Australian Competition & Consumer Commission

PO Box 1199
Dickson ACT 2602

470 Northbourne Ave
Dickson ACT 2602
Australia

Ph (02) 6243 1123
Fax (02) 6243 1122

29 June 2001

Mr Mike Woods
Presiding Commissioner
Review of Telecommunications Specific Competition Regulation
Productivity Commission
PO Box 80
Belconnen ACT 2616

Dear Professor Woods

Review of Telecommunications Specific Competition Regulation

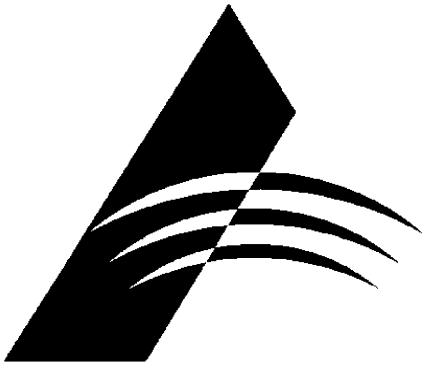
Please find the Australian Competition and Consumer Commission's (ACCC's) partial response to the Productivity Commission's March 2001 Draft Report on *Telecommunications Competition Regulation*. This submission constitutes the ACCC's response to the findings of the Draft Report in respect of Part XIC, the telecommunications access regime. The ACCC's response in respect of matters relating to Part XIB and access to pay TV programming will be brought separately to the Productivity Commission.

The ACCC participates in this review as the agency responsible for implementing much of this regulation. It does not seek to comment on the desirability of the goals specified for the regulation by the Parliament. However, it is able to draw on its experience in implementing the regulation and its knowledge of the market to report both successes and problems and to suggest changes which might enable the government's objectives to be achieved more effectively.

If you have any questions about the submission please call Robert Albon on (03) 92901859 or Cassandra Scott on (02) 6243 1231.

Yours sincerely

R F Shogren
Commissioner



Australian Competition and Consumer Commission

Response to the Productivity Commission Draft Report

Telecommunications Competition Regulation

June 2001

Contents

Executive Summary

The Productivity Commission's Draft Report on *Telecommunications Competition Regulation* considers the access regime (Part XIC) and a number of other aspects of the regulation, including the telecommunications-specific anti-competitive conduct provisions and access to pay TV programming. This submission contains the ACCC's response only to those issues surrounding the access regime. The ACCC's response in respect of those other matters will be brought separately to the Productivity Commission.

In recognition of the similarity of the issues raised by the Productivity Commission's Position Paper on *Review of the National Access Regime*, the ACCC has coordinated its responses to the two drafts, and the two are being submitted simultaneously. However, the submissions have been kept separate in recognition of differences in the regimes and in the characteristics of the various industries involved warranting different practical approaches in some cases.

The responses to the two drafts focus on the analysis underlying the Productivity Commission's recommendations and, where changes to the regime are recommended, the likely implications of those changes. The responses are both forward-looking. That is, wherever possible they analyse the recommendations in terms of their likely effectiveness in dealing with emerging competition issues, rather than solely on the basis of past successes and failures. They also note that the Productivity Commission has provided no compelling evidence that the existing regimes lead to inefficient pricing outcomes, or that the particular amendments suggested are all necessarily better to meet the objects sought. Some of the amendments would be likely to introduce further uncertainty that is only now being removed from the existing provisions as outcomes become more apparent and a body of precedent begins to emerge.

Object

The Productivity Commission has proposed that the following object clause be inserted into Part XIC:

> The object of this Part is to enhance overall economic efficiency by promoting efficient use of, and investment in, essential infrastructure services/telecommunications.

This clause would replace the current object of Part XIC, which is "to promote the long-term interests of end-users (LTIE)". It includes just one of the matters to which the ACCC must have regard in assessing the LTIE.

While - as the Productivity Commission seems to recognise - the current and proposed objects are not particularly different, the current test has two attributes which, in the view of the ACCC, make it superior to the proposed test:

- first, the explicit recognition of consumers and of competition is clearly compatible with the stated object of the Trade Practices Act:

  > to enhance the welfare of Australians through promotion of competition and fair trading and provision for consumer protection. (s.2)

- second, the "sub-tests" clarify Parliament's intention concerning the factors which are likely to promote the LTIE and require the ACCC to assess a range of effects in the course of determining whether a course of action is in the LTIE.

Such assessments are rarely easy, particularly if the effects on the LTIE of the various factors appear likely to conflict and so must be traded off. However, it should be recognised that the

specification of an efficiency objective *per se* does not remove the need to trade-off efficiency objectives.

Consequently, the ACCC does not believe that amendment of the object in the way proposed by the Productivity Commission would (in itself) alter the operation of the telecommunications access regime significantly in practice, but may have the effect of increasing uncertainty about the regulatory process.

Declaration criteria

The Productivity Commission has proposed a new set of declaration criteria (essentially common to both regimes), all of which must be satisfied before declaration can occur. Two additional criteria have been proposed for telecommunications services, chiefly to reflect the desirability of any-to-any connectivity of customers on different networks. The ACCC makes the following observations about these criteria.

- The proposed criteria may not achieve the desired efficiency goal (or, indeed, LTIE), as they do not capture some of the characteristics of telecommunications networks which lead to market power, even when natural monopoly and/or network externalities (the only grounds allowed) are not apparent. Consequently, they would not necessarily apply in cases of termination, entry barriers other than natural monopoly, duopolies, etc.
- They also raise market definition issues. For example, duplication may be possible in one area but not in others, raising the question of whether it would pass the "uneconomic to duplicate" test.
- "Hypotheticals" comparing the likely outcomes of a declaration inquiry based on these criteria suggest that the unconditioned local loop service (ULLS) could be declared only if the proposed terms and conditions of competitor access to substitute services such as Telstra's wholesale ADSL service, were found to be unreasonable, and that mobile (GSM) termination would almost certainly fail to satisfy the declaration criteria.
- Pre-declaration pricing analysis to identify whether substitute services are available on reasonable terms and conditions appears to be implied.
- A change in the criteria could increase uncertainty in the industry by invalidating the body of precedent already established and by requiring changes to the declaration guidelines.

Access holidays

The Productivity Commission is concerned about the possible negative impact of declaration on investment incentives and seeks comments on the appropriateness of access holidays as a way of addressing this problem. The ACCC makes the following observations.

- The focus on access holidays deflects attention from the real issues of having appropriate criteria for both declaration and access pricing.
- The conclusion that *ex post* declaration can result in deterring socially-desirable investments cannot be addressed by access pricing (particularly the inclusion of an appropriate risk premium in the WACC) is not accepted by the ACCC.
- The use of access holidays appears to be a blunter approach, analogous to the "infant industry" approach in trade theory, and with potentially the same disadvantages regarding dependency on protection.

- There are likely to be serious implementation difficulties in operating an access holiday or establishing "safe harbours", particularly where this relates to greenfields investment which is commercially sensitive and where the possibility of public scrutiny is a concern.

Pricing principles

The Productivity Commission has proposed legislating four broad pricing principles, aimed at reducing regulatory discretion in reaching pricing determinations in arbitrations and increasing certainty for industry participants. The ACCC has some concerns about the theoretical and practical validity of incorporating them into the legislation.

- The principles are broadly stated and provide little operational guidance to regulators, industry or the courts. Their meaning is difficult to interpret unless read in conjunction with the analysis in the Productivity Commission's Draft Report, which could not be legislated. Consequently, they are unlikely to achieve the stated objective of improved clarity and certainty.
- The objectives underlying the proposed principles contain inherent trade-offs and therefore a need for regulatory discretion similar to that under the current arrangements.
- Differences in the detail of pricing arrangements for different industries are common among regulators worldwide, and the Productivity Commission's "one size for all" approach is inconsistent with this established practice.
- The Productivity Commission's implication that current regulated rates of return are low and impeding new investment is not substantiated by empirical or other evidence.
- The analytical basis for its conclusion that the welfare loss from setting regulated prices too low is greater than the loss from setting them too high ("asymmetric loss") is flawed.
- Pricing at short-run marginal cost risks significant price fluctuations as capacity is approached and may jeopardise longer-term infrastructure maintenance and enhancement.
- There is no legal or administrative impediment to the incorporation of a fixed component in access charges under the current arrangements. However, it is difficult to design for efficient outcomes and may create entry barriers for smaller operators. Two-part pricing structures of this type have not been sought by access providers or access seekers in arbitrations.
- Recovery of common costs through Ramsey structures is potentially efficiency-enhancing but presents practical difficulties (particularly in relation to the information required) that may result in little or no improvement over the current arrangements and could possibly worsen the outcome.
- The ACCC endorses the Productivity Commission's non-discrimination principle for vertically-integrated carriers and notes that, for the purposes of internal management, accounting separation does not appear to have been achieved in Telstra. However, a new regulatory accounting framework (RAF) requiring the vertical and horizontal separation of services is currently being implemented.
- The Productivity Commission's suggested approach to allocating the access deficit would result in a more than doubling of the current PSTN originating and terminating charge, leading to increased inefficiency of the retail pricing structure.

- The Productivity Commission's pricing principles may not be appropriate for emerging interconnection issues such as high-speed data services.

Specific issues surrounding three key aspects of the ACCC's costing approach in its n/e/r/a model - line provisioning, trench sharing and depreciation - are considered in detail.

Arbitration arrangements

The Productivity Commission makes a number of suggestions for feedback on recommendations to improve the current arbitration processes, which it concludes are "cumbersome, resource-intensive or tardy". These recommendations include providing the capacity for a group of access seekers jointly to notify a dispute to proceed to class arbitration. The suggestions include the publication of reference prices by the ACCC.

The ACCC notes the importance of reducing barriers to commercial negotiation which is the "first best" solution to improving current processes. A key way of reducing these barriers is by increasing the level of information about the likely outcomes of an arbitration that should facilitate commercial negotiation. The ACCC provides the following comments on specific Commission proposals.

- The Productivity Commission comments that using reference pricing set by the ACCC would be similar to the ACCC's proposal to require undertakings. The ACCC believes this overlooks the important difference in processes which includes allowing the access provider, under the "undertaking option", to propose and define a menu of changes, which are then assessed by the ACCC.
- The Productivity Commission's proposal concerning the use of dissemination of material from other arbitrations does not address the problem of achieving greater transparency of information more generally, in order to improve the success of commercial negotiation.
- The ACCC believes it may be in a better position to identify scope for, and potential benefits of, joining particular disputes.
- The ACCC supports the Productivity Commission's recommendations relating to removing the power of an access seeker to terminate an arbitration on a unilateral basis. However, the ACCC also sees there may be a need to make other changes to the legislation which oblige an access seeker to acquire terminating access in certain circumstances in order to ensure that any-to-any connectivity is effectively achieved in practice.
- It is unusual in other jurisdictions for arbitration determinations to be subject to a complete re-hearing. The ACCC does not believe the benefits of full merits review of final determinations justify the costs of delay involved.

Codes versus undertakings

A further issue that has arisen is whether the ACCC had considered implementing an enforceable access code in telecommunications, similar to the one operating for gas, and whether this approach offered a superior alternative to an enforceable undertaking.

The ACCC notes that it has no power to mandate enforceable codes under Part XIC and that, unlike Part IIIA, such codes cannot be used as an alternative to declaration. Further, the most critical issues of contention typically relate to terms and conditions of access which are only one aspect of industry codes. Undertakings are a more direct means of dealing with these

matters. Accordingly, while the notion of an enforceable code, with potentially industry application, has some merit for some issues, it does not deal directly with the more contentious pricing-related issues as effectively as a mandatory undertaking.

1. Introduction

The ACCC welcomes the release of the Productivity Commission's Draft Report on *Telecommunications Competition Regulation*. The Draft Report contains the first independent assessment of the rationale and operation of the current regulatory regime and possible alternatives since the commencement of the regime in 1997.

1.1 Scope of the submission

The ACCC will respond to the findings and recommendations in respect of the two major parts of the Trade Practices Act which incorporate the current arrangements (Parts XIB and XIC) and on the matter of access to pay TV programming.

This submission constitutes the ACCC's response to the findings of the Draft Report in respect of Part XIC, the telecommunications access regime.

The ACCC's response in respect of matters relating to Part XIB and access to pay TV programming will be brought separately to the Productivity Commission.

On a number of matters, including the information-gathering powers under Part XIB, on which the Productivity Commission proposed no change, and a number of jurisdictional matters, the ACCC has no objection in principle to the Productivity Commission's proposals.

The ACCC will be pleased to provide further information or discuss these matters with the Productivity Commission if requested.

1.2 Approach

The Draft Report analyses the characteristics of the telecommunications sector in Australia and the extent to which they appear to warrant a regulatory solution. It also examines the efficacy of current and possible alternative regulatory arrangements against well-accepted standards of cost effectiveness, transparency, consistency, certainty and risk of error, as well as against their vulnerability to gaming by telecommunications operators. The ACCC notes the following characteristics of its response.

- The ACCC participates in this review as the agency responsible for implementing much of this regulation. While it does not seek to comment on the desirability of the goals specified for the regulation by the Parliament, it is able to draw on its experience in implementing the regulation and its knowledge of the market to report both successes and problems, and to suggest changes which might enable the Government's objectives to be achieved more effectively.
- The ACCC notes the distinction between the regulatory framework itself and the details of its implementation. In submitting its response to the Draft Report, the ACCC attempts to separate these elements.
- The ACCC also believes that the effectiveness of the regime must be judged not only by how well it has performed in the past, but also by how well suited it is likely to be to the market conditions of the future.

2. Declaration of services

2.1 Object of the telecommunications access regime

The object clause serves two purposes in the current regulatory arrangements. First, it makes explicit the overall intent of the regulation. Second, it establishes operational criteria against which particular decisions made under the provisions are to be evaluated. Under the current provisions, these include decisions concerning the declaration of services (including variations, exemptions and revocations), the assessment of access undertakings and the determination of terms and conditions of access to declared services in arbitrations.

The current object of the telecommunications access regime is:

> to promote the long-term interests of end-users (LTIE) of carriage services and services provided by means of carriage services. (s.152AB)

The legislation also specifies a number of considerations to which the ACCC is required to have regard when evaluating possible actions under the provisions. These are the promotion of competition, the promotion of efficient use of, and investment in, infrastructure and the achievement of any-to-any connectivity.

The Productivity Commission found that the link between the LTIE test and economic efficiency is imperfect. It recommends broadening the object (and creating a similar object in the generic access regime) to the following:

> to enhance overall economic efficiency by promoting efficient use of, and investment in, telecommunications services. (Recommendation 8.7)

The Productivity Commission also recommends establishing a separate set of criteria to be applied when services are considered for declaration (or "undeclaration") and a set of legislated pricing principles. The recommendations are intended to maintain consistency between the generic and the specific access regime, and to remove any ambiguity that might arise from specifying the interests of consumers, rather than the community at large.

Convergence with the generic access regime as a goal

The ACCC agrees that the principles and methods of industry-specific access regimes should be, to the greatest extent possible, consistent with those of the generic access regime, and that any divergence should be justified on the basis of significant qualitative differences between the facilities or markets involved.

Efficiency as a goal

The ACCC agrees that efficiency, in the broad sense of economic welfare, is a desirable goal. In the long run, this requires that society's resources should be organised to produce, in the most efficient way possible, those goods and services which are valued most highly by its members.

The link between the LTIE test and economic efficiency

The LTIE test has sometimes been criticised as placing too much weight on the consumer interest, to the potential detriment of efficiency considerations. The Productivity

Commission itself notes that "a situation could *in principle* arise where consumers may be better off, but overall economic efficiency is lower", but then dismisses an example of such a problem as "unrealistic" (8.6, footnote 2).

