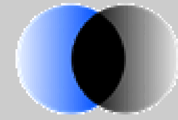

ACIL Tasman

Economics Policy Strategy

Submission to the House of Representatives Standing Committee on Communications, Information Technology & the Arts

A submission by ACIL Tasman

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Executive summary

- This submission is presented by the economics, policy and strategy consultancy, ACIL Tasman with the support of the Competitive Carriers Coalition (CCC) - Comindico, Hutchison, Macquarie Corporate, Powertel and Primus Telecom. The views expressed are ACIL Tasman's.
- **The effective development and management of Australian telecommunications is crucial to Australia's economic well-being.** Its importance has been rising in recent years with the growth in service sector industries and the emergence of broadband internet technologies. It has an enabling effect on other industries and is central to Australia's economic performance.
- ACIL Tasman believes that **the telecommunications sector is being curtailed by insufficient competition** and in particular by Telstra's continuing dominance. Current methods of regulating the sector are inadequate, and the adjustments announced by the Government on 16 December 2002, although welcome as far as they go, are limited in scope.
- The Productivity Commission review completed in 2001 was purposely confined to matters other than separation. **Therefore, a general review of the regulatory arrangements, including structural arrangements which apply to Telstra, remains a policy priority**.
- **The consideration of separation as an option needs to be serious.** Searching attention should be given to the role and form of that separation, and to its effectiveness relative to other forms of regulation.
- Matters are complicated in Australia by the wide public ownership of Telstra shares and the impact of Telstra's financial performance on public finances. However, **the impact on national welfare -** which is a composite of industry output and consumer amenity — **is a more important impact to consider than conjectures about any impact on shareholders or the public purse, negative or positive.**
- Regulation, defined to include possible structural solutions, is needed where history or industry structure creates scope for anticompetitive behaviour.
  - In telecommunications, this arises where "essential facilities" are being provided. Essential facilities occur where economies of scale or scope make it inefficient to create more than one version of the facility, and where there are bottlenecks.

- In telecommunications, the customer access network, or "local loop" is such a facility – this holds the key to the development of broadband technologies and is the main interface between customers and the industry. **Control over the local loop gives Telstra considerable market power.**

- Further, since it has its own businesses which rely on local loop access, **control over the local loop gives Telstra a conflict of interest** problem as it attempts to balance its (public) responsibility to provide the essential facility effectively with its pursuit of profitability in other parts of the firm. **The basic argument for vertical separation lies in this conflict.** A variety of anti-competitive behavioural responses – "package" deals, control over innovation, raising access prices, creating delays, inventing barriers to entry – are all ones of which Telstra has been accused.
- Part XIB of the *Trade Practices Act* places the burden of proof in establishing such anticompetitive behaviour on those alleging it. However, the lack of transparency in Telstra's operations make it difficult to pursue any such breaches.
- The issue of how to regulate incumbent telecommunications companies is of course not unique to Australia:
  - in 2001 OECD issued a recommendation on structural solutions to such issues in public utilities; the associated OECD report contrasts access regulation with vertical separation as methods of addressing the problem and provides evidence (for example research by Mini in the US in 1999) which shows that **vertically integrated companies are less likely to reach access agreements with others and are more exploitative, with correspondingly lower entry**; and
  - a recent assessment of separation in the US has been published by Crandall and Sidak (2002). This questions the OECD conclusions and emphasises the cost of separation as needing to be taken into account alongside the benefits. The arguments in this paper - and the large body of work it surveys - deserve careful consideration.
- **At present, ACIL Tasman does not have a firm view on whether full vertical separation is the right answer in the Australian context.**
- Ultimately, the relative merits of each structural option in the Australian situation should be dispassionately weighed.
  - Many will have advantages in terms of their contribution to transparency; the easier enforcement of non-discriminatory access rules; the revitalisation of the network owner's interest in seeking business from other operators; the creation of a more

cost-conscious internal atmosphere inside the incumbent; and the simplification of behavioural regulation.

- They may also have disadvantages in terms of foregone economies of scale and scope, the narrowing of opportunities for financing overheads and the creation of fixed boundaries between activities whose interfaces should not be fixed.
- Naturally, the opponents of separation will stress the disadvantages, but their claims will need to be critically appraised.

- **The matter is very complex and requires appropriately sophisticated and extended analysis**. **In our respectful view, the Committee would need much more time and greatly expanded resources if it were to address the issues comprehensively. The Productivity Commission has unfinished business in that its 2001 review was required not to consider separation options.**
- As part of its comprehensive review the PC would examine **all forms of separation (including restrictions on ownership or lines of business, ring fencing, etc).**

1. Nature of this submission

This is a brief submission by the economics, policy and strategy consultancy, ACIL Tasman Pty Ltd (ACIL Tasman). ACIL Tasman formed from a merger of the economic consultancies ACIL Consulting Pty Ltd and Tasman Economics Pty Ltd in November 2002. ACIL Tasman retains the high analytical standards of its two predecessors.

The views expressed are ACIL Tasman's, but the submission has been supported by the Competitive Carriers Coalition (CCC). CCC is a coalition of non-dominant communications carriers who provide a variety of retail communications services to customers throughout Australia and overseas.

The five members of CCC that have supported this submission are Comindico, Hutchison, Macquarie Corporate, Powertel and Primus Telecom. In various ways, they represent a class of firms in the telecommunications industry for whom Telstra is both an input supplier and a retail competitor.

ACIL Tasman believes (on the basis of evidence that continues to be provided by authoritative reviewers such as the ACCC and the Productivity Commission) that the size and influence of the sector that CCC represents is being curtailed, to the nation's detriment, by insufficient competition in, and Telstra's continuing dominance of, Australia's telecommunications industry.

Due there being just a few weeks for people to make submissions, ACIL Tasman regards this as a preliminary submission in that it provides only an outline of the issues at stake. ACIL Tasman's (and we believe the CCC's) intention is to make a fuller submission later if the opportunity arises.

ACIL Tasman does not have a firm view about whether specific parts of Telstra should be structurally separated into different wholesale and retail firms. Rather, ACIL Tasman's view at this stage is that separation of that order, along with other devices such as ringfencing and divestiture powers deserve to be taken seriously as regulatory options to improve the present situation. Certainly there are grounds for believing, both conceptually and in the light of experience to date, that separation in one form or another might form part of the best overall regulatory package.

A consideration underlying ACIL Tasman's view is that, in terms of competitive results, the current regulatory package for Telstra appears to be failing in its objective of enhancing competition. Moreover, while welcome, the many amendments introduced by the Government on 16 December 2002 seem to fall short of the mark.

The amendments were introduced in response to a major Productivity Commission (PC) review completed in 2001.[1] The PC's review was purposely confined by the Government's terms of reference to matters other than separation. For this and other reasons, the general review of the Telstra's regulatory arrangements remains a policy priority. This seems also to be the view of the Minister whose second reading speech when introducing the December 2002 amendments included notice of his intention to keep all matters under consideration.

ACIL Tasman believes that, as part of the broader review agenda, separation needs to be seriously addressed. Its appropriate role and form, if it were to be used, would depend on a range of assessments about the nature of the markets in question, the availability of other regulatory tools, and the degree to which those tools can be effectively administered.

