL in the late 1990s appears to have been associated with an increase in the nominal rate of return. Since 2000, nominal returns have been consistently higher than in previous decades as Telstra has broadened the range of services and applications it offers.
73. The return on total assets has also declined in some years, including when there was a downturn in Australia's general economic performance. For example, the recession in the late 1980s/early 1990s involved a large decrease in the rate of return.
74. Over the 40 year period, the average nominal rate of return on total assets was around 6%.

⁵⁸ Calculated as net profit in each year divided by the total assets as reported in the annual reports of PMG, Telecom and Telstra in the same year.

Figure 5: Rate of return on total assets (1971-72–present)



Source: Annual reports – PMG, Telecom and Telstra.

75. Consistent with this, a Senate report released in 1983 on Statutory Authorities (**Rae Report**) found that between 1975-75 and 1981-82, Telstra’s real rate of return on assets (after operating expenses and depreciation) was less than 4% on average.⁵⁹ In terms of return on equity, the Rae Report noted that Telecom’s real rate of return on equity has steadily decreased since 1975-76.⁶⁰ The real rate of return over the period studied in the Rae Report is set out in Table 4 below.

Table 4: Telecom – Real rate of return (1975/-76–1981-/82)

Year	Real rate of return on assets
1975-76	4.60%
1976-77	4.30%
1977-78	4%
1978-79	3.70%
1979-80	3.50%
1980-81	3.30%
1981-82	2.90%
1982-83	3.80%

Source: Rae Report, Table 3.7.

⁵⁹ Statutory Authorities of the Commonwealth: Financing – Volume 1 Report, *Senate Select Committee on Statutory Authority Financing*, September 1983, p. 47 (**Rae Report**).

⁶⁰ Rae Report, p. 53.