In fact, because of the emphasis on the *long-term* interests of end-users, the current object does not exclude producers, investors or the wider community. If end-user (consumer) benefit is to be maximised in the long run, infrastructure must be developed and maintained, new services must be promoted, prices must reflect the costs and risks of production and any-to-any connectivity must be achieved. This implies recognition of the needs of producers and investors and provides a safeguard against, for example, low access prices which might threaten incentives to maintain existing infrastructure or undertake new investment.

Consequently, and as the PC itself states:

> One of the criteria by which the LTIE is to be judged … is effectively an overall efficiency test in any case (8.1)

and

> … it avoids the pitfall of setting low access prices in the short run … [and] protects the incumbent's investments in bottleneck facilities. (8.5)

In circumstances where the three sub-criteria might conflict (eg, promotion of competition and efficiency in the use of investment), a trade-off is required to be made in terms of the balance of the expected effects on the long-term interests of end-users. Satisfaction of any individual sub-criterion is not a sufficient condition for satisfaction of the overall criterion. The sub-tests are each subordinate to the overall objective.

The difference between the proposed objects

On the surface, therefore, the current and proposed objects are not particularly different. Both are consistent with the enhancement of economic welfare.

In fact, the current test has two attributes which, in the view of the ACCC, make it superior to the proposed test. First, the explicit recognition of consumers and of competition is clearly compatible with the stated object of the Trade Practices Act:

> to enhance the welfare of Australians through promotion of competition and fair trading and provision for consumer protection. (s.2)

Second, the "sub-tests" clarify Parliament's intention concerning the factors which are likely to promote the LTIE and require the ACCC to assess a range of effects in the course of determining whether a course of action is in the LTIE.

Such assessments are rarely easy, particularly if the effects on the LTIE appear likely to conflict and so must be traded off. Estimates of the relative magnitude, as well as the direction, of the effects must then be made. However, it should be recognised that the specification of an efficiency objective *per se* does not remove the need to trade-off efficiency objectives. The potential trade-offs between different types of efficiency inherent in the existing object would remain if the Productivity Commission's own object were introduced. For example, there may be a tension between efficiency in use and efficiency of investment in new infrastructure, where pricing at the long-run incremental cost satisfies efficiency in use, but does not produce a contribution to unallocable common costs.

The role of the object in declaration tests

The Productivity Commission has expressed concern about the risk of regulatory error and, in particular, the danger of excessive declaration, resulting from the breadth of the three "have regard to" considerations in s.152AB.

It is important to recognise the role of these considerations. While, on the one hand, the Productivity Commission correctly states that

> it is not a requirement that all three sub-tests be passed (8.8),

elsewhere it states or implies these subsidiary objectives can over-ride LTIE. This is not so. For example, it is not the case, as the Productivity Commission claims, that "Part XIC requires that declaration *is likely* to promote competition" (8.11), as there is no requirement to pass this particular test. Similarly, "[the Trade Practices Act] leaves undefined the extent to which an access regime needs to stimulate competition in order to justify declaration" (8.12), because there is no need to stimulate competition at all.

In principle, declaration need not occur even where it would promote competition (LTIE is over-riding). Equally, it could occur even where it does not promote competition (that is, the sub-test does not have to be passed). However, the link between competition and gains in productive, allocative and dynamic efficiency is well-established and, in most circumstances, a judgement that declaration will increase competition will increase the likelihood that it will also be judged efficiency-enhancing.

The Productivity Commission also suggests that

> it would not be appropriate to justify declaration merely on the desirability of any-to-any connectivity when interconnection is … uneconomically expensive (8.19).

To the extent that "uneconomically expensive" implies failure to promote the LTIE, this - as the Productivity Commission appears to recognise - would not result in declaration. The promotion of any-to-any connectivity is neither (of itself) sufficient for declaration (ie, could not over-ride LTIE) nor necessary for declaration (does not have to be satisfied).

The relationship between the efficiency objectives (s.152AB(2)(e) and s.152AB(6)) and the LTIE has been discussed above. However, it should also be noted that consideration of any-to-any connectivity is itself an efficiency criterion reflecting the presence of network externalities. Any-to-any connectivity may not be valued as highly by service providers as by consumers, resulting in the potential for sub-optimal levels of interconnectivity in an unregulated market. The current object requires that this should be considered.

In short, the three "have regard to" issues are subordinate to the LTIE. While judgements are required where these considerations conflict, it is not permissible to make a declaration which is not expected to promote the LTIE. The dangers attributed to the existing object appear overstated. At the same time, the Productivity Commission's proposed object does not eliminate the possibility of trade-offs having to be made and so does not necessarily provide clearer operational guidelines than the current object.

2.2 Declaration test

The Productivity Commission has proposed that Part XIC be amended so that a service could be declared under the telecommunications access regime only when the ACCC was satisfied that:

- the service is of significance to the national economy and:
    - for a service used for originating and terminating calls, there are substantial entry barriers to new entrants arising from network effects or large sunk costs; and
    - for a service not used for originating and terminating calls, entry to the market of a second provider of the service would not be economically feasible;
- no substitute service is available under reasonable conditions that could be used by an access seeker;
- competition in downstream markets in insufficient to prevent the provider of the service from exercising substantial market power;
- addressing denial of access, or the terms and conditions of access, to the service concerned is likely to improve economic efficiency significantly; and
- access (or increased access) to the service would not be contrary to the public interest. (Recommendation 8.3)

This declaration "test" contrasts with the current provisions, under which the ACCC must be satisfied that declaration would promote the long-term interests of end-users (LTIE). Under the proposed test, each of the criteria (rather than simply the balance of the criteria) must be satisfied before declaration can occur. A similar test is proposed for the generic access regime in Part IIIA of the Trade Practices Act.

The need for new declaration criteria

- New declaration criteria are justified if they would produce better outcomes, or produce outcomes more cost-effectively or with less risk of error, than those used at present. Consequently, it is important to identify whether and to what extent the proposed criteria address the benefits and risk of regulating to resolve the "access problem" described in the Draft Report.

The Productivity Commission rightly points out the risks of regulatory error in declaration decisions. The recommended approach, which substitutes a series of tests for the current LTIE test, is likely to reduce the situations in which a service can be declared, and so reduce the risk of declaring services where this might not result in net benefits. However, the Draft Report does not instance any examples of such errors under the current arrangements, nor indicate their likely source or impact. Indeed, any reduction in the risk of "over-declaration" may be accompanied by an increased risk of the opposite error - that is, failing to declare a service where this would be in the public interest. In the next section of the submission, the ACCC reports the results of an exercise in which it sought to analyse the likely practical impact of the proposed criteria on the number and type of services which might be declared.

In recommending a more prescriptive legislative approach to defining the circumstances in which declaration is desirable, the Productivity Commission is also reducing the scope for case-by-case analysis of declaration decisions by the regulator. This approach carries the risk that circumstances might arise which were not foreseen in drafting the declaration test. Such a risk can be significant in an evolving environment such as telecommunications.

The proposed declaration criteria

The first criterion proposed by the Productivity Commission appears to be designed as the major limiting criterion, and broadly identifies the situations in which declaration is likely to be appropriate, namely originating, terminating and natural monopoly services. Subsequent

criteria then provide refinement by excluding particular instances where declaration would be inappropriate.

The first criterion - originating, terminating and natural monopoly services

The Productivity Commission identifies two phenomena yielding a *prima facie* rationale for regulatory intervention in the form of declaration - natural monopoly and network externalities. Both of these are concluded to create barriers to entry. This gives rise to the two sub-tests suggested by the Productivity Commission as part of the first criterion:

- where services are used for originating and terminating calls, the test focuses on problems arising from network externalities; and
- for all other services, the test focuses on natural monopoly characteristics of the infrastructure.

The ACCC understands the phrase "services used for originating and terminating services" to capture local loop services such as the Domestic Originating and Terminating Access services, Domestic GSM Terminating Access service, and the Unconditioned Local Loop Service.

Network externalities

As the Productivity Commission notes, subscribers value the ability to call other subscribers and so, in the absence of reasonable interconnection arrangements, and where each network has identical cost and quality characteristics, would prefer to subscribe to the network with the largest number of subscribers. As that network expands, this preference makes it progressively more difficult for smaller networks to attract and retain subscribers, and so increases the market power of the largest network. Even with interconnection, the network operator with the largest number of subscribers could set high termination charges for calls to its subscribers by persons connected to other networks, thereby skewing the competitive process.

For these reasons, network effects are taken into account in the test proposed by the Productivity Commission. However, under the proposed test, network effects justify declaration only where it can be shown that they give rise to substantial barriers to entry. This would appear to be problematic for several reasons.

- *Conduct arising from network effects will not always lead to substantial barriers to entry.* For example, in the case cited by the Productivity Commission of non-dominant PSTN operators charging high prices for termination services, it is unlikely that this conduct has created barriers to entry.
- *The impact of the network effects will not always lead to less competition in the market in which the network owner is operating.* For example, high mobile terminating charges for calls from fixed networks are likely to affect operators in fixed-line markets while enabling mobile operators to offer lower subscription charges. Again, it is unlikely that the pricing conduct for mobile termination services creates barriers to entry to the mobile market, but may create barriers to downstream markets (such as the fixed-to-mobile market). This is discussed further below.
- *It is not clear that network effects are relevant to originating services or services such as the Unconditioned Local Loop Service.* Network effects arise because subscribers value

the ability to make calls to other subscribers. Thus, it would appear that network effects are primarily an issue for terminating services.[1]

The Productivity Commission also suggests that, if it cannot be shown that network effects create substantial entry barriers, it will be sufficient to show that sunk costs create substantial entry barriers. It is on this basis that services such as Domestic PSTN Originating Access and the Unconditioned Local Loop Service would appear to pass this declaration threshold.

Natural monopoly

With respect to services that are not used for originating or terminating calls, declaration could only occur where entry to the market of a second provider would not be economically feasible. This raises two main issues on which the ACCC proposes to comment:

- the case for limiting regulatory intervention to infrastructure with natural monopoly characteristics; and
- the manner in which the Productivity Commission has sought to define natural monopoly.

The presence of "large sunk costs" is the Productivity Commission's key indicator of natural monopoly. Were sunk costs found to be "low", the test would be failed and declaration precluded. The adoption of this test stems from a definition put to the Productivity Commission by Professor Stephen King. However, in the ACCC's view, the basis for this part of the test is not strong:

- the presence of high sunk costs is just one indicator of natural monopoly. Others include network economies, economies of scope and various advantages of incumbency;
- the quote from Professor King in support of the test (fn. 13, 8.16) refers to "high fixed costs", not "high sunk costs" and therefore comprises a dubious basis for the test; and
- the Productivity Commission itself notes that the test "would appear to also include unsustainable and contestable natural monopolies". (fn. 13, 8.16)

The proposed test also rules out declaration for a service not used to originate and terminate calls if there is a prospect of a second provider being economically feasible. This implies that an unconstrained duopoly would represent a sufficient advance on (constrained) monopoly to satisfy the Productivity Commission's efficiency objective. However, the Commission's own review of the duopoly literature concludes that "most theoretical and simulation findings suggests that duopoly pricing will tend to be nearly as inefficient as monopoly". (8.17) The empirical evidence is also ambivalent, as in two of the three cases considered by the Commission, prices were either regulated (therefore throwing no light on the outcome from *unconstrained* duopoly) or the duopoly "resulted in high prices". The ACCC's own analysis supports the Productivity Commission's position on the expected inefficiency from unconstrained duopoly. In the light of this concern, it is difficult to see the advantages of a test which would effectively eliminate the possibility of declaration where a market was served, or likely to be served, by an unconstrained duopoly.

The ACCC also notes that there are likely to be considerable market definition issues in applying the Productivity Commission's second criterion. In particular, it is unclear whether

---

[1] However, the ACCC believes that originating services may have terminating characteristics in some circumstances. For example, in Attachment C of its draft *GSM Termination Service Pricing Principles* (2000), the ACCC found that carriers providing 1800 or 13/1300 services are effectively service providers ,as they are responsible for those calls and so must purchase GSM origination from the mobile carrier originating the A-party's call.

the presence of a second provider in partial geographic areas of the market would be regarded as grounds for preventing declaration of a service. At present, services can be defined on a geographical basis to exclude areas where facilities-based competition exists. For example, certain inter-capital transmission routes were excluded from the original declaration, while certain CBD areas are now being considered for exemption from the Local Carriage Service declaration.

The first criterion - significance of the service to the national economy

The requirement for "significance" suggests a test of materiality. Such a test is clearly intended to avoid declaration in cases where the expected net benefits are small. The current legislation also requires cost considerations to be taken into account. However, the materiality threshold is also achieved through the fourth criterion, where it must be shown that addressing denial of access, or the terms and conditions of access, is likely to improve economic efficiency *significantly*. Two materiality tests appear redundant.

The second and third criteria - substitute wholesale services and downstream competition

The Productivity Commission suggests that, in some situations where a facility (by which the service is supplied) is a natural monopoly, the facility operator may not be able to exercise market power because of production and/or consumption substitutes. In such a situation, it appears the Productivity Commission would regard declaration as being inappropriate - the object of the second and third criteria is to exclude these situations.[2]

It is not clear to the ACCC that these criteria are necessary to deal with such instances. This is because, where production or consumption substitutes prevents a service provider from exercising market power, it is unlikely that the first criterion would be satisfied.

In particular, the first criterion will not be satisfied unless it can be shown that:

- (in the case of services used for originating or terminating calls) the market is characterised by substantial barriers to entry; or
- (in the case of all other services) is it not economically feasible for a second provider to enter the market for those services.

If a substitute service is available to access seekers under reasonable conditions (ie, a production substitute), then it would appear that barriers to entering the market for the service are not substantial. Moreover, where the substitute service is supplied by another operator, this indicates that at least one other provider has entered the market, thereby suggesting that it is economically feasible to do so.

Similarly, if consumption substitutes mean that downstream competition is sufficient to prevent the exercise of substantial market power with respect to the (wholesale) service, then the market in which the wholesale service is supplied can include those downstream services. As noted by the ACCC in its Mergers Guidelines:

> … vertically stages adjacent … may still be relevantly included in the same functional market if close substitution possibilities, either product and/or geographic, at the adjacent level (and occasionally between levels) would constrain the … firm from imposing a significant increase in price, or equivalent exercise of market power. For example, in *QIW* the Tribunal defined a single functional market for the distribution of groceries to the public, including wholesale and retail stages, reflecting the constraint

---

[2] Productivity Commission, *Review of the National Access Regime: Position Paper*, March 2001, pp. 144-5.

> imposed on the conduct of independent wholesalers by downstream competition between their independent retail customers and the vertically integrated chains.[3]

Even if those downstream services are not included in the market, the inputs used to supply those downstream services will be included in the market to ensure that all relevant competitive constraints are taken into account. For instance, in describing the market in which the Unconditioned Local Loop Service is supplied, the ACCC stated:

> It is, however, important to ensure that the roll out of alternative customer access infrastructure that can be used for substitutable [downstream] services is not overlooked for the purposes of competition analysis. Accordingly, the Commission included intra-firm transactions using fixed line networks [eg, the CWO HFC network] within the market to ensure that the relevant arena of competition was captured. In terms of wireless customer access networks, the Commission only included those networks that could be used for substitutable downstream services. Thus, it included transactions for services that could be supplied by means of LMDS technology.[4]

Consequently, where downstream services constrain the behaviour of the service provider, it is unlikely that the first criterion will be satisfied. This is because:

- the market is unlikely to be characterised by substantial barriers to entry; and
- it would seem economically feasible for a second provider to enter the market.

There are also likely to be considerable practical difficulties in establishing the extent to which substitute services are actually available to an access seeker. The existence of duplicate capacity may not necessarily imply substitutability if, for example, the technology and hence the characteristics of the services provided (including reliability and coverage) differ among access providers.[5]

The second criterion - assessing reasonable conditions

Where substitute services are available, the second criterion would require the ACCC to assess whether the terms and conditions on which they were available are "reasonable". The ACCC's experience suggests that this is likely to be a time-consuming and resource-intensive task, particularly where an assessment is required of the price on which the substitute service has been made available.