The obvious complexity of these considerations and the need for informed public debate underlie our opinion that the question of separation deserves to be assessed in greater depth and over a longer period than will be possible in the two months originally set aside for the present Standing Committee inquiry. This submission will therefore urge the Committee to recommend that a more searching investigation of the matter be undertaken subsequently.

2. Why regulate?

The right place to start a discussion of separation as a regulatory option is to reflect briefly on the reasons why society is interested in regulating activities such as telecommunications in the first place. The key concern, of course, lies in containing or overcoming monopoly (or more politely, "anti-competitive") behaviour in certain key parts of the system.

In principle at least, the parts where monopoly problems arise can be readily identified. Telecommunications networks, in common with a number of utility industries, have core elements which are known as "essential facilities". The term essential facility has become both a legal and economic expression to define a type of infrastructure that will be undersupplied and overpriced unless corrective regulation, defined to include structural solutions, is introduced. Whole textbooks have been written about the phenomenon, even in respect to individual infrastructure types. Similar issues arise with electricity, water, gas, rail, ports and roads.

Essential facilities have two important characteristics. First and foremost they are natural monopolies. This is a technical property that stems from economies of size and scope, which in purest form are exhibited to such a

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[1] Productivity Commission (2001) *Telecommunications Regulation* (the report was released by the Government on 21 December 2001.) See http://www.pc.gov.au/inquiry/telecommunications/finalreport/index.html.

degree that building more than one such facility would not make economic sense. Second, to be classed as a genuine essential facility, the natural monopoly service must act as a "bottleneck" in the sense that it is a crucial input or sticking point for producers operating upstream or downstream from the facility itself. This will be so when users of the facility have little if any choice but to use the facility if they are to stay in production.

The circumstances described define a situation in which the owner of the facility has considerable market power - to the point that in the absence of effective regulation it will be in a position to charge users exploitatively, and artificially to withhold supply of its services. Whatever one may think of this ethically, from a whole of society standpoint this is inefficient and, with large and important facilities, could involve a huge sacrifice of national welfare. National welfare is a composite of industry output and amenity for final consumers.

The element of the telecommunications industry which best fits the essential facilities description is the part of the public switched telecommunications network (PSTN) known variously as the "customer access network" (CAN), the "local loop," or the "last mile". It is largely composed of copper wire connections from suburban switching devices or "posts" to houses and businesses. This is the part which grants the incumbent owner the greatest control over what telecommunications services are delivered to consumers. Its importance is likely to increase, for example, as it becomes possible to use copper wire for the delivery of broadband services, arguably the greatest area of growth in consumer demand. Certainly, there is widespread agreement that enabling access on reasonable terms to this part of the network will remain the preoccupation of telecommunications regulation for some time. This is the part on which the ACCC's repeated investigations have focussed and to which the Productivity Commission has directed its attention.

The market power of the incumbent owner of the local loop is significantly magnified if the owner, as in Telstra's case, is part of a vertically integrated company that also operates downstream from it. Being an essential facility owner and retailer at the one time places the vertically integrated firm in a kind of conflict of interest.

The extra power enjoyed by the vertically integrated firm comes from its ability to monopolise areas of the downstream market by providing its own subsidiary with local loop access on favourable terms. Even where price regulation is fairly complete in most respects, the discounts offered can be disguised, for example, in package deals involving bundles of products.[2]

2 Melbourne University's Gans and King have written extensively on this subject.

From a regulatory standpoint, the first industry where this insight was acted upon was the electricity industry. Traditionally, in each jurisdiction in Australia, the electricity transmission and distribution systems (the essential facilities) and the generation and retail businesses were owned by one big State-owned company. In the 1990s, the generators and retail functions were separated out and made competitive, with great results for electricity users and consumers.

In telecommunications, we still have one dominant vertically integrated company, Telstra, whose leverage over local loop access can also enable it to forestall competitors who are trying to deliver customers a better product. In this way, vertical integration can give the loop owner virtual control over the innovation agenda – an important commercial advantage for an incumbent preoccupied with "plain vanilla" products. Various obstacles can be erected – for instance, instead of simply raising its wholesale access prices, it may create delays, or invent expensive new interconnection protocols for innovators (on the plausible grounds that the impact of the innovation on network integrity has not been tried). Anticompetitive behaviour of this kind is difficult to prove and firms that have other business with the loop owner may be reluctant to lodge an official complaint for fear of retribution. Accusations of such behaviour by Telstra are common.[3]

Part of the problem is that the current regulatory regime (specifically, Part XIB of the Trade Practices Act) places the burden of proof upon the party alleging that Telstra has behaved anti-competitively. The lack of transparency of Telstra's dealings (which Telstra insists remain confidential) makes it hard for competitors and regulators alike to make a case of anticompetitive behaviour against Telstra[4].

The regulatory challenge in these circumstances is enormous.

Partly for historical reasons, but also because of the nature of the regulatory regime, Telstra remains dominant. Published information from various sources indicates that 12 months ago Telstra's market share was:

- 85% of the local call market;
- 86% of the basic access market;
- 72% of the long distance market;
- 50% of the international market;
- 50% of the mobile market; and

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3 For example, Telstra is considered by several observers to have used such tactics to block the advent of DSL and 3G technology.

4 Other jurisdictions have different arrangements. For example, in the US it remains difficult for a single entity to own and control assets in more than one vertical market without first having proved it has not been anticompetitive in its home market. Thus the burden of proof in the US is the reverse of that in Australia's regime where competitors and the regulator are at a considerable information disadvantage.

- 80% of the data market.

As well, over the last year, Telstra secured over 92% of total telecommunications profits in Australia.

We understand that things are currently much the same.

Concentration figures of this order suggest that the market may not be as open as it should be.

3. Regulatory principles

3.1 Recent thinking on separation in Australia

In the 1980s, Australian telecommunications carriage was in the hands of three government-owned monopolies (AUSSAT, OTC and Telecom Australia), separated more by geographic than functional boundaries. Then, in 1992, Telecom and OTC were merged. There was subsequently some dilution of their monopolies with the entry of Optus. The loss-making AUSSAT was ultimately "sold" to Optus — as one of several entry conditions — with its satellite monopoly intact. Looking back, these manoeuvres look somewhat arbitrary. Certainly at the time there was considerable debate about what to do. ACIL was a contributor. [5]

As the PC mentions in its recent review of telecommunications regulation, there was a worldwide shift in the 1980s and 1990s to regimes that attempted to remove the obstacles to competition, rather than taking monopoly structures as given and trying to ameliorate their adverse outcomes. The Hilmer report of 1993 was influential in promoting that approach and especially the idea that separation of the monopoly parts of public utilities from their other more competitive parts could both simplify the regulatory task and better allow competition to do its work. The Competition Principles Agreement, signed by the Commonwealth, State and Territory Governments in April 1995, reflects that thinking.

As far as Australian telecommunications goes, the Industry Commission's 1997 staff paper on Telecommunications Economics and Policy Issues[6] contains one of the clearest statements of the economic case for structural separation. A copy of the commentary on structural options that appears on pages 121 to 128 of that paper is included as **Attachment A1** The report was written a few months before "open competition" was introduced.

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5 In 1990, ACIL assisted the Australian Telecommunications Users Group (ATUG) with two submissions to the Government: *Increasing efficiency through competition* (February 1990) and *The case against merging the carriers* (May 1990).

6 Robert Albon, Alexis Hardin and Phillipa Dee (1997) *Telecommunications Economics and Policy Issues*, Industry Commission Staff Paper. See http://www.pc.gov.au/ic/research/information/teleeco/teleeco.pdf.

As noted, in its most recent inquiry into telecommunications regulation, the Industry Commission's successor, the PC, was forbidden by its terms of reference to canvass separation options. Its report is unbalanced because it contains little discussion of the matter and there are no recommendations on the subject. Significantly however, the PC's general outline of regulatory options does concede that structural separation is one of the four main sets of available regulatory tools. Its brief description of those four sets in the report's section 2.3, and especially that on pp 44-54, is an accessible and modern guide to their features. The following summary table is a copy of Table 2.1 on p 53 of the PC report.

Table 1: Copy of Productivity Commission Report Table 2.1: **Comparing key instruments for dealing with market power***

	Vertical separation	**Global retail price caps**	**Access regime**	**Rules against anti-competitive conduct**
Weakens incentives for trying to tacitly deny access (eg 'losing' the keys to the exchange)	Moderate	Sometimes	No	No
Deals with explicit anti-competitive conduct	No	No	Sometimes	Yes
Information requirements for regulators	Low	High	High	High
Regulatory transactions costs	High initially then low	Low	High	High
Significantly reduces 'excess' profits	No for upstream segment; Yes for downstream segment	Yes	Yes	Uncertain
Degree of targeting of services	High	Low	Moderate	High
Allows multi-part tariffs and price discrimination	Yes	Yes	Sometimes	Uncertain
Facilitates downstream entry	Yes	Maybe	Yes	Yes
Speed of processes	High	High	Uncertain	Low

* The ratings are generalisations. There will be circumstances in which the rating could change for particular configurations of an instrument. For example, if sub-caps are applied, then retail price caps can be very highly targeted. Price monitoring is not included in the table or the discussion since it applies in circumstances where the degree of suspected market power is weak. Also, various instruments can be combined and have different ratings when combined than by themselves.

As the table indicates, despite its terms of reference, the several relatively positive features of vertical separation were acknowledged by the Commission.

In regard to structural separation issues, the last 12 months have been marked by:

- Minister Alston's announcement on 24 April 2002 that the Government will be requiring (improved) accounting separation of Telstra's wholesale and retail arrangements, but is not considering structural separation;
- the Government's further response on 24 September 2002 to the PC's 2001 report, including some more details of the proposed new accounting separation arrangements. In particular, the intention was announced to monitor both the price and non-price terms that Telstra demands of its own retail arm and outside firms, and to have the first of the new set of accounts for 2002-2003 ready by end-2003;
- a second reading speech on 5 December 2002 by Minister Alston introducing amendments to implement the above which restated the intention to make improvements to accounting separation and announced that the ACCC would be asked to report in January on Pay TV issues. But he also hinted that in effect the regulatory regime would remain under constant review:

> "While this Bill implements substantial regulatory reform, the Government recognises that the changing and dynamic nature of the telecommunications industry will require ongoing monitoring to ensure the regime continues to meet the needs of an open and competitive telecommunications market." [7] (Page 5).

Meanwhile, a number of network users including members of the CCC, have taken the opportunity to make submissions about the desirability of Telstra separation to such inquiries as:

- the Senate's Environment, Communications and the Arts Reference Committee inquiry into the "Australian telecommunications network;" and
- the ACCC's combined review of the Foxtel /Optus and Austar/Telstra undertakings on Pay TV and the Telstra/Foxtel notification application on the same subject.

A list of the key issues concerning separation that have been submitted to these inquiries by companies that are CCC members could be supplied to the Standing Committee on request.

The most recent contribution to the public debate on the issue has been a paper by Professor Stephen King commenting on ways of combining separation and privatisation - see section 4.2 of this submission.

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7 See Second Reading Speech of Senator Alston dated 5 December 2002 introducing the Telecommunications Competition Bill 2002 (supplied by the Minister's Office, January 2003).

3.2 The OECD debate

Both the seriousness and the complexity of the separation issue in telecommunications are underlined by a debate that has been underway inside OECD over the last two years. The conjecture appears to have been sparked by work in OECD's Competition Division which culminated in the publication of a 90-page paper in April 2001.[8] Simultaneously, the OECD issued a Recommendation that OECD member countries think more closely about structural solutions to utility regulation.[9] The paper is about public utilities in general, but is laced with telecommunications examples.

Having made the point that industries often contain a non-competitive component with natural features that require regulation, and a competitive component that does not, the *Introduction* of the 2001 OECD report explains that:

> "The question for competition policy makers is how best to preserve and promote competition in the competitive component. There are a variety of tools or policy approaches that can be used for this purpose. These include:
>
> (a) The regulation of access to the non-competitive component of an integrated firm;
>
> (b) Ownership separation of the competitive and non-competitive components;
>
> (c) Club or joint ownership of the non-competitive component by competing firms in the competitive component;
>
> (d) Placing the non-competitive component under the control of an independent entity ("operational" separation);
>
> (e) Separation of the integrated firm into smaller reciprocal parts; and/or
>
> (f) Limitations on the ability of the integrated firm to compete in the competitive component." (p2.)

The paper is careful to say that the answer depends very much on the circumstances. But it goes on to examine in more detail the first two of these tools – access regulation and vertical separation – to assess their relative merits.

Tables in the paper outline the separation rules applying in telecommunications and other industries across different countries.

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[8] OECD (2001*) Structural Separation in Regulated Industries*, Report by the Secretariat DAFFE/CLP (2001) 11, April (see http://www.oecd.org/pdf/M00020000/M00020230.pdf). A related paper entitled *Restructuring Public Utilities for Competition* was published in August 2001.

[9] The recommendation can be found on OECD's website at http://oecd.org/daf/clp/Recommendations/vertical-e.pdf_s

Tables A-9 and A-10, which relate to telecommunications, are copied at **Attachment A2**. As can be seen, a great variety of arrangements apply, from no structural restraints in Switzerland and New Zealand, to vertical separation in Brazil, to a combination of vertical and horizontal separation Canada. As well there are differences in degrees of separation – for example, Canada's requirement that mobile be supplied by a separate company is more intrusive than the horizontal restriction applying in the UK that limits BT's share holding in Cellnet to 60%.

In view of the evidence on telecommunications, one of the paper's conclusions is that:

> "In the telecommunications industry … there is substantial scope for further separation. Very few countries have chosen to divide up their incumbent operator into regional units. Although countries differ in the extent to which they permit the incumbent to provide mobile services, most allow some form of integration. There is substantial scope for separation of traditional copperwire services from cable and fibre-optic broadband services and for unbundling of the local loop to allow separate copper-based networks to develop." (p50).

The paper is a useful reference document in that it cites a wide range of highly pertinent literature on the structural separation issue.