For example, to conclude that a service was not available on reasonable terms and conditions, the ACCC would need to establish a "benchmark" by which reasonableness would be assessed. In the context of pricing, the benchmark may be efficient costs of production. Estimating these costs may take (at least) several months, depending on the extent to which the ACCC has previously considered similar services.

The fourth criterion - improving economic efficiency significantly

The ACCC agrees with the sentiment underpinning this criterion - declaration should only occur where it is likely to produce efficiency benefits, broadly defined, encompassing allocative, productive and dynamic efficiency. That said, the manner in which this criterion is worded could cause significant delays to the declaration process.

---

[3] ACCC, *Merger Guidelines*, June 1999, para. 5.67.

[4] ACCC, *A report on the declaration of an unconditioned local loop service, local PSTN originating and terminating services, and a local carriage service under Part XIC of the Trade Practices Act 1974*, July 1999, pp. 34-35.

[5] ACCC, *Domestic Transmission Capacity Service: A final report examining possible variation of the service declaration for the domestic transmission capacity service,* May 2001.

According to this criterion, before declaring a service the ACCC would need to be satisfied that addressing the denial of access, or the terms and conditions of access is likely to improve economic efficiency significantly. The impact of terms and conditions of access, on economic efficiency is, however, highly dependent upon the pricing that the ACCC would be likely to regard as reasonable.

This means that if the ACCC is to determine the extent to which addressing the terms and conditions of access is likely to improve economic efficiency, then it would need to conduct a full cost-benefit analysis at the time of considering whether to declare a service. This was an approach advocated by Telstra during the first declaration inquiries. As well as having the potential to lead to significant regulatory delays, this approach would seem contrary to the general approach underpinning Parts IIIA and XIC of the Act, whereby declaration and determination of access prices (and other terms of access) are two discrete stages occurring at separate times. Notwithstanding this, given its experience with dispute resolution, the ACCC will seek to be more explicit about the pricing principles that would be likely to apply and will release these at or near the time of declaration. This will have an impact on the ACCC's indicative timeframe for the conduct of declaration inquiries. The ACCC notes that the Government has announced its intention to amend the legislation to require publication of pricing principles at or soon after declaration.[6]

Applying the criteria to currently-declared services

The ACCC has analysed the likely impact of the proposed criteria by attempting to apply them to a number of services which satisfied the LTIE test and so were declared under the current provisions. The services considered are the Unconditioned Local Loop Service (ULLS), the Domestic PSTN Originating and Terminating Access services, the Domestic GSM Terminating Access service.

In practice, of course, the ACCC would need to conduct an inquiry before expressing a view as to whether it would declare one or more of these services, to ensure that all relevant material was before it in relation to each criterion. Consequently, the following comments should not be seen as pre-empting any future decisions the ACCC may make in relation to these services. Rather, the ACCC has undertaken a preliminary assessment in order to achieve a better understanding of the criteria proposed by the Productivity Commission and to highlight any practical difficulties, with a view to advancing discussion and analysis of these issues.

The results of this preliminary assessment show that further work is necessary to determine whether the ULLS would pass the declaration thresholds, that the Domestic PSTN Originating and Terminating Access services appear likely to meet the criteria, but the Domestic GSM Terminating Access service seems unlikely to do so.

Unconditioned Local Loop Service

The ACCC understands that service providers wish to use the ULLS to supply high speed data carriage services to end-users in competition with Telstra. As an alternative, service providers could acquire a wholesale data carriage service from Telstra (eg, wholesale ADSL) which they could use to compete against Telstra. Consequently, in order to declare the ULLS using the criteria proposed by the Productivity Commission, the ACCC would need to assess the terms and conditions (including price) on which the wholesale ADSL service is available

---

[6] 'Streamlining the Telecommunications Access Regime', Media Release, Senator the Honourable Richard Alston, 26 June 2001.

in order to determine whether those terms and conditions are reasonable. The ACCC could declare the ULLS only if it was of the view that these terms and conditions were unreasonable.

Domestic PSTN originating and terminating access service

On two occasions, the ACCC has considered Telstra pricing proposals for PSTN originating and terminating services. On each occasion, the ACCC was of the view that the prices were higher than necessary to recover efficient costs. Knowledge of the extent to which prices exceed efficient costs enables the ACCC to conclude that (unless non-price terms and conditions are simultaneously manipulated) addressing the terms and conditions of access will improve economic efficiency significantly.

There is, however, a temporal dimension to this criterion. The confidence with which it can be predicted that addressing the terms and conditions of access will improve economic efficiency depends upon the ACCC's knowledge of the prices that it would be likely to regard as reasonable. At the time it begins a declaration inquiry, the ACCC will not always know what prices it would regard as being reasonable. Should the ACCC undertake a pricing study prior to making its declaration decision in order to obtain this knowledge?

Domestic GSM terminating access service

Work undertaken by the ACCC suggests that there are weak competitive forces for Domestic GSM Terminating Access services, resulting in mobile termination prices in excess of efficient costs. High termination prices enable mobile network operators to offer lower charges for subscription to their networks. Fixed line customers, however, pay the price for high mobile termination charges each time they make a call to a mobile network.

In order to contact a mobile subscriber, there is no alternative but to purchase termination services from the mobile carrier to whom the called party (B-party) has subscribed. In many cases, callers are unaware of the identity of the mobile carrier terminating the call. These two features enable mobile carriers to set charges for termination services that exceed efficient costs. This is likely to result in allocative inefficiencies, including over-investment in mobile networks. Regulation of mobile termination charges provides a mechanism for redressing these inefficiencies.

That said, unless the ACCC was able to consider the impact of the "network externality" effect on downstream markets, it appears that the Domestic GSM Terminating Access service would fail the declaration test proposed by the Productivity Commission. Mobile carriers may discriminate between calls terminating "on-net" and "off-net", thereby making it more favourable for subscribers to call persons connected to the same network. However, it is not these network effects which lead to high termination charges for fixed-to-mobile calls, nor do they appear to create substantial barriers to entry for the mobile services market (but can in the fixed to mobile market).[7] Also, it does not appear that sunk costs in the mobile services market are so prohibitive as to deter entry.

---

[7] This would also impact on the national long distance and international markets due to all three services being included in the same pre-selection basket.

2.3 Access holidays

The Productivity Commission considers that there are grounds

> … to allow the ACCC to grant immunity from subsequent declaration to new telecommunications investments (8.27).

The main basis for this belief is a model of "regulatory taking" attributed to Professor King.[8] In that model (summarised in 8.25 to 8.26), declaration and subjection to an access regime can turn an investment with an *ex ante* expected normal return into one with an *ex post* below normal return, and result in an efficient investment not being undertaken. According to King, this cannot be rectified by incorporating an appropriate risk premium in the weighted average cost of capital, "so long as there are some potential situations where the investment will be ex post unprofitable".[9] The Productivity Commission argues that these may constitute grounds for the granting of an "access holiday", defined as immunity from declaration for a finite (unspecified) period of time.

As long as the objective of regulation is to improve the efficiency with which markets operate and resources are used, then the real issues in any declaration decision are the likely consequences of the declaration for advancement of those objectives. Mistakes in declarations or in the pricing of declared services obviously carry the risk that those objectives will be compromised. However, the ACCC believes that the solution is to reduce the likelihood of such mistakes, rather than to adopt the partial solution of an access holiday.

There are probably two circumstances in which an access holiday might be considered:

- where it is unclear that the declaration criteria are actually met in a particular case, and
- where a *prima facie* case for declaration has been established (the declaration criteria are met), but claims about resultant disincentives to invest are difficult to verify.

In the first case, the optimal decision is simply not to declare. To respond by granting an access holiday to the provider concerned seems inappropriate and likely to impose further uncertainty on the parties concerning the length of any holiday and the terms of any subsequent regulation.

In the second case, an access holiday would also seem problematic. The ACCC believes there are several reasons for this.

- If the declaration criteria (particularly the more stringent proposed criteria) are satisfied, then regulation is *ipso facto* judged preferable to non-declaration. An access holiday which would effectively impose a monopoly for a given period would consequently reduce the expected benefits of intervention.
- The case for regulation is likely to be stronger in the early stages of the investment (when the bottleneck features are likely to be more evident and more pervasive) than in later stages. Granting an access holiday in those early stages is therefore likely to worsen the outcome.
- There is also a concern that the arguments for access holidays are reminiscent of those in trade theory for protection of infant industries. That is, just as tariffs for infant industries create a danger of making firms reliant on government protection in order to survive, an

---

[8] S. King, 'Access: What, Where and How' in *Achieving Better Regulation of Services*, *Better Regulation* Conference Proceedings, ANU and Productivity Commission, AusInfo, Canberra, 2000, pp 63-93 at 72-74.

[9] *Ibid*, p 74.

access holiday may make the access provider dependent on further access holidays in order to survive in potentially competitive downstream markets. That is, protecting a firm from competition in its early years of development is unlikely to provide it with appropriate incentives to pursue productive efficiencies in its operation. Hence, not only may end-users suffer as a result of these inefficiencies during the "protected" period of the access holiday, the access provider may also suffer in the long-term if it is unable to compete effectively when competition is finally allowed into downstream segments of the market.

- Further, there is a concern that significant market power derives from the first-mover advantages an incumbent enjoys when it is protected from competition in the early years of a new product. That is, a significant difficulty for access seekers trying to enter a newly-competitive market is encouraging consumers to overcome their transaction costs and move from the incumbent to the new competitor. Hence, if an access provider is able to establish its customer base in the absence of competition in the early years of a services operation, an access seekers can be at a competitive disadvantage as it must be more efficient than the access provider by at least the churn transaction costs if it is to win a customer over to its business.

Even if intrinsic merit in the notion of access holidays could be demonstrated, practical implementation is likely to be extremely difficult. Potential investors are unlikely to be willing to submit to a public process similar to that of an undertaking process under Part IIIA. However, given the public interest elements of any outcome, private determinations are unlikely to be acceptable.

The option of* ex ante *binding rulings

The ACCC considers that Telstra's proposal for potential investors to be able to seek *ex ante* binding rulings on whether the declaration criteria goes some way towards addressing the problem of uncertainty. In practice, however, the proposal effectively requires a declaration inquiry to be conducted in advance of the investment and certainly before many of its major parameters are observable. The opportunity for informed comment by other industry participants - an important ingredient of declaration inquiries under the current arrangements - is also likely to be limited or non-existent. A change in any of the information on which the ruling was based, in other operational aspects of the project or in the market itself might invalidate the ruling or make it subject to public review. In such circumstances, the extent to which such a ruling is able to deliver certainty concerning the likelihood of declaration might be limited.

The monitoring option

The Productivity Commission raised the option of monitoring as an alternative to declaration (8.27-28). The ACCC considers that, where doubt exists about the extent to which the declaration criteria may be met (or continue to be met), monitoring of pricing and other conduct can constitute a useful "watching brief", while providing an incentive to access providers to behave in ways which will not increase the possibility of declaration.

Monitoring was used in this way by the ACCC in the case of inter-capital transmission, following the declaration of inter-capital routes in 1998. The information obtained was important to the decision to undertake a further inquiry in 2000. The ACCC has also indicated that it will use monitoring in the case of GSM termination. Where the ACCC has used monitoring it has generally sought the information required voluntarily, particularly

where it was clear that the information should not be publicly released, perhaps in an aggregated form. The Record Keeping Rule provisions have proved a useful reserve power where initial resistance to provision of the information has been encountered.

2.4 Sunset provisions

The concept of legislated review periods for regulatory arrangements is well-accepted. At present, the ACCC reviews declarations when requested to do so or when it believes changes in market circumstances warrant re-examination of the need for continuing regulation. It has no in-principle objection to a legislative requirement to review after a reasonable period.

However, where facilities-based competition does not emerge, fallback access arrangements are likely to be required indefinitely.

3. Pricing principles

The Productivity Commission's approach to access pricing issues is broad ranging, involving a number of firm proposals (including four proposed legislated pricing principles) and several other suggestions and ideas that could improve the access regime. In this section of the submission the ACCC:

- considers the objectives that are explicit or implicit in the Productivity Commission's discussion;
- assesses the Productivity Commission's proposals and suggestions against its own objectives;
- assesses the recommendations and ideas in the light of the existing objectives of the telecommunications access regime;
- examines the *basis* for the recommendations and suggestions made; and
- outlines a number of reservations concerning the principle and practice of the proposals.

3.1 Legislated pricing principles

The Productivity Commission proposes incorporating "a clear set of appropriate pricing principles" in the legislation establishing the telecommunications access regime (Draft recommendation 10.1). It believes that this would provide better guidance to parties, limit regulatory discretion in some areas and avoid prescriptive pricing approaches. It made a similar recommendation in respect of the generic access regime.

The ACCC observes that it is unusual for the Parliament to specify (and potentially alter) operational approaches in legislation of this nature. An example occurs in the case of the Gas Code, where pricing principles are approved by the South Australian Parliament. However, in that case, rather than being prescribed by the Parliament, the principles were developed by industry participants and submitted to Parliament for approval.

As the Productivity Commission notes, criteria for determining the "reasonableness" of terms and conditions are currently set out in Part XIC (s. 152BV). Those criteria are consistent with the current object of the telecommunications access regime and so with the criteria against which both declarations and arbitrations are conducted.

However, the Productivity Commission's proposed principles extend beyond simple listing of relevant considerations and include guidance concerning the appropriate structure, as well as the level, of the prices to be determined.

The ACCC agrees that certainty concerning the approach that a regulator will take to pricing issues is beneficial to all market participants. However, it submits that the existing guidance allows sufficient flexibility to determine appropriate price levels and structures for a range of different services. In practice, the ACCC has drawn extensively on the advice of industry participants and expert advisers in establishing pricing principles for particular services, and has subsequently published detailed guidelines. The ACCC believes that certainty is less likely to be enhanced by the articulation of general principles, than by detailed guidelines which incorporate expected approaches to important details, including the details of the underlying model and the methodology for calculating particular parameter values.

The ACCC's approach to the determination of access prices is characterised by the Productivity Commission as "prescriptive". However, the requirement to determine access prices arises chiefly in the context of arbitration to resolve disputes between access providers and access seekers.[10] In such circumstances, the extent to which "menus" and/or ranges of prices might be acceptable to the disputing parties is likely to be limited. The very factors which are likely to have given rise to the dispute in the first place - imbalances in bargaining power and information asymmetries - are also likely to prevent commercial negotiation around the options identified as acceptable by the ACCC. In such cases, speed and certainty of outcome are likely to be best served by adoption of the ACCC's best assessment of the information before it.

3.2 Multiple objectives

The Productivity Commission considers a variety of objectives for the access regime. In particular, the Commission:

- interprets efficiency-in-use as usually relating price to short-run marginal cost (SRMC);
- advocates the encouragement of multi-part pricing (principle #1);
- embraces the idea of Ramsey pricing for the efficient recovery of common costs, where common costs are costs of the PSTN not covered when prices are set equal to SRMC (implicit in principle #2);
- prescribes prices above long-run costs of provision (the third principle), but not so far above as to "detract significantly from efficient use". This is related to investment incentives, and the Productivity Commission's discussion of this includes the suggestion of an asymmetric loss function, with the cost of getting the access price too low being greater than the cost of getting it too high. There are at least two strands to the asymmetric loss argument, both of which are discussed below;
- seeks to prevent a vertically integrated access provider discriminating in favour of its downstream operations (the fourth principle); and
- suggests a concept of "competitive neutrality" that results in a much larger proportion of the access deficit falling on access seekers.