One research contribution reported in some detail in the OECD paper is that by Mini in 1999 which compares the competitive performance in America of vertically separated and integrated telecommunications facilities. Mini looked at results in the US since the 1982 "consent decree" which vertically separated AT&T while leaving its smaller rival in local telephony services, GTE, free to integrate.[10] In short, Mini's 1999 research suggests:

- agreements on access arrangements tended to be reached (and to be reached more quickly) under vertical separation than vertical integration;
- the incumbent was systematically more exploitative in negotiating under vertical integration; and
- despite having the same access regulation, entry was systematically lower in regions served by the integrated incumbent.

Again, the OECD paper is cautious about drawing general conclusions from these results. However for Australian policy makers the findings are instructive.

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[10] Frederico Mini, (1999), "The Role of Incentives for Opening Monopoly Markets: Comparing GTE and RBOC Cooperation with Local Entrants", *Georgetown University, Department of Economics, Working Paper 99-09*, July. Mini's findings are summarised in a box on page 7 of a 2002 OECD Policy brief called *Restructuring Public Utilities for Competition* that appeared early in 2002. It may be found at http://www.oecd.org/pdf/M00026000/M00026489.pdf

Conceptually, the primary disadvantage with integrated structures is that they provide the incumbent with an incentive to restrict competition in the naturally more competitive portion of the industry. As the OECD paper's *Summary and Recommendations* section observes:

> "The primary problem with behavioural approaches [such as access regulation for an integrated firm] is that the regulator must struggle against the incentives of the incumbent firm to find ways to restrict competition. The incumbent firm can use all the tools at its disposal, whether legal, technical or economic to delay, to lower the quality or raise the price of access. A well-resourced regulator, through persistence and vigilance, could hope to limit the anti-competitive activity of the incumbent, but the outcome is unlikely to be as much competition as would arise in the absence of the incentive to restrict competition. Potential entrants, fearing the effects of discrimination, despite the best efforts of the regulator, may hesitate to invest in new capacity." (p 48)

The paper agues that the same problems plague all behavioural approaches:

> Certain policy approaches, namely accounting separation, management separation and corporate separation do not address either the incentive or the ability of the incumbent to restrict competition. These approaches are therefore not effective in promoting competition in themselves. This point has been made many times in many different industries. The primary value of these policies is as a support to other approaches, primarily access regulation. (p49)

Interestingly, a publication issued as recently as December 2002 by another part of OECD (a Working Party served by the Directorate for Science, Technology and Industry) has taken a rather more conservative stance.[11] This report (which incidentally, benefited from input from a Swinburne University of Technology consultant, Patrick Xavier) takes the view that in telecommunications:

> "… it would seem sensible to persevere with improvements to the current regulatory approach backed with sanctions to deal with anti competitive discrimination." (p 4).

Time and resources have not permitted us to yet make a detailed comparison of the two OECD reports cited above, but it is submitted that such a comparison would be very germane to the Standing Committee's current review.

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[11] OECD (2002) *The Benefits and Costs of Structural Separation*, a paper by the Working Party on Telecommunication and Information Services Policies, 2-3 December.

3.3 The Crandall/Sidak article

In mid-2002, between the publication of the two OECD papers, a 75-page research paper by two senior US analysts, Crandall and Sidak, appeared in the *Yale Journal on Regulation* on the same subject.[12] Like Mini before them, they have looked at the US "experiment" with separation in telecommunications. The experience in individual US States is assessed. Canadian and UK experience is also cited.

Crandall and Sidak say they consider the April 2001 OECD paper cited above to be "unpersuasive." Their diagnosis, unlike Mini's, is that US jurisdictions that had split the wholesale and retail operations of local telephony enterprises into structurally separate subsidiaries had created no discernable consumer benefits. At the same time, they inferred that there would have been a substantial cost from separation in terms of forgone coordination of investment and production and forgone economies of scope.

The paper does not rigorously prove its case, but takes the position that, in the absence of rigorous proof on the other side, "[p]olicy makers should reject proposals for mandatory structural separation of the incumbent local exchange carriers."

Time has not permitted ACIL Tasman to undertake a thorough appraisal of the Candall/Sidak contribution. However, since like the OECD papers referred to earlier, it cites a large body of work on this subject over the last few years, we recommend it to the Standing Committee as a reference document.

4. Broad guidelines

4.1 The need for a serious review

Telstra's historical existence as a vertically integrated public enterprise owes nothing to modern thinking about utility regulation and should not be allowed to get in the way of a full investigation now of the separation question.

It is a question that should be tackled in the context of wider regulatory reform, which admits the possibility of adding structural separation, perhaps while relaxing or modifying the other regulatory tools that are now applied. The examination should be conducted in the light of the effectiveness or otherwise of past and present measures intended to promote competition.

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12 Robert W Crandall and J Gregory Sidak (2002) *Is Structural Separation of Incumbent Local Exchange Carriers Necessary for Competition?* Yale Journal on Regulation, vol 19:2.

As indicated, most expert commentators believe that, to the nation's cost, the Australian telecommunications industry remains insufficiently competitive. Put another way, the diagnosis is that Telstra's dominance is excessive. Competitive conditions are unlikely to be greatly improved by the many small, albeit welcome, amendments to the *Telecommunications Act* introduced on 16 December 2002.

There is broad agreement that the level of competition has fallen short of what was envisaged when full competition was introduced five or more years ago.

Accurate and cost-effective regulation of the genuine "essential facility" part of the telecommunications network, the local loop, would be a challenging enough task in the best of circumstances. In particular, the ACCC and other authorities are never likely to be as well informed as Telstra about the true costs of running the network and its technical characteristics and future requirements. The costly and drawn out investigations by the ACCC in local loop access cases between 2000 and 2002 attest to the regulator's difficulties.[13]

The regulatory task is made more challenging by the vertical integration within Telstra of the local loop and a retail business. Telstra's excessive dominance of the industry can be attributed to a significant degree to the incentives and opportunities created by this vertically integrated structure for it to provide local loop access to its own retail arm on more favourable terms than to its retail rivals. Rivals, such as the members of CCC who have supported this submission, are able to give numerous examples of such discrimination. It has both price and non-price dimensions. Obtuse technical standards, delays, and other tactics can be used to deter innovators who might otherwise seize a significant market share, for example. Frequently for legal or business reasons, the rivals are in no position to complain, let alone seek redress.

ACIL Tasman does not have a firm view about whether specific parts of Telstra should be structurally separated into different wholesale and retail firms. But we do consider that the competitive environment needs improvement. Therefore, we believe that this option, along with line-of-business restrictions that would place limits on the degree to which equity holders in one business could hold equity in the other, should be considered in a comprehensive review alongside less intrusive options such as ring fencing or virtual separation. The alternative of inserting powers in the *Trade Practices Act* which would enable the ACCC to insist, in appropriate circumstances, on some form of separation, would

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13 The investigations referred to were a review of Telstra's draft "Undertaking" on what it should charge third parties for incoming and outgoing calls to the PSTN, arbitrations of negotiations between Telstra and Primus and Telstra AAPT on the same issue, and finally, participation in the appeal cases against those arbitrations that Telstra had taken to the Australian Competition Tribunal.

also need to be considered. That could be seen as restoring a balance to its existing merger and acquisition powers, for example.