These objectives differ from the criteria currently contained in the legislation, which revolve around the long-term interests of end-users (LTIE), and which the ACCC is required to interpret in terms of the objectives of promoting competition, any-to-any connectivity, and efficiency in the use of, and investment in, telecommunications infrastructure. Other pricing criteria involve a consideration of the access provider's legitimate business interests and relating access prices to direct costs. Trade-offs (or exercises of "regulatory discretion") are necessary because, in some cases, the furthering of one objective means the reduced achievement of another. The Productivity Commission seeks to reduce this discretion. However, on the surface the proposed principles contain an even greater excess of objectives over instruments than the current arrangements, and even more scope for objectives to clash and trade-offs to be made.

[10] The assessment of undertakings is the other major situation in which assessments of prices are undertaken.

3.3 Short-run marginal cost as a basis for pricing

The Productivity Commission argues for relating price to short run marginal cost (SRMC) and its discussion is clearly framed in the context of a SRMC efficiency basis.

Like most other telecommunications regulators, the ACCC uses total service long run incremental cost (TSLRIC) as the basis for achieving efficiency in use. This is based on its interpretation of the existing legislation and the belief that, in the circumstances of telecommunications, it constitutes a superior basis for achieving efficiency in use than SRMC. The ACCC has two main reasons for this belief.

First, setting price equal to capacity-unconstrained SRMC may appear to be "efficient" in the short run as it appears to equate the marginal value of the user to the value given up in supplying that unit. However, this makes no allowance for what is given up in "keeping the productive capacity alive". Taking into account this "shadow cost" of maintaining capacity in addition to the actual operating cost suggests TSLRIC as the pricing benchmark.

Second, while it would be possible to vary a price over time as the capacity constraints are approached (resulting in rising price) and as capacity limits are overcome by new capacity installation (falling price), this could result in large price fluctuations. This "saw tooth" pricing outcome would lead to higher transaction costs for all parties and the greater uncertainty could be reflected in the need for a higher risk-adjusted rate of return.

3.4 Multi-part pricing

The Productivity Commission's first access pricing principle includes that "access prices should encourage multi-part tariffs" (10.13). Multi-part tariffs typically include a component which is unresponsive to the quantity traded (the "fixed" component) and a component which is responsive to quantity (the "per unit" component). The Productivity Commission's support of multi-part tariffs stems partly from the adoption of the SRMC basis for the pricing of use.

In addition to its misgivings about SRMC-based pricing on both efficiency and practical grounds, the ACCC is concerned that multi-part pricing can deter entry by generating natural monopoly effects in downstream markets. In a model without product differentiation, a two-part pricing scheme means all entrants have a fixed cost in the long run. In this circumstance, and where economies of scale are present, the long-run average cost curves of firms slope downwards, reducing the scope for sustainable competition to emerge and increasing the possibility that only one firm will survive in the long run. Dr Darryl Biggar's solution of relating the fixed charge element to the quantity purchased by the entrant effectively turns the two-part tariff into a one-part one.[11] These issues mean that the calculation of an "efficient" two-part price is extremely difficult both in principle and in practice.

3.5 The global cost approach

The Productivity Commission's second principle for access pricing is that "access prices should be at least sufficient to meet the efficient long-run costs of providing access" (10.14). This is presented as a "global cost principle", where individual access seekers would not

---

[11] D. Biggar, 'Access Pricing and Competition', paper presented at ACCC Conference on Regulation and Investment, Sydney, 26-27 March 2001.

necessarily have to be charged on a cost recovery basis, allowing "common costs" to be retrieved with minimal demand distortion (eg, in a Ramsey manner).

In fact, of course, two different kinds of indirect, or common, costs are currently retrieved in access charges. In the case of the PSTN, these include intra-PSTN costs (such as certain exchange costs) which cannot be attributed to individual PSTN services, and indirect costs (such as corporate overheads) which cannot be attributed to the PSTN alone. The information burden of obtaining demand data of sufficient accuracy to undertake such an allocation is acknowledged by the Productivity Commission (10.14).

3.6 Concerns about the level of access pricing

There is a recurring innuendo in chapter 10 that PSTN access is priced below its long-run cost of provision. For example, the Productivity Commission has a question mark in the cell of Table 10.1 as to whether TSLRIC "at least meets long-run costs". It is also stated (10.35) that local call resale "does not ensure that the local call network is properly funded". The ACCC does not believe that its procedures result in pricing below long-run cost of supply in either PSTN origination and termination or local call resale. The following points are made in defence of this belief.

PSTN origination and termination

With respect to PSTN origination and termination, the Productivity Commission provides no evidence that the ACCC's basic TSLRIC (ie, before the inclusion of indirect costs and an access deficit contribution) is below the "true" basic TSLRIC. Indeed, it notes that while "some cost components … appear to be underestimated … [t]here may, of course, be other omitted cost factors that offset these" (10.26).

As the ACCC has submitted previously, its current practice in relation to the PSTN is to relate per-minute prices to efficient costs on the "scorched node" basis.[12] This "forward-looking approach" is not the source of the difficulty as the Productivity Commission agrees that prices should be linked to "efficient costs of supply (including risk adjusted capital costs)" (10.14). Further, as the approach incorporates a number of parameters based on actual costs (as provided by Telstra), rather than "efficient" values and so is likely to overstate the associated costs.

With respect to specific cost elements in the ACCC's n/e/r/a model, the Productivity Commission has focused on three of these - line provisioning, trench sharing and depreciation. The ACCC includes detailed comment on each of these specific issues in Attachment A to this response.

Overall profitability of the PSTN

While not conceding that Telstra is forced to sell below cost in any instance, the ACCC believes it is important also to consider the overall financial position of Telstra and, in particular, the profitability of the PSTN. It is clear that the totality of retail and wholesale revenues from the PSTN is well in excess of attributable costs, making a substantial contribution to indirect costs (unrelated to the PSTN) and profits. This is detailed in Box 3.1.

---

[12] ACCC, *Supplementary Submission to the Productivity Commission Review of Telecommunications Competition Regulation,* November 2000 (www.pc.gov.au).

Local Call Resale

Local call resale is an area where it has been claimed that Telstra is forced to sell at a price below cost. In its initial submission to the Productivity Commission, Telstra claimed that "local calls do not … recover their long term costs of supply" (p. 7). The Productivity Commission implied that it accepted this argument when it stated that the "retail-minus approach for local calls does not ensure that the local call network is properly funded" (10.35). Telstra affirmed its position in evidence to the Productivity Commission on 14 May 2001 where one spokesperson said that the "ACCC's calculation of the forward-looking costs of a local call would place it at about 22 cents and the access prices have been set well below that", while another said the "figure 22 cents is the wholesale cost of providing that service … [and] doesn't include retailing expenses". NECG's Henry Ergas told the Productivity Commission of a similar shortfall and characterised the ACCC's approach as "manifestly at odds with *ex ante* financial capital maintenance … with the ability of investors to recoup investments prudently made" (Evidence to Productivity Commission, 16 May 2001, p. 207).

The ACCC has never estimated the cost of a local call directly, but recognises that Telstra and others have applied estimates based on its n/e/r/a model to such a costing. Viewing an average-length eight-minute call as a combination of eight minutes of PSTN origination and eight minutes of PSTN termination, and using the full TSLRIC++ per minute of 1.53 cents per minute, a local call would appear to be costed (net of retail costs) at over 24 cents per minute in 2000-01. However, the ACCC believes that applying the n/e/r/a model in this way involves three errors, all of which lead to overstatement of the apparent cost.

The first error is to include the access deficit contribution (ADC) as part of the cost of producing the local call. While the ADC does reflect a cost borne by Telstra through the operation of the retail price controls, preventing it from recovering the costs of providing line rentals, it clearly cannot be construed as a direct cost of producing local calls. It represents a notional allocation of a completely separate cost. Its exclusion reduces the "cost" substantially.

The second error is similar to the first, in including an indirect cost contribution as a cost of producing a local call. The indirect cost component is a contribution to corporate overhead costs that lie totally outside the PSTN itself, and cannot sensibly be attributed to local call production *per se* (ie, such costs would still be largely incurred whether or not local calls are produced). Removing both of these (ie, using pure TSLRIC rather than TSLRIC++) reduces the apparent n/e/r/a cost to 0.67 cents per minute and, using Telstra's figure for the average length of a local call, the "cost of a local call" falls to 10.7 cents per minute.

Third, while length of call is an important cost driver, the relationship between length of a call and its cost is not proportionate, and other cost drivers need to be considered. Because local calls are relatively longer than other types of calls, the fixed call set-up cost is spread over more minutes and this means that using the average per-minute cost would overstate the cost of these longer calls.

Had Telstra and NECG applied the n/e/r/a model to determine the directly attributable (incremental) *production cost* of a local call, they would have arrived at a much lower figure, and one much less than the price set under the ACCC's retail-minus approach. Thus there would have been no basis for Telstra and NECG to claim that the price set by the ACCC is less than its production cost, nor for NECG to claim that this is a case where "financial capital maintenance" is at risk because of the operation of the access regime.

3.7 Asymmetric loss - static efficiency effect

The Productivity Commission argues in favour of erring on the high side when determining access charges because "the costs of errors are asymmetric" (10.1) - the "loss" from erring too high is less than the "loss" from erring too low. In the words of the Draft Report:

> A facility provider's loss from a lowering of the access price is greater than the facility provider's gain from an increase of the same magnitude (10.38).

This argument apparently relates to a static efficiency analysis put to the Productivity Commission's Part IIIA Inquiry by NECG).[13]

The Productivity Commission's focus on producer welfare is inconsistent both with the underlying NECG analysis and with its own proposed efficiency objectives that correctly assimilate both producer and user welfare effects. However, NECG's efficiency analysis has analytical deficiencies and is contrived to produce the desired result.

NECG conducts both a "short-run" and a "long-run" efficiency analysis. In the short-run the average cost curve slopes downwards and in the long run it slopes upwards. Marginal cost is not identified for either time frame. Demand is drawn to be very steep, "characteristic of essential services" (p. 21). In both time frames the analysis begins with price equal to average cost and then determines the effect on "welfare" of an equal increase and decrease in price. In the short-run case, the increase and the decrease each results in the same identified welfare loss; while in the long-run case there is an asymmetry in that the identified welfare loss from the price increase is less than the welfare loss from the price fall. The ACCC sees a number of problems with this analysis.

First, the cost specifications are very loose and result in characterisation of short-run and long-run average costs the exact opposite of those in traditional analysis. Marginal costs are not specified at all.

Second, the analysis on which the results are based does not follow the rules of applied welfare economics. In particular, it identifies welfare change as the area between demand and average cost over the quantity change, rather than the area between demand and *marginal* cost. The areas identified have no welfare significance, rendering the results invalid.

Third, in the "short-run" case the analysis identifies equal efficiency losses from erring too high and too low; whereas if the efficiency effects had been identified correctly the analysis would indicate an efficiency gain from erring too low and an efficiency loss from erring too high. This flows from price being above marginal cost (see below).

Fourth, the long-run efficiency analysis achieves the asymmetric loss result by assuming the demand curve is steeper than the flatly upward-sloping long-run average cost curve. The opposite asymmetry result (ie, a smaller loss from the price reduction) could be achieved if the long-run average cost curve sloped up more steeply than the demand curve slopes down.

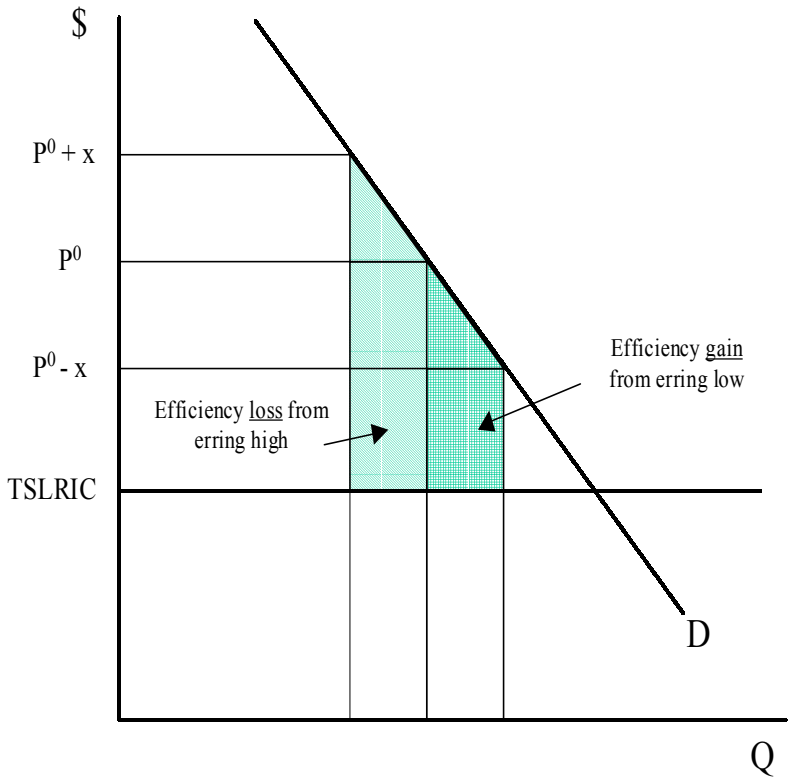
Given that the starting-point access price is above marginal cost, a correct analysis of the static efficiency effects will always give the opposite asymmetry result to that claimed by NECG. That is, the effects from raising and lowering the price by a given amount are that efficiency would *fall* from a price increase and *increase* from a price decrease, down to the level where the access price is equal to marginal cost. Taking TSLRIC as the basis, this is

---

[13] Submission 39, pp 21-22

illustrated in the following diagram. Beginning at P^0 imagine the efficiency effect of each of an upward and a downward deviation in price of amount x. The upward deviation enlarges the existing deadweight loss triangle thus resulting in an efficiency loss. The deviation down to P^0 - x, reduces the existing deadweight loss, thus resulting in an efficiency gain.

Basic TSLRIC is only one component of the access price actually received by Telstra, as it is able to charge a price of TSLRIC++. This is basic TSLRIC plus indirect costs (TSLRIC+) plus the access deficit contribution (ADC) (TSLRIC++). In 2000-01 the per-minute basic TSLRIC is estimated by the ACCC as 0.67 cents. Adding in the indirect cost contribution of 0.16 cents and the access deficit contribution of 0.70 cents takes the price to 1.53 cents. Even in the event that the ACCC's basic TSLRIC were below the true basic TSLRIC, the actual access price Telstra is allowed to set will be above true basic TSLRIC except in the unlikely event that the ACCC determined basic TSLRIC at less than half "true" basic TSLRIC. (In this regard, Telstra's TSLRIC calculation is only about 30 per cent higher than that of the ACCC.)



3.8 Asymmetric loss - adverse investment effects

The second strand of the asymmetric loss argument relates to concerns about investment. The Productivity Commission argues that investments may be "delayed … [or] potentially permanently deferred" (10.39-40) and asserts that "the cost of delaying … or … losing … an investment is much higher than the cost associated with some degree of monopoly pricing" (10.40). "Excessively low access pricing is insidious because its adverse effects are felt only in the long run" (10.1). A variety of supplementary arguments relate to the fragility of investment.

The Productivity Commission does not identify the efficiency effects from either monopoly pricing or lost investment, forming a weak basis for the discussion of the empirical evidence. It obviously expects an adverse effect, and concludes its discussion of the effects of the operation of the access regime on investment (10.21) with the statement that it is "unable to determine whether access prices have so far damaged efficient investment". The ACCC believes that there is neither reason to expect an adverse effect on investment at the prices currently in operation nor any evidence of one.