Ultimately, the relative merits of each structural option would need to be weighed in terms of:

its advantages:

- in aiding the transparency of the prices that Telstra charges itself for network services and therefore in aiding the enforcement of non-discriminatory access rules;
- in overcoming the incentive the network owner currently has to suppress rivalry for access to that network;
- in creating an atmosphere inside each part of the incumbent's business that is less tolerant of cost-padding; and
- in enabling less intrusive and more economically administered behavioural regulation of the network to be employed;

and its disadvantages:

- in curtailing economies of scale and scope that may be available from combining network and non-network functions;
- in denying the network owner the opportunity to "cherrypick" on a wider canvas and meet its overheads more efficiently; and
- in creating inflexible boundaries between activities whose interfaces are continually evolving.

Privatisation might be thought to complicate things, but equally it may create an opportunity to address some unfinished regulatory business. In a widely reported article published in December 2002, Melbourne University's Professor Stephen King discusses strategic questions concerning privatisation generally.[14] Looking at telecommunications, he criticises the handling of privatisation to date and argues that, unless the local loop is separated out (whether or not for public ownership), further privatisation of Telstra "will simply mean ongoing costly regulation." (p 22) The opportunity that pre-sale separation could present to policy makers to rationalise the regulatory environment is one of its attractions.

At the same time, we believe some considerations relating to privatisation should be seen as irrelevant, as discussed below.

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[14] Stephen P King (2002) Why Privatisation? Lessons from Australia Growth (a publication of the Committee for Economic Development of Australia – CEDA), 50, December 2002.

4.2 The 'shareholder value' and 'Commonwealth budget' bogeymen

Fears that an intelligent break-up of Telstra would harm existing shareholders and diminish the Commonwealth Government's prospective financial harvest from the eventual sale of remaining Telstra equity can be dismissed as both irrelevant, and mistaken.

No doubt some objectors are using the "shareholder value" argument for strategic reasons – because they are among those who currently gain, or believe they gain, through employment or whatever, from Telstra's current dominance. However, the apparent readiness of some others not to take the question of separation seriously because of share value fears seems largely based on misunderstandings about the relevance of shareholder value to national welfare.

Often the media analysis of these issues reports the views of commentators with particular interests, rather than the "big-picture" public policy concerns.

The conceptual difference between the share value of a public company and national welfare ought to be well understood by anyone who has a nodding acquaintance with economics, finance or national accounting. Certainly the difference is clear in Telstra's case.

For one thing, Telstra is a major supplier of services, not just to the 60 licensed carriers, 130 telephone service providers and 700 internet service providers who represent its present wholesale customers, but at retail level, to industry generally. One can confidently predict that even a small cut in retail call rates, or even a small improvement in service quality or product range at retail level, would be stimulatory for the bulk of Australian industry, and for business as a whole.

In addition, in any proper reckoning of the national interest, the gains to final consumers from a more competitive telecommunications industry must be counted. The arithmetic is such that what is good for Telstra's 2 million shareholders may be quite inimical to the interests of the more than 10 million Australian telecommunications users, and thus to the nation as whole.

There is no good economic reason why shareholders in Telstra should be quarantined from the competitive pressures of the marketplace over and above the equity holders in other publicly listed companies.

Fears that separation of Telstra would have a deleterious impact on the Commonwealth Government's budget (which is a much narrower concept than national welfare), are also open to dispute. A similar issue, the budgetary implications of the sale of the Government's remaining equity in Telstra, with or without its current monopoly powers intact, was examined in June 2002 by Access Economics Pty Ltd in a paper prepared

for CCC.[15] Its conclusions, which stem from a similar line of reasoning to ours above in relation to national welfare, are worth quoting at some length.

> "Properly implemented, the privatisation of Telstra and improved telecommunications regulation should yield net benefits to the Australian economy over time. Those net benefits should, in turn, improve the cash underlying Commonwealth Budget balance (and the accrual fiscal balance) as increased economic growth driven by productivity gains associated with a more efficient and competitive telecommunications industry reduces government expenditures and bolsters revenues.
>
> Whether the Commonwealth Budget balance ultimately improves more by selling Telstra with or without its residual monopoly power is an empirical question that remains to be investigated. The answer should not be relevant to the decision to adopt regulatory reforms with expected economy-wide net benefits. Addressing the narrow budgetary question is intended here only as a means to refocus the attention of policy makers on these wider benefits. To the extent that policy makers do focus on budgetary impacts, they should look beyond the immediate proceeds from selling the rest of Telstra." (Exec Summary, p i)

As the above quote hints, the idea that Telstra's combined capital value would suffer from separation is, in any case, far from clear. There are examples around the world where separation has proven beneficial to shareholders. Specifically in telecommunications, ACIL Tasman understands that the decisions of British Telecom, France Telecom, Telefonica and Telecom Italia voluntarily to "demerge" their fixed line and mobile businesses have generally been welcomed by financial markets.

Closer to home, Australians have witnessed a net improvement in the capital value of the combined value of a number of demerged businesses in recent years. This was notably the case with the breakup of ICI Australia a few years ago, for example, and the Western Mining demerger, while not without its teething problems, holds similar promise. In both cases, the objective has been increased commercial focus. Chances are that separate Telstra wholesale and retail entities would benefit in the same way from the increased focus and the increased contestability of input supply that would follow. The scope for improvements in these areas may be quite large - most close observers

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15 Access Economics Pty Ltd (2002) *Further Reform of Australian Telecommunications Regulation and the Budgetary Impact of the Privatisation of Telstra*, a paper prepared for the Competitive Carriers Coalition, June. See: http://www.accesseconomics.com.au/frameset.htm

believe that a significant proportion of the fruits of Telstra's current market power is squandered internally in inefficient administrative procedures, soft work practices and cumbersome management. Shareholders would have nothing to fear from a tightening of performance in these areas — indeed it would be a basis for enhanced market value.

4.3 In conclusion

As noted, at this stage ACIL Tasman does not have a firm view about whether specific parts of Telstra should be structurally separated into different wholesale and retail firms A great number of alternative instruments and combinations of them need to be considered, including a possible reduction in the intrusiveness of some of the other regulatory tools currently in use.

The obvious complexity of these considerations underlies our opinion that the question of separation deserves to be assessed in greater depth and over a longer period than will be possible in the two months originally set aside for the present Standing Committee inquiry.

We therefore urge the Committee to recommend that a more searching investigation of the matter be undertaken in the months beyond this inquiry's deadline. Given the work already done by it to date, the PC would seem the appropriate agency to be entrusted with the ongoing work needed if a complete picture of all options is to be obtained and their costs and benefits fully assessed.

Attachment A1.

Chapter 10 of *Telecommunications Economics and Policy Issues* Industry Commission Staff Information Paper released in March 1997

10 INSTITUTIONAL STRUCTURE FOR COMPETITION

Through all the changes to Australian telecommunications in the last twenty years, the structure of the established and dominant telecommunications carrier (Telstra) has changed considerably.