The incentive to maintain and improve the PSTN is likely to depend on the aggregate returns from it, not the returns from any single component. The overall returns from the PSTN are very high (Box 3.1), and would appear to provide Telstra with a strong incentive to invest in it. Given that interconnection revenue makes only a small overall contribution to PSTN revenue (less than two per cent of revenue in 1999-2000), even large proportionate changes in the amount of interconnect revenue would not substantially affect the overall revenue and profitability of the PSTN. Further, particular types of PSTN investment would not be influenced by changes in the access price regime. In the main, access seekers provide those voice services that are Telstra's most profitable - national and international long-distance and fixed-to-mobile calls. Failing to invest in the source of these profits would not seem to be a sensible strategy for Telstra to adopt.

It is difficult to see how the empirical evidence on investment available to (and presented by, on pp 3.18-27) the Productivity Commission could have encouraged a pessimistic view either. The following table presents publicly-available evidence about the total and composition of Telstra's investments in its networks over the period from 1994-95 to 1999-2000.

Table 3.1: Telstra's capital expenditures, 1994-95 to 1999-2000

Millions of dollars

	1995	**1996**	**1997**	**1998**	**1999**	**2000**
Switching	634	659	768	756	644	647
Transmission	335	486	579	584	624	693
Customer access	666	920	848	681	873	1285
Mobile networks	526	342	330	340	621	628
Broadband network	60	282	459	97	34	30
International infrastructure	112	197	119	143	146	143
Other	905	1,018	1,145	1,223	1,424	1,422
Capital expenditures	**3,238**	**3,904**	**4,248**	**3,824**	**4,366**	**4,830**

Source: Telstra *Annual Reports* — 1999-2000 (p. 107) and 1996-97 (p. 41)

A number of points are evident from the Table:

- first, the aggregate level of Telstra's investment has grown at an annual average rate of over eight per cent from 1994-95 to 1999-2000;
- the only dip in the series was in 1997-98 and this was mainly due to Telstra ceasing to invest in its HFC cable; a decision that had nothing to do with the access regime; and
- the first three items relate mainly to the PSTN and, as a group, these have grown more rapidly than the whole.

Perhaps if the record had been one of falling or even static investment in the PSTN, the extent of the Productivity Commission's concern could have some basis. As it stands, it is difficult to accept the Commission's claim of being "unable to determine" whether investment has been damaged "so far". It clearly has not been.

Finally, the current legislation means that the ACCC has to have regard to the impact of the operation of the access regime on all investment, not just that of Telstra. This includes investment in related infrastructure that combines PSTN origination and/or termination to produce other services. As the access price is increased, demand for these services falls, leading to a fall in the level of activity and investment in the complementary activities. While the Productivity Commission recognises this effect ("For them the impacts of high access prices is the opposite of that for an access provider", 10.39), the impact is not given much weight because the stock of access provider investments is much larger than the stock of investments for entrants. The relevance of this comparison of stocks is not immediately obvious to the ACCC.

When the record on the flow of investments outside of Telstra is examined, there is evidence of strong investments especially in mobiles, fibre optics, xDSL, and LMDS. This is based on information gathered in a recent survey of more than 50 carriers conducted for the ACCC by BIS Shrapnel. A public version of the Research Report (titled *Telecommunications Infrastructure in Australia Network and Technology*) will be released next month, and will contain indicative information on these investments. Figures for aggregate investment in each of these four categories will be made available on a confidential basis to the Productivity Commission on request.

Box 3.1

Profitability of the PSTN

Telstra notes in its 1999-2000 *Annual Report* that its traditional telephony products "have traditionally generated most of our operating profit and have been more profitable than our non-telephony products such as data" (p. 80). An ACCC analysis (based on data for 1999-2000, mainly from Telstra's 1999-2000 *Annual Report* and the ACCC's n/e/r/a model) confirms that the PSTN is, like Telstra as a whole, highly profitable. Even though there is a deficit on line rentals (basic access), the rest of the PSTN more than makes up for this.

Telstra's PSTN earns total attributable revenues of about $8480m, comprising basic access ($2020m), local calls ($2650m), national long-distance (STD and FTM) ($2626m), international calls (in, out, transit, etc.) ($987m) and inter-carrier revenue (approximately $200m of the $819m total inter-carrier revenue can be attributed to the PSTN).

Total attributable costs of the PSTN are estimated to be approximately $5700m, comprising the costs of the customer access and inter-exchange networks as estimated in the ACCC's n/e/r/a model ($3794m), retail and wholesaling costs (approximately $1000m) and the costs of terminating calls from the PSTN in other networks outside and inside Telstra (about $900m). (The ACCC believes that n/e/r/a costs are likely to exceed historic-based costs, for the reasons elaborated in its November submission.)

This means there is a surplus of about $2780m. The n/e/r/a model attributes nearly $970m to Telstra's indirect costs (costs lying totally outside the PSTN that are unattributable to any specific network service area). This leaves a pure profit contribution of about $1800m, which represents approximately a 27 per cent markup on costs (including indirects). To put this in context, this contribution (net of all costs) of the PSTN of $1.8 billion compares to the net access deficit of less than $1.3 billion.

3.9 Non-discrimination for vertically integrated access providers

The ACCC notes that the principle of non-discrimination between internal and external access seekers is consistent with its own access price guideline.[14] While it appears that Telstra does not currently operate on the basis of accounting separation necessary to satisfy this principle, the ACCC has recently introduced its new regulatory accounting framework, whereby it has access to separated accounting information on the required basis.

According to Telstra's 1999-2000 *Annual Report*, it reports on its operating segments "according to how we organise and manage our business for internal management reporting purposes" (p. 110). Therefore, examination of the description of these segments (pp. 109-115) provides an insight into how Telstra's internal accounting framework operates. The key features are the following.

- Network and retail functions are combined in at least two of the business segments (Commercial and Consumer and Telstra On Air). For example, "Commercial and

[14] ACCC, *Access Pricing Principles Telecommunications — a guide*, July 1997, pp. 25-26.

Consumer has responsibility for building and maintaining the customer access network" at the same time as it "provides services to more than seven million residential and small business customers" (p. 111).

- There are anomalies in the allocation of revenues to the source of the production giving rise to them. Most particularly, revenue "from terminating traffic from either our own fixed line or mobile networks or those of our competitors is not included in this business unit [On Air]" (p. 111).

Neither of these features is consistent with the accounting separation necessary for non-discriminatory pricing.

The ACCC has recently finalised development of the Regulatory Accounting Framework (RAF) for the industry to achieve effective financial or accounting separation of major integrated carriers' networks; that is, between the network or wholesale level and the retail level. This framework has been established under s.151BU of the Act, which provides the ACCC with the power to make record-keeping rules by written instrument and require that carriers and carriage service providers comply with these rules. The RAF replaces the existing financial reporting obligations set out in the AUSTEL Chart of Accounts (COA) and Cost Allocation Manual (CAM). The key feature of the COA/CAM architecture was a horizontal accounting separation regime, where each carrier provided financial data for each of its major retail services. However, it was found the COA/CAM suffered from a number of limitations including:

- inadequate vertical separation between upstream network services and contestable downstream activities;

- unidentifiable internal costs at the access level; and

- that some service definitions had become obsolete.

The RAF introduces a vertical and horizontal accounting separation model. This model implements accounting separation between the wholesale and retail businesses of major vertically integrated carriers. This means costs, revenues and capital employed can be allocated from the general ledger as directly as possible to specific services with direct, attributable and unattributable elements separately identified across the retail and wholesale components of a carrier's business to be reported to the Commission. Table 3.1 lists the services which are included in the RAF. The RAF also requires service usage information, such as the number of local calls and the number of national long distance minutes, to be reported.

The RAF will assist investigations of possible anti-competitive conduct, in arbitrations of access disputes and by being a general framework that could be in a variety of regulatory and enforcement issues. For example, the RAF requires carriers to develop costs for internally provided wholesale services. If the declared service under consideration is similar in nature to one of these reporting service categories (the categories are designed to be similar), the cost of the service provides a starting point for determining the access provider's "price" to its own vertically integrated operations.

The RAF will provide the ACCC with a baseline of regular and audited financial information to assist it in performing its regulatory functions, including those noted above. Telstra has already commenced submitting regulatory reports to the ACCC using a draft version of the

RAF. The ACCC is using these reports to provide the starting point to assist in determining costs in Local Carriage Service arbitrations before it.

Under the RAF, the ACCC is able to notify any carrier or carriage service provider that supplies or uses a declared service that the Rules apply to them. In practice, the ACCC will only notify such a carrier or carriage service provider if it considers information from that carrier or carriage service provider is, or will be, relevant to its functions. The ACCC has notified Telstra, C & W Optus, AAPT, Primus and Vodafone of their reporting requirements under the RAF as listed in Table 3.2. To date, the ACCC has not published regular information on the industry, as overseas regulators frequently do. It is envisaged that some information provided to the ACCC under the RAF will be disclosed to the public. The Act requires a number of criteria to be fulfilled prior to RAF information being disclosed or published. The ACCC will shortly be issuing a discussion paper covering the possible levels and scope of disclosure that would be appropriate for information provided under the RAF and record-keeping rules more generally.

Table 3.2 Services reported on in the RAF

Retail	Internal Wholesale	External Wholesale
End User Access	Wholesale Broadcast	Broadcasting Access Services
Local Calls	Wholesale End User Access	Conditioned Local Loop
Domestic Long Distance	Wholesale Local Calls	Unconditioned Local Loop Service
International Long Distance	Wholesale Local Number Portability	Domestic PSTN Originating/Terminating
International Leased Lines	Wholesale Domestic Long Distance	Local PSTN Originating/Terminating Service
Domestic Leased Lines	Wholesale International Long Distance	Local Carriage Service
Digital Data Service	Wholesale International Leased lines	ISDN Originating/Terminating
ISDN	Wholesale Domestic Leased lines	GSM Originating/Terminating
Packet Switched Data	Wholesale Digital Data Carriage	Digital Data Access
Fixed to Mobiles	Wholesale ISDN Carriage	Transmission
GSM Mobiles	Wholesale Packet Switched Service	Local Number Portability
CDMA Mobiles	Wholesale Fixed-Mobile	Freephone and Local Rate Number Portability
Payphone Services	Wholesale GSM Carriage	Mobile Number Portability
Internet Services	Wholesale CDMA Carriage	Other External Wholesale Services
Information Services	Wholesale Mobile Number Portability	
Specialised Call Services	Wholesale Payphone Services	
Directory Services	Wholesale Internet Services	
Asymmetric DSL	Wholesale Information Services	
Symmetric DSL	Wholesale Specialised Call Services	
Other Retail Services	Wholesale Freephone and Local Rate Number Portability	
	Wholesale Directory Services	
	Other Internal Wholesale Costs	

Table 3.3 Reporting requirements for carriers

	Telstra	Optus	Vodafone	Primus	AAPT
Capital Adjusted Profit & Loss Statements					
- Retail	✓	✓	✓	✓	✓
- Internal wholesale	✓	✓			
- External wholesale	✓	✓	✓	✓	✓
Capital Employed Statements					
- Retail	✓	✓			
- Internal wholesale	✓	✓			
- External wholesale	✓	✓			
Fixed Asset Statements					
- Retail	✓	✓	✓	✓	✓
- Internal wholesale	✓	✓			
- External wholesale	✓	✓			
Service Usage Reports					
- Retail services	✓	✓	✓	✓	✓
- External wholesale	✓	✓	✓	✓	✓
Weighted Average Cost of Capital Report	✓	✓			
Record-keeping declarations	✓	✓	✓	✓	✓
Regulatory Accounting Procedures Manual					
- Organisation structure/service definitions	✓	✓	✓	✓	✓
- Allocation principles	✓	✓	✓	✓	✓
- Allocation procedures	✓	✓			
- End user adjustments	✓	✓			
- Glossary	✓	✓	✓	✓	✓
Lodgement of reports					
- First 6 months	✓	✓	✓	✓	✓
- Second 6 months	✓	✓	✓	✓	✓
- Full year	✓	✓	✓	✓	✓
Audit Report	✓	✓	✓	✓	✓

3.10 Allocation of the access deficit

The Productivity Commission suggests - but does not recommend - a different approach to allocating the access deficit (AD) for PSTN origination and termination. Appendix D contains a model based on four "call types" - PSTN termination and origination for rivals, ISDN, PSTN termination and origination for itself and local calls. According to the Productivity Commission's model, as local calls "under-recover" the AD because of the retail price ceiling, this results in a larger burden for the remaining three services. The Productivity Commission then derives a formula for apportioning the under-recovered AD to these three service areas. It suggests that this "would permit competitive neutrality, since the access deficit markup for Telstra's sales to its own divisions would be the same as to rivals". (D.16)

In the ACCC's view, the Productivity Commission's approach, if adopted, risks deleterious effects on competition, the efficiency of final pricing, and investment. Further, it does not obviously satisfy the competitive neutrality criterion on which the suggestion is based.

ACCC staff estimate the Productivity Commission's approach would result in an access deficit contribution (ADC) of 2.52 cents per minute for 2000-01, much higher than the 0.69 cents per minute under the ACCC's approach. The Productivity Commission's total access price of about 3.35 cents per minute would be more than double the amount (1.53 cents) found to be reasonable in the Undertaking Report. Telstra would be able to place a two-way squeeze on its rivals offering substitute services for STD, IDD and FTM. In addition to the substantial increase in their costs of using the PSTN, they would be under pressure to continue reducing retail prices on these services by the continuing operation of the retail price controls, forcing Telstra to reduce its retail prices for STD, IDD and FTM. A related concern is the need to devise a mechanism to ensure Telstra cannot strategically increase the "local call deficit" burden on other carriers by progressive reductions in local call charges as part of further rebalancing exercises. It is not clear whether this possibility has been addressed in the Productivity Commission's suggested approach.

Also, adoption of this suggestion could further distort investment incentives. While the ADC is a contribution to line costs, there is no linkage between the total contribution paid by a particular customer and the cost of that customer's line. For example, CBD business customers and those living in relatively low cost (densely populated) areas are likely to already meet the cost of their lines through direct line-related charges, and then make further contributions through the ADC embedded in the prices of calls. Increasing the total contribution by these customers would amplify the existing incentive for these customers to by-pass Telstra's CAN, further distorting investment decision making.

Finally, the Productivity Commission's suggestion does not clearly satisfy "competitive neutrality" when viewed in a second-best context. Retail price controls on line rentals and local calls present problems for the determination of access prices. The existence of these constraints means that a "first-best" solution is not possible. The Commission's approach and the solution proposed by the Productivity Commission are both, by necessity, "second-best" or compromise solutions. The theory of second best[15] suggests that piecemeal policy making may or may not improve efficiency in that if there are n (>1) distorted markets, removing the distortion from any n – 1 of them need not improve efficiency. In this case there are three distorted and related markets – local calls, Telstra origination and termination,

[15] As enunciated by R. Lipsey and K. Lancaster, 'The General Theory of Second Best', *Review of Economic Studies*, 24, 1956, pp. 11-32.

and rival PSTN origination and termination. Local calls remain "distorted". Achieving competitive neutrality in the other two of them may either damage or improve economic efficiency. The issue is further complicated in this case because the neutrality is applying to access prices rather than retail prices.

3.11 Interconnection for high-speed data services

The ACCC has increasingly become involved is the consideration of alternative ways in which interconnection arrangements for the provision of dial-up Internet and high-speed data services can be provided, and the appropriate pricing principles that should apply for determining access prices under these alternative arrangements. This issue has been of particular interest in some of the ACCC's PSTN arbitrations. Until recently, Telstra has been seeking PSTN terminating access from other carriers providing backbone PSTN infrastructure to Internet service providers (ISPs). In these instances, a data call originating from a customer directly connected to Telstra's PSTN network may be intended for an ISP directly connected to a competitor's PSTN network. In this instance, Telstra - the originating carrier - must purchase terminating access from a competitive carrier in order to terminate the call with the ISP connected to that network.

In these arbitrations, however, Telstra has also questioned whether the timed interconnection arrangements involving terminating access and pricing principles developed and applied for voice calls using the PSTN are still appropriate in the context of providing data services. In particular, given Telstra faces a price cap on local calls of 22 cents per call (GST inclusive and untimed), it has been queried whether an access price for the competitive carrier's PSTN terminating access service for data calls should be calculated on a per-minute basis, as is currently determined for voice calls using the PSTN. Some parties have argued that, if this pricing principle were to be applied, the termination charge Telstra pays its competitors for an average length data call to access the internet would be significantly higher than the capped local call revenue Telstra can extract from the end-user when providing this service.

In considering this issue, the ACCC has looked at a number of alternative "interconnection models" and pricing principles to apply for determining interconnection arrangements for high-speed data services. While the ACCC has adjusted the PSTN access charges and applied a capped interconnect charge for such calls to minimise any losses emanating from the retail price controls, this is only seen as a transitional arrangement until more appropriate interconnection and payment arrangements are developed. To date, neither the industry nor the ACCC is convinced that any particular interconnection approach is appropriate to deal with new data services in the longer term, and is continuing to develop its thinking on this matter, including with the assistance of industry. What is clear, however, is that there is a high degree of uncertainty as to whether the interconnection models and pricing principles that have been applied to pricing access to the PSTN for voice services are necessarily appropriate for pricing PSTN access for data services.

The heavy emphasis on PSTN interconnection in the Productivity Commission's Draft Report leaves aside two important developments. First, it is likely that the PSTN will become an increasingly inefficient vehicle for widespread carriage of high-speed data. Second, the interconnection debate in the near future will, in all likelihood, turn to a consideration of a complex web of the carriage of calls across and between circuit switched networks, wireless networks, dedicated IP networks and the Internet.

In this context, therefore, it is clear that the development of a simple set of broad pricing principles that would apply to all types of services, and which could be incorporated into legislation, is both a difficult and potentially dangerous task. Should legislated pricing principles be attempted, the ACCC believes they would need to provide a sufficient degree of flexibility and generality such that they can be applied to a broad range of services using different interconnection arrangements. In this case, and if their intention is to generate greater certainty to industry with regard to their specific application, the question arises as to the merit of having such general pricing principles at all.

4. Arbitration

The Productivity Commission concludes that:

> Current processes for determining conditions for access are cumbersome, resource-intensive and tardy (9.1);
>
> and
>
> Gaming permeates the operation of the regime. (9.1)

The ACCC agrees with this assessment. It considers the failure of commercial negotiation and the delays, uncertainty and cost associated with the resultant arbitral arrangements as the major disappointment of the current regulatory arrangements. The ACCC supports the Productivity Commission's recommendations for procedural and other changes to the arbitration arrangements, a number of which reflect suggestions made by the ACCC and others in earlier submissions.

In the ACCC's view, commercial negotiations fail for a variety of reasons, but particularly because of perceptions concerning lack of information about the costs of the other party and the incentive for the other party to extract unreasonable terms and conditions. The ACCC believes the "first best" solution is to reduce these barriers to successful commercial negotiation.

4.1 Encouraging commercial negotiation

The Productivity Commission suggests that the ACCC could set "benchmark" or "reference prices" for each class of services (9.35). These would then form the basis for more informed commercial negotiation.

The Productivity Commission notes that such reference pricing arrangements are not substantially different from the ACCC's proposal to require undertakings and effectively use them to set standard tariffs (9.35). It is true that the two options are likely to have similar effects. However, they imply different processes.

For example, the "undertaking" option offers access providers the opportunity to propose and defend a menu of charges, which would then be assessed by the ACCC. The proposals could include a range of pricing options and structures, as suggested elsewhere by the Productivity Commission (pricing principle #3, 10.24). The "reference price" option would place this onus on the ACCC.

Similarly, the "undertaking" option would be adopted only when access providers and/or the ACCC felt it necessary (eg, when disputes had been notified). Services or service elements where disputation was less likely could be excluded. However, the "reference price" option would appear to be required pre-emptively, before evidence of significant failure of commercial negotiation was available. In fact, were the Productivity Commission's proposed declaration criteria to be adopted, "benchmark" prices may need to be established in order to assess the "reasonableness" of the terms and conditions on which substitute services were supplied (second proposed declaration criterion).

The Productivity Commission's proposal concerning the use and dissemination of material from other access arbitrations is likely to reduce delays in resolving arbitrations. However, it does not address the problem of achieving greater transparency of information more generally in order to improve the success of commercial negotiations. Consequently, the ACCC

reiterates its earlier recommendation that it be provided with the power to publish arbitration determinations, subject to the requirement that it have regard to the potential commercial sensitivity of the material.

4.2 Multi-party arbitrations

The ACCC has previously recommended that it be given the power to "join" arbitrations relating to similar services and to share information and methodology relevant to those disputes. The Productivity Commission has accepted that a sequence of private, bilateral processes involving largely undifferentiated ("vanilla") services wastes time and resources. The Productivity Commission recommended that a group of access seekers should have the capacity to lodge a joint notification of dispute and proceed to class arbitration, rather than a series of bilateral negotiations (draft recommendation 9.7).

The recommendations differ mainly in respect of the onus to "join" disputes. Under the Productivity Commission's recommendation, this onus is on the access seekers themselves. This implies a degree of commonality of interest and knowledge on the part of access seekers which exceeds that observed by the ACCC. The ACCC believes that, as the recipient of dispute notifications, it is in a better position than access seekers to identify the scope for, and potential benefits of, joining particular disputes.

4.3 Termination of arbitrations

The ACCC welcomes the Productivity Commission's endorsement that access seekers should not be able to terminate arbitrations on a unilateral basis, and supports the Productivity Commission's recommendation that notifications of dispute should be able to be withdrawn only with the joint consent of the access provider and seeker (draft recommendation 9.6). In the ACCC's view, this would achieve a substantially similar outcome as the ACCC's own suggestion made in its submission on this issue.

In its supplementary submission to the Productivity Commission dated 7 March 2001, the ACCC noted that an access seeker's ability to withdraw a dispute notification lodged by an access provider reflects an underlying policy issue; namely, the extent to which Part XIC imposes an obligation upon a carrier to *acquire* a declared service.

Notwithstanding the ACCC's ability to make a determination ordering an access seeker to acquire a declared service, there remains a degree of uncertainty about the extent to which Part XIC can, and should, compel an access seeker to acquire a declared service.

The issue of concern to the ACCC is the possibility that a carrier with monopsony power could refuse to acquire a service from other carriers, potentially hindering the emergence of competing networks and undermining the objective of any-to-any connectivity.

The ACCC submits that Part XIC may need to be amended to make clear that a carrier with monopsony power can be compelled to acquire a declared service in certain limited circumstances. The ACCC does not make this submission lightly and recognises that it may raise significant broader legal and policy issues. The ACCC acknowledges that the circumstances in which a carrier should be compelled to acquire a service are more limited than the circumstances in which a carrier should be compelled to supply. This being the case, it may be appropriate that there be some legislative "bias" in favour of access seekers.

However, it is essential that new and emerging networks are not hindered or jeopardised by a carrier with monopsony power refusing to acquire access to their networks on fair and

reasonable commercial terms. Such an impasse would seem capable of effective resolution only by amending Part XIC to make it clear that a carrier can be compelled to acquire access to another carrier's network on reasonable and non-discriminatory terms and conditions which can, if necessary, be determined by the ACCC by arbitration.

4.4 Appeals

The ACCC does not believe that the benefits of full merits review of final determinations justify the costs and delay involved. It is unusual in other jurisdictions for arbitration determinations to be subject to a complete re-hearing. Merits review by the Australian Competition Tribunal in addition to appeals to the Federal Court on questions of law increases the incentives for incumbents to achieve strategic delay through appeals and further delays the resolution of disputes. The current PSTN origination and termination reviews before the Australian Competition Tribunal appear unlikely to be finalised before the second half of 2002, up to five years after the original service declaration.

The ACCC has conducted work in relation to the merits review of pricing decisions under access regimes in Australian and international jurisdictions. An outline of whether certain regulatory decisions are subject to merits reviews in Australia is set out in Attachment B. Also, an overview of the review processes in certain overseas jurisdictions is set out in Attachment C. The attached materials indicate that it appears to be unusual for there to be provision for a full re-hearing on the merits by an appeals body of an access pricing decision.

Under the Administrative Review Council's guidelines on what Commonwealth decisions should be subject to merits review, there is acknowledgment that certain factors may justify excluding merits review. In particular, the guidelines provide an exception for decisions involving extensive inquiry processes. This exception covers decisions that are the product of processes that would be time consuming and costly to repeat on review. The guidelines state that if review of such decisions were undertaken, the nature of the review process would be changed from the normal adjudicative decision-making process (of, say, the AAT), to a greatly expanded and time-consuming one. The telecommunications access arbitration process appears to fall within the scope of this extension.

4.5 Other possible procedural changes

The ACCC is currently developing arbitration guidelines, which could be extended to include changes to and/or clarifications which might assist in speeding arbitration processes. These could include guidelines concerning preliminary hearings, alternative dispute resolution, the release of confidential information between the parties to an arbitration and the use of directions to negotiate.

Attachment A

Line provisioning, trench sharing and depreciation

Current access pricing

The Productivity Commission has reviewed the manner in which the ACCC has assessed Telstra's proposed charges for the Domestic PSTN Originating and Terminating Access services. The Commission indicated in its Draft Report a concern that the ACCC may sometimes set access prices at a level that is not sufficient to ensure efficient long-run investment in essential telecommunications facilities.

In particular, the Productivity Commission raised three questions relevant to these concerns. The questions related to:

- the ACCC's approach to network provisioning;
- the ACCC's approach to the allocation of costs where Telstra shares its trenches with other operators; and
- the appropriate method for calculating depreciation.

Each of these issues is explored below.

Network provisioning

Telstra's proposed prices were assessed by reference to the ACCC's estimate of the costs that an efficient operator would incur in supplying PSTN services over the same time periods. The most recent assessment covers the years 1999-00 and 2000-01.

The costs that an efficient operator would incur include a return on capital and a return of capital (ie,, depreciation). To estimate both of these returns, it is necessary to establish the relevant asset base for the years in question.

In the ACCC's view, the asset base should include only those assets that an efficient operator would need in order to meet forecast demand over the relevant period. This included sparing requirements to cater for fault rectification within legislated timeframes, and peak loads. The ACCC did not, however, include assets that the operator might deploy in order to meet anticipated future demand.

The area where this approach has attracted the greatest attention is that of local loop provisioning. Telstra claims that for every telephone service, it needs to deploy two copper pairs. Given that each telephone service only requires a single copper pair, this means that there would be a spare copper pair for every telephone service. The number of copper pairs per telephone service is commonly known as the "provisioning rule".

In the ACCC's view, it was not necessary to have two copper pairs for every telephone service in order to meet demand during 1999-00 and 2001-01. Rather, the provisioning rule was concerned with meeting demand beyond that period, as anticipated by Telstra. The

ACCC estimated the annual cost of providing for future demand to be approximately $300 million in 1999-00.[16]

The Productivity Commission states that:

> The ACCC's methodology appears to entail the risk that Telstra will be under-rewarded for early provisioning… Whether this has a significant bearing on Telstra's capacity to be competitive depends on the magnitude of the impact of the provisioning assumptions. NERA (1999, pp. 43ff) has calculated that the impact of applying the ACCC's assumptions rather than Telstra's is a 5 per cent difference in total investment costs in the PSTN — which is substantial. (p. D.8)

While it may be appropriate for Telstra to undertake investment in anticipation of demand materialising, particularly where investment is lumpy or there is a significant lead time, the ACCC did not consider that such investment should be included in the capital base until demand materialises. As noted by the Productivity Commission, this does leave Telstra with the risk that the anticipated demand may not materialise and the assets will be stranded. This would, however, seem to be appropriate.

First, such an approach is likely to minimise scope for inefficient investment. Relevantly, it is Telstra which has the best information about demand patterns, and which is making the investment decisions. Accordingly, to ensure that incentives exist for Telstra to make prudent decisions, it would seem to be important that Telstra bear the consequences of making incorrect decisions.

Incorporating those assets (deployed to meet anticipated future demand) into the asset base ahead of demand materialising would involve shifting this risk from Telstra to other persons (namely, existing customers). This is because Telstra would be earning a return in advance of those assets being used to provide services. Leaving those assets out of the asset base until the demand materialises ensures that the risk remains with Telstra.

This would seem to be particularly important where future demand is uncertain. In such a situation, it is difficult for a regulator to determine the level of prudent investment, especially where assets may be deployed many years ahead of the anticipated demand.

For example, if demand is increasing at a rate of three per cent per annum and, to meet this demand, Telstra deploys two copper pairs for every telephone service in operation during year 1 (ie, 20 million pairs), then it would take almost 16 years for this demand to soak up the excess capacity - see Table A.1. In this regard, it should be noted that, between June 1996 and December 2000, it appears that demand growth has not exceeded 2.9 per cent per annum, and in many instances has been lower than this level.[17]

---

[16] Australian Competition and Consumer Commission, *A report on the assessment of Telstra's undertaking for the Domestic PSTN Originating and Terminating Access services*, July 2000, p. 62.

[17] Based on Telstra's annual reports, and the accounts for the first half of 2000-01, the total number of telephone services in operation was 9.17 million (30 June 1996), 9.35 million (30 June 1997), 9.54 million (30 June 1998), 9.76 million (30 June 1999), 10.04 million (30 June 2000), 10.07 million (31 December 2000). There is some discrepancy in numbers between reports.

Table A.1 - Provisioning and anticipated future demand

Year	Forecast number of telephone services	Number of pairs required per telephone service	Number of copper pairs
1	10 000 000	1.3	13 000 000
2	10 300 000	1.3	13 390 000
3	10 609 000	1.3	13 791 700
4	10 927 270	1.3	14 205 451
5	11 255 088	1.3	14 631 615
10	13 047 732	1.3	16 962 051
15	15 125 897	1.3	19 663 666
16	15 579 674	1.3	20 253 576

Second, in a competitive market, it is unlikely that a service provider would be able to include in its charges a contribution towards assets that are not yet being used to provide services. This is because a competitor who had not deployed those assets would be able to offer the same services at a lower price.

Third, enabling Telstra to earn a return on assets not yet being used to provide services may involve existing customers paying for assets that are being deployed for the benefit of future customers. While, to some extent, the additional lines being deployed may be used to supply services to current customers at a future point in time, it is also likely that those lines will be used to supply services to persons who are not currently Telstra customers.

In the context of the electricity industry, the ACCC has proposed a similar approach in dealing with assets deployed for anticipated future demand:

> … in relation to future investment, the likelihood that an asset may be treated as stranded or partially stranded in the future will provide an incentive on the regulated entity to only undertake efficient investment. Such an incentive is necessary because the regulated entity is likely to have more information than the Commission about the efficiency of a proposed investment. Therefore, by making the regulated entity accept the consequences of its investment decision, the likelihood that inefficient investment will take place should be lessened.[18]

There, the ACCC noted that it may be appropriate for capital expenditure to be undertaken in advance of demand materialising. In such a situation, where the ACCC is unsure about the prudency of the investment, it will only include those assets corresponding to clearly identifiable demand. The ACCC does, however, note that:

> To ensure fairness, any capital expenditure not incorporated into the RAB [Regulatory Asset Base] may be rolled forward with the regulatory rate of return in the same way as expenditure on infrastructure in progress. This accumulated amount may be added to the RAB when the assets are deemed by the Commission to be fully utilised. If the assets are never fully utilised, or the

[18] ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999, p. 55.

> accumulated cost exceeds the cost associated with constructing the necessary infrastructure in multiple stages, that would be strong prima facie evidence that the initial expenditure was not prudent.[19]

In essence, when an asset is rolled into the asset base, this approach would provide for the opportunity cost of holding the asset (in advance of its take-up) to be added to the cost of the asset. This opportunity cost would be calculated on the basis of the regulatory rate of return.