However, in spite of these changes, Telstra still has a vertically integrated structure with no internal accounting division. Is this the appropriate structure for Telstra as the new competitive regime approaches?

The prime purpose of this chapter is to evaluate the existing organisational structure of Telstra and its interaction with the associated regulatory system.

Evaluated on the basis of standard notions of economic efficiency, there are three areas of possible difficulty with the existing structure:

- conflict of interest between Telstra's different roles;
- inefficient pricing of use of the local exchange network; and
- facilitation of collusion between Telstra and Optus on the pricing of final products.

One approach to reform would be an internal restructuring of Telstra into distinct self-supporting businesses with clear commercial objectives and strict arms-length commercial relationships with one another. This could have marginal benefits with respect to all three problem areas identified, although there could still be problems while Telstra remained under a single board.

A second approach would be a complete break-up ('divestiture') of Telstra into at least two (and possibly three) totally separate enterprises, each with a separate board: two network enterprises (the local network and the rest of the network) and a services enterprise. The services enterprise could naturally be sub-divided, perhaps along the lines currently emerging in Telstra. In addition to addressing all three problems, this could form an alternative basis for the dilution of government ownership.

10.1 Existing structural arrangements

Telecom/Telstra's structure has changed considerably in the years following the splitting of postal and telecommunications services in 1975. It has progressively

been subjected to more competition, been corporatised, and assumed more functions (partly through technological change and partly from the amalgamation with OTC). It has moved from what was still a state-based management structure to one based more on functions, and there is an evolving division of network functions from service provision.

The pace of change has accelerated greatly in recent years. Telstra's structure was spelt out in detail in the 1994–95 *Annual Report* (pp. 14–15), with five groups: three operational (commercial and consumer; corporate, international and enterprises; and network and technology) and two supporting (finance and administration; and employee relations). By early 1996, the structure had reportedly changed again (BZW Australia 1996, pp. 28–31) with four business units, a products group and a corporate centre with three branches. Yet another structure is set out in Telstra's 1995–96 *Annual Report* (pp. 32–33). There are now four operational groups (broadly the three listed in 1994–95, with some rearrangement of functions, plus a retail products and marketing group), one subsidiary (Telstra Multimedia) and three support groups (the two listed for 1994–95 and a new regulatory and external affairs one). The detailed functions of these groups is spelt out in Chapter 6.

These Groups do not operate as separate businesses in the sense of being profit centres, nor are the relationships between them at 'arm's length', governed by an explicit internal transfer pricing mechanism. AUSTEL has developed a model of what it calls 'accounting separation', involving confidential product based financial statements through the COA/CAM, which assist AUSTEL in arbitrating over disputes involving interconnection into Telstra's local network.

This is not really accounting separation, as it has no implications for transfer pricing or performance evaluation within Telstra. Telstra's own financial accounts are presented on a highly aggregated basis, and while the COA/CAM accounts produced for AUSTEL are disaggregated — by access, local, STD, IDD, mobiles and leased lines — there is no evidence of any internal transfers between those categories. For example, there does not appear to be any attribution of the cost of local reticulation service to the STD and IDD services, nor payment for the local reticulation costs incurred.

10.2 Difficulties with the existing structure

Possible conflict of interest

Telstra's dual role as a supplier of access and a competitor with those gaining access may lead to a conflict of interest. While Telstra benefits directly from supplying access as long as the price it receives exceeds the full cost of provision, it loses to the extent that this leads to a reduction in profitable business for the final product. This is likely to be a typical situation in those instances where it is forced to allow (rather than volunteers) access to a competitor.

The problem seems to be particularly important to service providers that interconnect according to the 'National Connect' policy determined by Telstra.

AUSTEL's (1995b) study on service providers revealed many difficulties. In its 1995–96 *Annual Report*, AUSTEL summarised the issue noting that:

> Carrier vertical integration was the predominant concern of the majority of noncarrier associated service providers ... in particular the need for policies and a framework of practices to govern 'downstream' involvement of carriers in VASs. (p. 20)

The National Frame Relay tariff issue provides another case in point. Frame relay is a high speed digital data service introduced in 1995. It is marketed directly by Telstra and indirectly through service providers such as BT and AAPT. This is a case where there is an apparent conflict of interest, and represents a possible instance of predatory anti-competitive behaviour. Telstra was alleged to have charged service providers a higher price for the National Frame Relay product (marketed wholesale to them as 'DDS Fastway') than it charges its direct customers. AUSTEL found this practice was anti-competitive and disallowed the tariff in June 1996. Nonetheless, Telstra has been able to continue the tariff, prompting strong criticism from service providers (Helen Meredith, 'SPs fed up over Austel's delays with frame relay', *Australian Financial Review*, 7 October 1996).

As a general approach, 'accounting separation' reduces the scope for anticompetitive conduct of this kind, but 'it treats the symptoms of the problem and does not change the incentives' (IC 1996, p. 87). That is, there is still an incentive to behave in an anti-competitive manner, but less ability to get away with it.

Inefficient pricing of the local exchange network

The pricing of use of the local exchange network currently depends variously on the type of use and the identity of the user.[1] Only one category of use —

1 The LEN is the set of equipment for switching and inter-exchange carriage of telecommunications traffic. The LEN carries local call traffic as well as reticulating higher level traffic (eg long-distance calls) into and out of the CAN. The LEN and the CAN together make up the 'local network'. The question of access pricing does not arise for the CAN because CAN costs are recovered efficiently via subscriber access charges (see Chapter 4).

2 There are separate arrangements between the carriers for other instances of access including for local calls, analogue cellular access and digital cellular access. For analogue cellular services, Optus acts as a service provider, piggy-backing on Telstra's service.

3 Access charges could vary over different demands for access according to the Ramsey–Boiteux principle.

Optus's use for purposes of reticulating its national and international long distance calls — is in any way consistent with the rules for efficiency coming from the public utility pricing and investment literature discussed in Chapters 4 and 5. This and inappropriate signals for development of the local exchange network.

Use of the local exchange network is based on at least four different pricing regimes.

First, there are the arrangements between Telstra and Optus for reticulating Optus's long-distance and international calls which involve time based charging, possibly varying between the peak and the off-peak and with location.

These are loosely based on the long-run marginal costs (that is, including capital costs) of the access.

Second, while the circumstances are unclear, it is unlikely that Telstra pays/charges itself for interconnection of its long-distance and international calls into the local exchange network on the same basis as Optus is charged.

Indeed, there are some indications that it does not have any explicit mechanism for pricing its own use. For example, prior to the amalgamation of Telecom and OTC, Telecom charged OTC on an explicit basis (a flat rate of about 20 cents per minute), but there now appears to be no internal pricing mechanism in the merged organisation.

Under its new access pricing principles, the ACCC (1997) intends to compare negotiated access prices with the price an

incumbent charges itself for the same service, hence establishing a clear requirement for an internal pricing mechanism. However, the ACCC notes that its ‘rules of thumb’ do not involve comparing these prices with costs. So long as the different divisions of Telstra remain under a single CEO and Board of Directors, there would be an incentive to manipulate the internal transfer price.

Third, not only are the conditions of Telstra’s and Optus’s use of the local exchange network for reticulation of higher level calls almost certainly different from one another, those applying to subscriber local call use are different again, with subscriber calls being untimed for charging purposes and having no locational or peak/off-peak distinctions.

Fourth, there are separate interconnection arrangements for service providers. Under Telecommunications (Interconnection and Related Charging Principles) Determination No. 1 of 1991, carriers get ‘more favourable’ charges when interconnecting, and SP interconnect charges are based on commercial negotiation. The National Connect product available to SPs has characteristics similar to the interconnect policy used by Telecom for private networks (see Chapter 9), in that it is determined by Telstra, it involves non-use related fees, and the use price is related to the retail price rather than the cost (AUSTEL 1995b, pp. 32, 39, 54 and 78–79).

Efficient pricing of, and investment in, the local exchange network is unlikely to be compatible with the existence of four or more different pricing regimes for use of the same network. Efficient pricing of the local exchange network requires that all uses be set equal to marginal cost of providing the service (including the cost of peak load-specific equipment for peak uses) and that, where this does not result in complete cost recovery, that the deficit is retrieved from access charges.[3] Use prices would vary distinctly over the demand cycle.

It is likely that the peak load capacity of the local exchange network is inefficiently high because of the absence of timed local call charging. On the other hand, excessive final prices for domestic and international long-distance calls would mean less than optimal demand for these uses of the local exchange network. The balance of these two effects on the capacity of the network is an empirical issue.

Collusive behaviour

The existing structure may be conducive to collusive behaviour between Optus and Telstra, supporting monopoly pricing. Where the access provider is vertically integrated, the commercial negotiations between it and its product market rivals provide an opportunity for discussing price and output. Contact of this kind would not normally be allowed. However, the possibility of this type of anti-competitive behaviour was not an issue in the Department of Communications and the Arts' (1994) issues paper, *Beyond the Duopoly*, and does not appear to be addressed in the commentary to the draft legislation (Minister for Communications and the Arts 1996).

Ivor Ries ('The Telecom consumer case', *Australian Financial Review*, 17 September 1996) refers to what he sees as the 'established Telstra-Optus oligopoly' and comments that Telstra's 1995–96 profit of $2.3 billion showed 'just how cosy the Australian telecommunications oligopoly has been for the past few years'. Quiggin (1996, p. 130) claims 'that price reductions have been almost exactly equal to the minimum required under price cap regulations suggests that competition has had little overall effect on ... prices' and 'that on average the prices offered by the two firms [Telstra and Optus] are quite similar'.

As shown in Chapters 8 and 9, both Telstra and Optus continue to have longdistance prices that are well in excess of costs, and the margins are inefficiently high. However, this is not necessarily a consequence of collusion, even in part.

As also shown in Chapter 8, the price capping provisions to some extent place a floor under Telstra's STD prices by preventing other prices from rising through strict sub-caps. Nevertheless, such sub-caps can become a focal point for tacit collusion (MacAvoy 1995).

10.3 Approaches to reform

Division of Telstra into arms-length businesses ('ring-fencing')

Telstra's organisational structure has been improved by rapid progress towards a rational separation of infrastructure and service provision. The next step would be to establish these divisions as profit centres with specific objectives and arms-length commercial relationships with one another through a commercially-based internal pricing mechanism. This would provide internal benefits by establishing a clearer objective focus for management and staff — performance would be more clearly measured and a closer relationship between

outputs and inputs established. The entire organisation would remain under common ownership.

Consider how this would affect performance in the three areas identified.

First, there is likely to be at least some advantage with respect to reducing anticompetitive conduct. The LEN division of Telstra would not benefit commercially by favouring other Telstra businesses over external ones, although the overall organisation still could. This means that the reduction in anti-competitive behaviour would be related to the extent to which decentralisation of management and adequate internal transfer pricing were fully implemented. Since the organisation would still be under a single CEO and Board of Directors, management decisions and internal transfer pricing could still be manipulated in an anti-competitive way.

Second, there is likely to be an advantage regarding pricing use of the LEN (subject to the proviso just made). However, regulatory influences on pricing (sub-caps in particular) could mean that the overall price structure continued to lack coherence.

Third, collusion would be less of a problem. Potential rivals would deal directly with the LEN division, and there would be less reason for other divisions to be involved in those negotiations.

Divestiture

The difficulties with internal division under single ownership intrinsically relate to common ownership. Managers must act to further the interests of the corporation as a whole. The interests of the organisation as a whole could conflict with those of the separate businesses, resulting in possible tensions in addressing all three problems with the existing structure. This leads to the conclusion that separation of ownership of the divisions is necessary to achieve the maximum possible gains from structural reform.

A ‘vertical separation’ model of this kind was favoured by the Independent Committee of Inquiry into National Competition Policy (Hilmer 1993). It could also provide internal benefits to the organisation. Telstra is (after BHP) Australia’s second largest commercial organisation under a single board.

Whether an organisation is ‘too big’ depends not so much on overall size but on how it is organised and whether there are economies from having the functions performed together

('economies of scope'). Telstra's current organisational structure may be inappropriate for its size.

Two difficulties with such vertical separation have been identified.

First, it could lead to 'double marginalisation', where splitting a monopolistic vertical production chain into separately-owned upstream and downstream production units results in a higher price and lower output than under single ownership. However, this is unlikely in the circumstances of Australian telecommunications where regulators have detailed knowledge of cost structures of providing both local and long-distance services, and where some degree of competition is emerging at both levels.

Second, the usual justification for a vertically integrated structure lies in the belief that there are economies of scope from having the different functions within a single organisation. King and Maddock (1996a, pp.88–91 and Ch. 8) express some reservations about vertical separation of public utilities in general, including the loss of economies of scope. In telecommunications, there may be economies from operating local and long-distance services within a single organisation. However, the source of the cost savings from joint operation of these services is not apparent. Further, in Australian telecommunications it is possible that excessive size has also led to diseconomies. Economies of scope have not been important in past decision making about Australian telecommunications; especially the decision to allow the entry of Optus. Were they apparent, their loss would have to be set against the benefits of vertical separation.

10.4 Conclusion

Three possible areas of inefficiency have been considered with respect to the existing arrangements for Telstra providing access to its rivals as well as to itself. These are anti-competitive conduct, inefficient and inconsistent use of the LEN, and retail product market collusion.

AUSTEL's so-called 'accounting separation' — involving confidential productbased financial statements through the COA/CAM — assists marginally with respect to the first and second of these, by providing information which may help in the identification of anti-competitive behaviour and in guiding the determination of interconnect access prices. However, this division is strictly for regulatory purposes, and does not reflect any other use of the accounts within Telstra. Formation of arms-length business divisions of Telstra with

clear commercial objectives would be a sounder basis for the further liberalisation of Australian telecommunications. One of these would supply access and local switching on a commercial basis to other parts of Telstra and to other carriers and service providers. This could have marginal benefits with respect to all three problem areas with the existing environment.

US-style divestiture, where the local network was separated off under independent ownership, would be a superior approach to all three problems.