Whether the ACCC, in its telecommunications cost modelling, should include a component to represent the opportunity cost of holding those assets which are added to the asset base in a particular year is a matter that may deserve further consideration. In doing so, however, it would be necessary to examine whether such an approach "fits" the method of asset valuation employed in the model currently being used by the ACCC.

- The model currently used by the ACCC treats assets as if they were replaced with new assets each year. In other words, rather than provide for a gradually expanding and ageing asset base, the model essentially takes a "snapshot" of the asset base at a point in time, with all assets in that base being valued on the basis of replacement value.
- This is distinct from other types of cost models whereby assets are progressively introduced to (and withdrawn from) the asset base over time, and valued on the basis of depreciated replacement cost.

Moreover, it would be necessary to consider whether the opportunity cost of holding assets in advance of their take-up in a particular year is likely to be material. For instance, if demand growth is no more than three per cent per annum, only a small proportion of the capital that Telstra has deployed for future demand would be added to the asset base each year. Accordingly, the opportunity cost associated with holding those assets added (to the asset base) each year could be relatively small, at least in the early years.

These issues were not explored in detail by submissions to the ACCC on the proposed access prices set out by Telstra in its most recent undertaking, but may merit further consideration.

Trench sharing with other operators

In modelling the costs of the PSTN, the ACCC assumed that Telstra owned all assets used to supply PSTN services. This included trenches, which are a major cost component of the PSTN.

Trenches are used to supply a number of services - PSTN line rental and a variety of PSTN call products (local calls, STD, IDD, etc), ISDN services and leased line services. Also, opportunities exist for Telstra to earn revenue from its trenches by leasing capacity to other operators; for example, other utility companies, pay TV operators, and other telecommunications operators.

Where assets are used to supply a number of services, the approach used by the ACCC has been to allocate costs across all of those services. This ensures that each service bears its share of those costs, representing the long-run cost (ie, TSLRIC) of maintaining capacity to supply the service. Hence, the trench costs allocated to pay TV and other telecommunications operators are intended to represent the TSLRIC of the trench space supplied to those persons.

- The Productivity Commission's analysis suggests that, where a trench is leased to pay TV or other telecommunications operator, lease charges should reflect short-run marginal costs rather than TSLRIC.

---

[19] ibid, p. 57.

- While setting price equal to short-run marginal costs may appear to be "efficient" in the short run, this makes no allowance for the long-term cost of tying up assets to maintain that capacity.

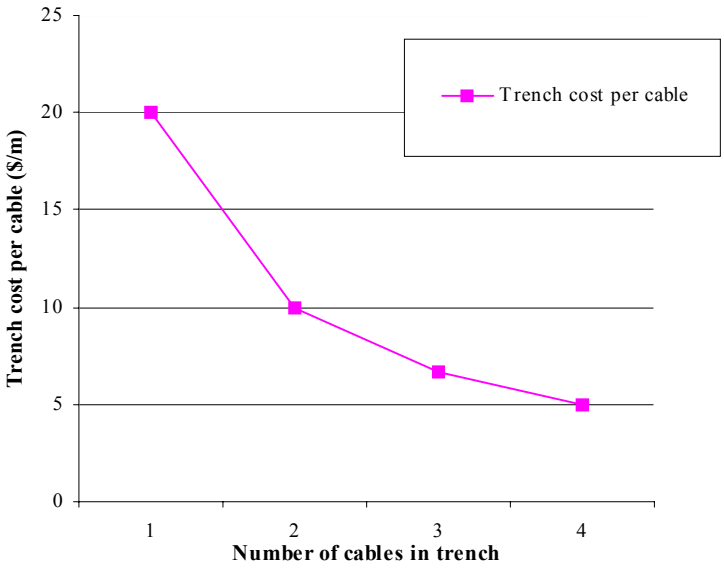
If lease charges could be expected to approximate the TSLRIC[20] of the trench space used by pay TV and other telecommunications operators, *and* the actual level of sharing is that of an efficient operator in a competitive market, then lease revenue should approximate the trench costs allocated to those persons. In these circumstances, an alternative method for modelling trench costs could involve fully allocating trench costs to Telstra, less revenue from leasing trench space, as suggested by the Productivity Commission.

There are, however, reasons why lease revenue may not approximate the long-run cost of trench space used by pay TV and other telecommunications operators.

First, leasing arrangements may not be "arms-length" arrangements (eg, when they are made with related parties such as Foxtel). Also, for arrangements with unrelated parties, a low lease charge may have been "traded-off" for higher charges on another service supplied by Telstra (eg, exchange co-location).

Second, the level of sharing could be less than would be achievable by an efficient operator in a competitive market. Trench costs exhibit a downward sloping average cost curve. Consequently, if the level of sharing is sub-optimal, this will result in a higher unit cost, as demonstrated in Figure A.1. As a result, the total costs allocated to trench sharing could be expected to exceed the revenue from trench sharing.

Figure A.1. Trench sharing



[20] In this context, lease charges refer to the charge per metre, as distinct from the total revenue from leasing space to pay TV and other telecommunications operators. Similarly, TSLRIC refers to the cost per metre, as distinct from the total cost allocated to pay TV and other telecommunications operators sharing Telstra's trench.

In the example shown in Figure A.1, and for the purposes of simplicity, annual trench costs have been held constant at $20 per metre, irrespective of the number of cables in the trench. If the trench is capable of supporting four cables, then the annual TSLRIC for each cable would be $5 per metre.

- If Telstra restricts access to the trench and, as a result, there are only three cables in the trench - two Telstra cables and a Foxtel cable - then annual costs of $13.33 per metre are allocated to Telstra and $6.67 to Foxtel. If the annual lease charge payable by Foxtel is $5 per metre, this results in a shortfall of $1.67 per metre for Telstra.
- If, however, Telstra leases space to CWO at the same rate, then the costs allocated to Telstra will fall from $13.33 per metre to $10 per metre. The costs allocated to third parties will, correspondingly, increase to $10 per metre. Also, lease revenue will increase from $5 per metre to $10 per metre, equalling the trench cost allocated to Foxtel and CWO.
- Hence, the shortfall between lease revenue and allocated costs (when only three cables are sharing the trench) creates an incentive to increase the level of sharing from three to four cables.

The shortfall between lease revenue and costs allocated to pay TV and other telecommunications operators should not occur if the level of trench sharing is that of an efficient operator in a competitive market. However, sub-optimal levels of sharing may occur because trench sharing:

- provides a means by which other telecommunications operators can deploy networks and compete with Telstra,[21]
- reduces the quantum of costs allocated to the PSTN, thereby reducing charges for services acquired by Telstra's competitors such as Domestic PSTN Originating and Terminating Access.

Allocating trench costs to third parties using a trench, rather than deducting lease revenue, provides a mechanism for redressing these incentive problems.

Depreciation

The method of depreciation used by the ACCC in modelling PSTN costs has drawn considerable comment. In this regard, to advance its thinking of the approaches to depreciation, the Productivity Commission has requested submissions to focus on the assumptions underpinning the selection of one approach over another and to suggest fresh methods of testing particular approaches.

The ACCC suggests that selection of the appropriate depreciation method should be considered against three objectives:

- matching the depreciation method to the change in value of the assets (ie, economic depreciation);
- ensuring that the impact of the depreciation method on prices is similar to that which would be expected in a competitive environment (ie, competition depreciation); and
- harmonising the depreciation method with the type of cost model being used.

---

[21] The *Code of Access to Telecommunications Transmissions Towers, Sites of Towers and Underground Facilities* restricts the extent to which trench access can be used to influence downstream competition.

Economic depreciation

Over time, an asset is likely to change in value due to changes in equipment prices, increasing productivity of new assets, declining output and rising operating costs. While these factors, in general, are likely to result in a decline in asset values, the rate of decline is likely to vary from asset to asset.

- The change in equipment prices may not always fall in real terms. For instance, assets such as trenches are likely to become more expensive to replace over time.
- In many cases, assets (such as trenches and cable) are likely to maintain their integrity for a large part of their lives. It is only towards the end of their lives that any significant decline in productivity and increase in operating costs may be expected as the asset deteriorates. For example, the reliability of copper cable is likely to be influenced by the number of times the cable is accessed; hence, it would be in the latter years of its life that reliability tends to fall dramatically due to the cumulative effect of opening the cable.
- In other cases, technological development will mean that assets decline more rapidly due to the development of more productive or sophisticated assets. This could be expected with the software components of Telstra's PSTN.

Consequently, in some cases, the economic depreciation profile will suggest relatively low levels of depreciation in the early years of an asset's life, while in other cases, the level of depreciation will be relatively high in the early years.

The annuity approach used by the ACCC in modelling PSTN costs provides for relatively constant capital charges over time (ie,, the sum of the cost of capital, depreciation and tax charges) in order to ensure pricing is not subject to volatility (see the next section on competition depreciation). It results in lower depreciation charges in the early years of an asset's life and higher charges in the latter years - sometimes referred to as "backloaded" depreciation. This may be particularly appropriate for assets that do not deteriorate rapidly until the later stages of their lives.

That said, in its modelling, where more rapid changes may be expected in the early years due to factors other than asset deterioration, the ACCC corrects for this tendency to "backload" by tilting the annuity. The tilt reflects changes in the replacement cost of the asset, thereby taking account of changes that are due to real price falls, and the development of more productive assets.

Competition depreciation

The depreciation methodology is likely to have an important impact on the manner in which regulated prices change over time. For instance, linear depreciation is likely to lead to higher prices in the early years of an asset's life, with prices declining as the asset ages and then increasing as the asset is replaced, producing "saw tooth" pricing.

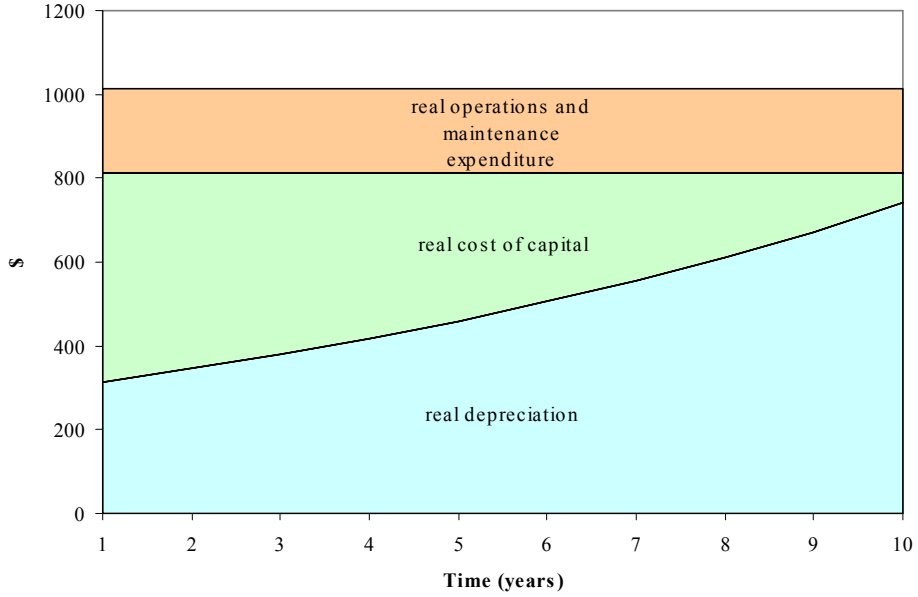
Not only is volatility of tariffs undesirable (leading to higher transactions costs and greater uncertainty), it is unlikely to be representative of pricing within competitive markets. In competitive markets, prices do not depend upon the age of the assets used to supply the service, with prices jumping as assets are replaced. Rather they are more likely to be affected by changes to the replacement cost of the asset.

In the ACCC's view, it is desirable for the depreciation methodology to affect prices in a manner similar to that expected in a competitive market. The annuity approach to depreciation provides a mechanism for achieving this objective, which the ACCC has advocated in the context of the electricity industry:

> … anomalies associated with the vintage of the asset are removed if depreciation is adjusted so that the revenue provided by the combination of depreciation allowances and return on capital takes the form of an annuity over the lifetime of the assets. Such an approach is analogous to a housing loan where instalments are constant and the interest component corresponds to the return on capital and the principal reductions correspond to depreciation.[22]

With the annuity approach, the return to the asset owner each year is independent of the age of the asset. Hence, if the replacement value of the asset is constant, the sum of the cost of capital, depreciation and operations and maintenance expenses is the same in year 1 as in year 5. This ensures that prices remain constant. This can be seen from Figure A.2., for an asset with a 10 year life span and a WACC of 10 per cent. (For simplicity, taxation charges have been omitted from this example.)

Figure A.2. Competition depreciation approach



If the replacement value of the asset changes, then the annuity can be adjusted accordingly, by tilting it according to the nature of the price change. For instance, if an asset were declining in value, real prices of services supplied by means of the asset would fall over time. Once again, this would be irrespective of the age of the asset - the sum of the depreciation, cost of capital and operations and maintenance expenses in any year is the same, irrespective of the asset's age.

---

[22] ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999, p. 60.

The model

In estimating PSTN costs, the ACCC uses a model whereby assets are re-valued each year on the basis of replacement cost; that is, as if the network were installed afresh each year. With this approach, depreciation charges are always calculated on the basis of "year 1" depreciation. Consequently, if the ACCC used an approach to depreciation which provided for higher charges in early years and lower charges in later years, there would be over-recovery of depreciation - the "year 1 problem".

The annuity approach avoids the "year 1" problem. As noted above, the annuity approach ensures that, for any year, total costs are the same irrespective of whether they are based on depreciation for year 1 or a subsequent year.

Attachment B

Merits review of regulatory decisions in Australia

LEGISLATION	MERITS REVIEW	COMMENT
TPA **Part XIC (Telecommunications Access Provisions)**		
Div 2 – ACCC may declare services.	No merits review of ACCC decision to declare/ not to declare a service.	
Div 3 – standard access obligations.	Persons whose interests are affected may apply for review of ACCC decision on individual exemptions from the standard access obligations: ss.152AT, 152AV.	
Div 4 – TAF and ACCC access codes	No merits review of ACCC decision to approve/ not approve or make a telecommunications access code.	
Div 5 – ACCC may accept/ reject access undertakings in relation to declared services.	A person whose interests are affected may apply for review of ACCC decision to accept/ reject an access undertaking, or variation to an access undertaking: ss.152BU(2), 152CE, 152BY.	
Div 8 – ACCC arbitration of access disputes.	A party to an ACCC final determination may apply for merits review by the Australian Competition Tribunal: ss.152CP, 152DO. No merits review of ACCC interim determination.	Review by the Australian Competition Tribunal is a re-arbitration of the access dispute: s 152DO(3).