While there is no strong evidence that either problem is likely, divestiture could present difficulties with respect to double marginalisation and the possible sacrifice of economies of scope. Further, this option may have been partially closed off by the passage of legislation that will lead to the sale of one-third of Telstra.

Attachment A2. Telecommunications separation rules in different countries

Extracts from the OECD's April 2001 publication *Structural Separation in Regulated Industries*)

Table A-9: Types of cross-ownership and joint provision regulations in the communication sector

	Between PSTN and mobile Communications[80]	Between Telecommunications and cable television sector	Between telecommunications and broadcasting sector[81]	Between cable television and broadcasting sector	Within the television service sector[82]
Cross-ownership regulations	- Restrictions on PSTN operators (especially incumbents) from operating a legally separate enterprise in the mobile market. - Share limitations on PSTN operators (especially incumbents) in mobile operators.	- Restrictions on telecom operators (especially incumbents) from operating a legally separate enterprise in the cable television market. - Share limitations on telecom operators (especially incumbents) in cable television operators.	- Restrictions on telecom operators from operating a legally separate enterprise in the broadcasting market. - Share limitations on telecom operators in broadcasting companies. - Restrictions on broadcasting companies from operating a legally separate enterprise in the telecommunications market. - Share limitations on broadcasting companies in telecom operators.	- Restrictions on cable television operators from operating a legally separate enterprise in the broadcasting market. - Share limitations on cable television operators in broadcasting companies. - Restrictions on broadcasting companies from operating a legally separate enterprise in the cable television market. - Share limitations on broadcasting companies in cable television operators.	- Restrictions on the number of television licenses allowed to be owned by a single entity. - Share limitations of a single entity in television enterprises.
Joint provision regulations **Infrastructure provision**	- Restrictions on PSTN operators (especially incumbents) from providing mobile networks with no legal separation.	- Restrictions on telecom operators (especially incumbents) from providing cable television networks with no legal separation. - Restrictions on cable television operators from providing telecom infrastructures with no legal separation.	- Restrictions on telecom operators from obtaining a broadcasting license. - Restrictions on broadcasting companies from providing telecom infrastructures.	- Restrictions on cable television operators from obtaining a broadcasting license. - Restrictions on broadcasting companies from providing cable television networks.	
Service Provision	- Restrictions on PSTN operators (especially incumbents) from providing mobile services with no legal separation.	- Restrictions on PSTN operators (especially incumbents) from providing cable television services with no legal separation. - Restrictions on cable television operators from providing telecom services with no legal separation.	- Restrictions on telecom operators from obtaining a broadcasting license. - Restrictions on broadcasting companies from providing telecom services.	- Restrictions on cable television operators from obtaining broadcasting license. - Restrictions on broadcasting companies from providing cable television service.	

Source: OECD (1998a), Table 1.

Table A- 10: Separation Requirements in Telecommunications

	Between regional local fixed wire services	Between local and long-distance services	Between local and mobile services	Between local and broadband services
Australia	Telstra has not been structurally separated. Government policy has been to apply special misuse of market power rules and to enforce special record-keeping rules applicable to the telecommunications industry under the Trade Practices Act. The Commission intends to issue a formal instrument mandating accounting separation in the near future.			
Austria				- PTA does not provide television infrastructure
Belgium				- Belgacom does not provide television infrastructure
Brazil	When Telebras, the former state-owned telecommunications monopoly was privatised, several regional companies were created with franchises to provide local and intra-regional fixed wireline service.	A separate company, Embratel, was given the long-distance and international franchises. Starting in 2003 Embratel will be allowed to provide local services and the incumbent regional companies will be allowed to provide long-distance service.		
Canada	Regulatory safeguards restrict the bundling of competitive and monopoly services and require that mobile services be provided through a separate subsidiary.			1
Czech Republic	Separate accounting needs to be maintained for the operation of public telecommunications services.			
Denmark	There is accounting separation between the competitive and the non-competitive part of TeleDanmark, and the company has to pay the same price for operation on the network as the rival companies.			
Finland	Accounting separation requirement on companies. Decision of 1997 requires separation of local, long-distance, international, NMT, GSM, DCS and fixed data telecom operations.			
France				
Germany				

Table A- 10: Separation Requirements in Telecommunications (cont.)

	Between regional local fixed wire services	Between local and long-distance services	Between local and mobile services	Between local and broadband services
Hungary	The Concession Agreement concluded with the individual companies contains rules for the separation for accounting purposes of activities requiring a concession and those which do not, however the duties deriving from these clauses of the agreement are not always entirely fulfilled by the companies. The enforcement of contractual duties has proven to be a very difficult procedure in the past years.		In 1999 MATÁV acquired an exclusive controlling position in Westel, its subsidiary company operating on the mobile cellular telephone market after the previous co-owner MediaOne left the Hungarian market and sold its stake to Deutsche Telekom AG, the mother company of MATÁV.	
Ireland				
Italy				
Japan	In July 1999, NTT was split into 4 companies including NTT East and NTT West which are local regional operators, limited to providing intra-prefecture communications. NTT East, NTT West and NTT Communications are all subsidiaries of a single holding company.	NTT East and West were split from NTT Communications which provides long-distance and international services. NTT East, NTT West and NTT Communications are all subsidiaries of a single holding company.		
Korea				
Mexico	Telmex is allowed to participate in competitive activities by means of subsidiaries and subject to accounting separation. Cofetel has ruled that Telmex is required to provide accounting information on ten services (Fixed local, mobile local, long distance, public telephony, rural telephony, dedicated service provision, trunking, paging, cable and technical equipment maintenance and commercialisation, pay TV and other services) but this regulation has not yet been applied.			Telmex is not allowed to exploit open TV services and person's involved in broadcasting activities are precluded from holding Telmex's common stock.

Table A- 10: Separation Requirements in Telecommunications (cont.)

	Between regional local fixed wire services	Between local and long-distance services	Between local and mobile services	Between local and broadband services
Netherlands	Providers of fixed public telephone networks, fixed public telephone services and rental lines offering interconnections to other providers must apply accounting separation between activities relating to interconnection and other activities. There is a high level of vertical integration of infrastructure and service supply.			
New Zealand				
Norway	Telenor is a vertically-integrated company. Telenor is required to comply with certain principles for accounting and reporting to the regulator. An improved accounting system will be imposed on Telenor from 2000. This system is intended to better enforce the rules on non-discrimination, transparency and cost-orientation. In 1999 the Parliament voted against a proposal to separate Telenor's infrastructure into a different corporate entity. Telenor will be partially privatised in 2001.			
Poland	In accordance with EU guidelines the new telecommunications law establishes a requirement of cost accounting by individual types of services.			
Portugal				

Table A- 10: Separation Requirements in Telecommunications (cont.)

	Between regional local fixed wire services	Between local and long-distance services	Between local and mobile services	Between local and broadband services
Switzerland	No structural separation requirements. All operators may be active in any part of the market. Accounting separation of interconnection services must allow the Communications Commission to enforce the rules regarding price regulation of interconnection services and must prevent cross-subsidies between regulated and non-regulated services.			
Turkey				
United Kingdom			(BT share of Cellnet limited to 60%)	
United States				