TPA Part IIIA (General Access Regime)		
Division 2 – declaration of services.	Decision by designated Minister to declare/ not to declare a service: s 44H Provider of the service or the person who applied for the declaration recommendation may apply for review: s 44K	
	Decision by Commonwealth Minister on whether a State or Territory access regime is an effective access regime: s 44N. State or Territory Minister who applied for a recommendation that the access regime is an effective access regime may apply for review: s 44O.	
Div 3 – ACCC arbitrates access disputes in relation to declared services.	A party to an ACCC arbitration determination may apply for review to by the Australian Competition Tribunal: ss.44V, 44ZP.	
Div 4 – ACCC may register contracts for access to declared services.	A party to a contract that the ACCC decided not to register may apply for review: ss.44ZW, 44ZX.	
Div 6 – ACCC may accept or reject access undertakings for non-declared services, and may accept/ reject access codes prepared by industry bodies.	No merits review of ACCC decision to accept/ reject an access undertaking or ACCC decision to accept/ reject an industry code	

Telecommunications Act 1997/ Telecommunications (Arbitration) Regulations 1997		
Decisions of the Australian Communications Authority relating to a range of matters including: • carrier licensing • nominated carrier declarations • registering codes • connection permits • cable licensing • facility installation permits	These decisions are reviewable by the Administrative Appeals Tribunal following a process of internal reconsideration by the ACA (s 562; Part 1 of Schedule 4 Telecommunications Act). Persons whose interests are affected by the decision may apply for review (s 27(1) AAT Act)	These are not access pricing decisions.
ACCC arbitrates disputes pursuant to: • s 335 – requirement to supply carriage services for defence purposes or for the management of natural disasters • s 351 – requirement to provide pre-selection • s 462 – compliance with the numbering plan • cl 18 of Schedule 1 – access to supplementary facilities • cl 27 & cl 29 of Schedule 1 – access to network information • cl 36 of Schedule 1 – access to telecommunications transmission towers and to underground facilities • cl 5 of Schedule 2 –operator services • cl 8 of Schedule 2 – directory assistance services	No merits review of ACCC arbitration determinations made under the Telecommunications Act.	

Telecommunications Act 1991 (Previous telecommunications regulatory regime)		
Under Part 8 of the Telecommunications Act 1991 a carrier had basic access rights in relation to: • connecting its facilities to the network of any carrier; and • matters such as customer information, billing and directory services and prices at which carriers used each others' networks. Division 5 of Part 8 provided for Austel to arbitrate on the terms and conditions of access agreements where the carriers could not agree. The Act set out procedures governing the conduct of such arbitrations, including provision for Austel to conduct a public inquiry on a matter involved in an arbitration (where the matter was likely to have a significant and direct effect on consumers of telecommunications services).	The determination made by Austel under these provisions was not subject to merits review under the Telecommunications Act 1991.	It appears that, at that stage of emerging competition in the telecommunications sector, it was considered that merits review could have delayed the process of promoting competition and could have operated to the incumbent's advantage.

Prices Surveillance Act 1983		
ACCC functions to consider pricing notifications/ hold inquiries into matters relating to prices/ monitor prices, costs and profits as directed by Minister.	No merits review (to either Australian Competition Tribunal or Administrative Appeals Tribunal) under the PSA.	
National Gas Code		
Under the National Third Party Access Code for Natural Gas Pipeline Systems, service providers are required to establish access arrangements to the satisfaction of the relevant regulator (ACCC or relevant state/ territory regulator). An access arrangement is a statement of the policies and the basic terms and conditions that apply to third party access. An access arrangement must include one or more reference tariffs, which operates as a benchmark tariff. The Gas Pipelines Access Law provides for access disputes to be referred to arbitration by the relevant regulator (Part 4 GPA Law; Part 6 Code). A dispute may only be notified if an access arrangement has been accepted by the relevant regulator. The main price setting function, therefore, occurs in the consideration of access arrangements, and an arbitration determination would apply	There is no merits review of arbitration determinations. The Code and Law provide for merits review in respect of certain other decisions of the ACCC or relevant state/ territory regulator. Section 38 of the GPA Law provides for merits review in relation to: • decisions on whether a pipeline is a Code pipeline; • decisions to add to or waive the requirement that a service provider be a body corporate, not be a producer or seller of natural gas, or relating to the separation of certain activities; • decision not to approve an arrangement between a service provider and an associate of a service provider; • other decisions to which that section applies. Decisions in relation to arbitrations and approval of access arrangements (except as noted above) are not decisions to which s 38 applies. The appeals body may make an order affirming, setting aside or varying the decision under review. The GPA Law and the Code provide for review, only certain grounds, of a decision by the relevant regulator to impose an access arrangement.	Reference tariffs are set under the process of considering and approving access arrangements. Thus, the main price setting function occurs outside the arbitration process. There is limited merits review, only on specified grounds, of a decision by the relevant regulator to impose an access arrangement.

a reference tariff.	ie, under s.39, if the decision of the relevant regulator is to draft and approve an access arrangement in place of an access arrangement submitted by a service provider an application for review by the relevant appeals body can be made by: – • the service provider; or • a person who made a submission to the regulator and whose interests are adversely affected by the decision. An application for review under s 39 may only be made on the following grounds: • an error in the regulator's finding of facts; • that the exercise of the regulator's discretion was incorrect or unreasonable having regard to all the circumstances; or • that the occasion for exercising the discretion did not arise. An application for review may not raise any matter that was not raised in submissions to the regulator. The appeals body is limited to considering information that was before the regulator.	
National Electricity Code		
ACCC regulates transmission revenues. While the Code includes a dispute resolution process, the ACCC does not act as arbitrator. An arbitration determination may be made a dispute resolution panel.	There is no merits review of ACCC decisions. There is no provision for merits review in the Code of a determination by the Dispute Resolution Panel.	
Independent Pricing and Regulatory Tribunal Act 1992 (NSW)		
Part 4A of the IPART Act provides for	An access arbitration determination made by IPART under	Potentially, legislation in relation to an

resolution of certain access disputes by IPART (or other appointed arbitrator) including in relation to the NSW Rail Access Regime. In the case of a dispute involving a third party wanting, but not having, access to a service, the arbitrator must give public notice of the dispute and invite submissions from the public regarding the dispute: s 24B(2). eg, a dispute between the Rail Access Corporation and the National Rail Corporation referred to IPART for arbitration was resolved in 1997 when a consent award was made by IPART. IPART also has pricing review and price setting functions in relation to certain government monopoly services, including water and transport services.	these provisions is not subject to merits review under the IPART Act. The Commercial Arbitration Act 1984 (NSW) applies to access arbitrations under the IPART Act (subject to the IPART Act). Commercial Arbitration Act provides for judicial review of awards on questions of law, but not merits review. There is no provision for merits review of other pricing determinations made by IPART under the IPART Act.	access regime providing for application of the arbitration provisions of the IPART Act could possibly provide for merits review.
Queensland Competition Authority Act 1997 (Qld)		
Part 5 of the QCA Act establishes a State based third party access regime. The QCA arbitrates access disputes: Part 5, Division 5; Part 7. Amongst the other functions of the QCA, it also considers access undertakings (Part 5, Division 7). eg, the Authority assessed a draft undertaking submitted by	An arbitration determination made by the QCA under these provisions is not subject to merits review under the QCA Act. There is also no provision for merits review of decisions in relation to access undertakings.	

Queensland Rail under these provisions. The QCA has a prices oversight function in respect of government monopoly business activities, but does not set the prices.		

South Australian Independent Industry Regulator Act 1999 (SA)		
The SAIIR Act confers various functions on the SAIIR, including regulating prices under relevant industry regulation Acts (ss.5, 20).	A pricing determination made by the SAIIR is subject to review by the SAIRR and then appeal to the Administrative and Disciplinary Division of the District Court: ss.26, 27. For merits review, the Court must sit with industry experts. On an appeal, the Court is only to consider the information on which the SAIIR based its determination and any information put before the SAIIR on review.	The SAIIR Act does not establish a general third party access regime or provide for SAIIR to arbitrate disputes. However, the SAIIR relevant industry regulation Acts could provide for SAIIR to resolve disputes. eg, the Maritime Services (Access) Act 2000 provides for disputes to be referred for conciliation by SAIIR; if not resolved the dispute can then be referred to an arbitrator; this Act provides for appeals on questions of law, but not merits review.
Office of the Regulator-General Act 1994 (Vic)		
Functions of the ORG are conferred by the relevant legislation under which a regulated industry operates. eg, The Rail Corporations Act 1996 (Vic) sets up an access regime (effective 1 July 2001) for rail services based on a negotiate-arbitrate model (Part 2A of that Act). In the event of a dispute, the ORG may make a determination relating to access, including the terms and conditions of access, to a declared rail transport service (which is a determination under	ORG Act provides for limited appeal rights in respect of a determination by the ORG under the ORG Act or any other act on the ground that: • there has been bias; or • the determination is based wholly or partly on an error of fact in a material respect. The appeal is heard by an appeal panel. The appeal panel may, *inter alia*, affirm the determination of the office or vary the determination to correct an error. There is no further provision for merits review under the Rail Corporations Act.	These appeal rights appear to be more akin to judicial review grounds rather than full merits review.

the ORG Act).		
Independent Competition and Regulatory Commission Act 1997 (ACT)		
If a dispute exists with respect to a public infrastructure access regime that provides for the application of the ICRC Act, any party to the dispute may refer the dispute to arbitration by the ICRC: s 24A. ICRC also has the power to make pricing directions for regulated services under this Act.	There is no provision for merits review of an arbitration determination by the ICRC under the ICRC Act. There is provision for merits review by an "Industry Panel" of a pricing direction made by the ICRC. The review body must not consider any matter that was not raised in original submissions to ICRC.	

Attachment C

Overview of regulatory review process in selected member States and North American jurisdictions

Issue	EU	UK	The Netherlands	Germany	France	US Federal	US - State (New York)	Canada
Provision for Review on the Merits	The amended ONP Framework Directive requires Member States to ensure that suitable mechanisms exist at national level under which a party affected by a decision of the NRA has a right to appeal to a body independent of the parties involved.	Sections 18 & 46B of the Telecommunications Act set out the only circumstances in which the validity of a final or provisional order may be the subject of legal proceedings. The decisions that may be challenged include refusal to grant a licence, inclusion of particular terms in a licence, modification of a licence, exercise of the power to give a	The OPTA Act vests in OPTA the power to supervise, investigate and enforce the Telecommunications Act. The General Administrative Law Act regulates the appeal procedures against decisions of any administrative authority (including OPTA) both on the facts and on the law.	Section 80(1) of the Telecommunications Act (the "TKG") provides that the Procedural Rules for Administrative Proceedings (which require a merit-based review before judicial proceedings can be commenced) do not apply to the telecommunications sector. Accordingly, there is no merit-based review of telecommunications regulatory decisions. Decisions by the RegTP in disputes relating to Special Network Access negotiations may be reviewed on the merits in the civil courts, if the parties	Art L.36-8 of the Code of Post and Telecommunications (the "Code") vests the ART with authority over: • Interconnection disputes • Disputes relating to the provision of telecoms services over cable networks • Shared use of existing installations. ART decisions on these matters may be appealed to the Paris Appeal Court. A judgment of the Paris Appeal Court may be	Parties may petition the FCC to reconsider an order. Such a petition is only a condition precedent to judicial review when the party seeking review was not a party to the original proceedings or relies on fact or law that was not before the FCC. The Federal court of appeals has exclusive jurisdiction to enjoin, set aside, suspend or determine the validity of all final orders of the FCC. Orders may	Parties may apply for rehearing before a PUC within 30 days of service of an order. The State courts have authority to review PUC regulations and determination, including declaratory rulings. They may only be set aside in an "Article 78 proceeding", in which the issue raised must have been raised before the PUC (or	The CRTC may reconsider its decisions in response to an application or on its own motion. An applicant must demonstrate an error of law or fact, a fundamental change in facts/circumstances, a failure to consider a basic principle raised or a new principle raised by the decision. The CRTC has broad powers to make any order (in review) that is could make at first instance. It

		direction/consent/make any determination. Persons aggrieved by a decision may appeal on the ground that a material error as to the facts has been made. Leave of the High Court must be obtained to appeal.		have not declared the RegTP's decision to be final prior to the RegTP's involvement in the dispute.	appealed to the Court of Cassation on points of law. Art L.36-11 of the Code gives the ART the power to adopt decisions imposing sanctions on telecoms operators and service providers for breach of regulatory obligations.	be set aside if they are arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law. The Telecommunications Act (the "Act") gives State Public Utility Commissions the power to arbitrate in relation to interconnection (including pricing, resale and access). Such arbitration decisions may be reviewed in the Federal district court (where the court determines whether the interconnection agreement meets the requirements of s251 of the Act.	justification is offered for the failure to raise the issue) and if the PUC's exercise of judgment is shown to violate lawful procedure, be affected by error of law or to be arbitrary and capricious or amount to an abuse of discretion.	may review its decisions at any time. Appeals to the Federal Court of Appeal, with leave of the court, is permitted on any question of law or jurisdiction arising out of a CRTC decision. The CRTC's determinations on matters of fact may not be challenged in an appeal. In addition, decisions may not be challenged solely on the ground that there was no evidence to support a finding of fact. The Governor in Council has a discretion to vary, rescind or refer all/part back an order of the CRTC or

								refer it back for reconsideration, at any time. The Governor may take any relevant matter into account and may review or vary the same decision multiple times.
Procedure for Merit Review of Telecoms Regulatory Decisions	N/A.	The procedural rules of the High Court govern the appeal process.	Before any decision can be appealed a notice of objection must be filed against the decision. The decision can then be appealed to the District Court of Rotterdam (within six weeks of the filing of the notice of objection). Decisions of the District Court can be appealed to the Court of Appeal of Trade & Industry.		Appeals against decisions under Art L.36-8 must be filed within one month (seeking modification or annulment); interim measures must be sought within ten days.	Review of an FCC order takes 12-18 months; petitions for review must be filed within 60 days of entry of the FCC order. Briefing & oral argument is complete in 6-9 months. Reviews of PUC interconnection arbitrations take between 1-3 years; further appeals can extend the period.	Article 78 proceedings (plus an appeal) will take 18-24 months.	N/A.
Reviews Requested to date	N/A.	No judgments reviewing alleged material errors as to the facts have been delivered.	During 2000: • 142 Notice of objections submitted • 129 Notice of objections determined	N/A.	There have been numerous appeals under all three Art L.36-8 heads of power.	There have been many such reviews.	There have been many such review.	

			• 4 higher appeals lodged.					
Merit-based Review of Competition Authority Decisions	Appeal under the EC Treaty or the Merger Regulation, as appropriate.	Reviews on the merits of decisions under the Competition Act are available in relation to the following questions: whether the Chapter I or II prohibitions have been infringed whether an exemption (or conditions) should be granted whether to extend or cancel (or extend the term of) an individual exemption a penalty. There is no merits review for interconnect pricing decisions, as these do not amend a licence.	The General Administrative Law Act also permits appeals against decisions of the NMa.	Decisions may be appealed on the merits by parties to proceedings. Further appeals may be made to the Federal Supreme Court on points of law, if there is an issue of fundamental importance to be decided or a decision is necessary to develop the law or ensure uniform practice, with leave from Higher Regional Court.	The Competition Council may adopt decisions regarding anti-competitive agreements and abuses of a dominant position or economic dependence or for abusively low pricing. The Competition Council's decisions may be appeal to the Paris Court of Appeal for annulment or reversal. Decisions of the Paris Court of Appeal may be appealed on points of law to the Court of Cassation.	The DoJ and FTC are the closest federal bodies to "competition authorities". Their actions in the telecoms sector involve filing complaints in the federal courts; there are no internal decisions *per se* to review.	N/A.	Appeal against any decision or order (whether final, interlocutory or interim) lies to the Federal Court of Appeal. Appeals on questions of fact lie only with leave of the Court.
Procedure for Merit Review of Competition Decisions	Varies, in accordance with the instrument under which	Appeals against Commission decisions must be made by sending a notice	Before any decision can be appealed a notice of objection must be filed against the	Rules of the Higher Regional Courts govern.	Appeals against the Competition Council must be filed within one month of	N/A.	N/A.	Rules of Federal Court of Appeal govern.

	the decision was taken.	of appeal to the Commission setting out the provision under which the appeal is brought, the extent to which the appellant contends that the decision was based on an error of fact. The tribunal must determine the appeal on the merits by reference to the grounds set out in the notice.	decision. The decision can then be appealed to the District Court of Rotterdam (within six weeks of the filing of the notice of objection). Decisions of the District Court can be appealed to the Court of Appeal of Trade & Industry.		notification. Appeals from the Paris Court of Appeal must be filed within one month of judgment.			