



FINAL REPORT

TSLRIC Pricing - A Response to the Commission's Discussion Paper

Submitted to

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TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	1
2. TSLRIC PRICING AND DYNAMIC EFFICIENCY.....	3
3. DYNAMIC EFFICIENCY AND THE EFFICIENT SERVICE PROVIDER.....	4
4. TSLRIC PRICING AND EFFICIENT DECISION-MAKING	6
4.1. DECISIONS OF ACCESS PROVIDERS TO INVEST IN FIXED PSTNS.	6
4.2. DECISIONS OF ACCESS PROVIDERS TO PROVIDE INTERCONNECTION SERVICES IN THE MOST COST EFFECTIVE MANNER.....	7
4.3. DECISIONS OF ACCESS SEEKERS (OR OTHER INVESTORS) TO DUPLICATE PARTS OR ALL OF THE ACCESS PROVIDER'S FIXED PSTN.....	7
4.4. DECISIONS TO ENTER AND EXIT DEPENDENT TELECOMMUNICATIONS MARKETS. 	8
5. PSTN COMMON AND INCREMENTAL COSTS	10
6. SCORCHED NODE AND ASSET STRANDING.....	12
7. PRICE STRUCTURE	14
8. REFERENCES	17

1. EXECUTIVE SUMMARY

1. Telecom has asked Charles River Associates to provide a response to the Commission's *Application of a TSLRIC Pricing Methodology – Discussion Paper* (hereafter 'Discussion Paper') issued on 2 July 2002.
2. We support the Commission's efficiency objectives for interconnection pricing, and we endorse the Commission's focus on achieving dynamic efficiency. Dynamic efficiency is likely to be maximised by interconnection prices which offer an access provider sufficient compensation for interconnection, provide the price signals to induce enhancement of existing networks or the introduction of new networks, and incentivise market rivalry between network operators that focuses on investment in new technologies and new facilities.
3. A dynamically efficient provider need not be statically efficient at any snapshot in time because the realised or *ex post* outcomes of investment decisions are most unlikely to be (statically) efficient even if the decisions were dynamically efficient *ex ante*. Requirements to align past investments with the realisation of allocative and productive efficiency at every point in time is a regulatory construct that ignores the realities of transaction and adjustment costs, irreversible or sunk investments in particular network configurations, and uncertainty.
4. We concur with the Commission's view that interconnection prices should be set to ensure proper recovery of the costs of prudent investments. We consider there are intrinsic incentives for a profit-maximising access provider (operating under a *de facto* revenue cap) to provide services in the most cost-effective manner, especially in a competitively neutral regime where the provider is required to charge itself the same price as the one paid by access seekers who compete with the provider in a downstream market.
5. An overly narrow focus on static efficiency and static technology could lead to misplaced concerns about "inefficient duplication" or "efficient duplication" of all or parts of the incumbent's fixed PSTN. The Commission should aim to preserve the incentive property of interconnection prices by setting prices at a level that allows a reasonable return. So long as market signals are not distorted, access seekers or other investors can and are in a better position to make their 'build-or-buy' decision.
6. We concur with the Commission's view that "to the extent possible, interconnection prices should be set to encourage efficient entry and exit decisions and to enable more efficient providers to attract and retain customers from less efficient providers". Only efficient entry into the relevant market will promote competition and improve market performance in the long run; inefficient entry will create market distortions (and a loss in productive efficiency) and damage the ability of the market process to 'discover' and reward more efficient firms in the long run (with adverse consequences for dynamic efficiency).

16 August 2002

7. In para 104 of the Discussion Paper, the Commission states:

As argued in Chapter 3 [of the Discussion Paper], interconnection charges should make no contribution to the costs of access network. That is interconnection charges should only contribute to the costs of conveying interconnection calls to and from the POI to the point of demarcation with the access network.

8. We do not agree with the Commission's statement that "the costs relevant to determining interconnection charges are restricted to those in the core network" because we view it as proposing an allocation of costs that may be inconsistent with both the Purpose Statement of the Act and statements made elsewhere in the Discussion Paper. The price that will best approximate the TSLRIC of interconnection is the price that includes service-specific fixed costs, and allocation of shared (core network) costs and an allocation of and common (access network) cost.
9. We note that the Commission's preferred scorched node approach will have less pernicious effects on dynamic efficiency than will the scorched earth approach, but the general direction of its effects will be the same, *viz.* greater risk of asset stranding, exposure to risks of technological changes, and a corresponding need for higher prices to induce appropriate investments.
10. We endorse the Commission's position that specification of an interconnection contract is a complex matter, and we explain some of the complexities associated with multipart pricing, arbitrage and risk-bearing within interconnection contracts. We consider it appropriate that the Commission take as the starting point existing contracts, varying their structure only if the parties cannot agree and if there is a strong justification for intervention. This will minimise the regulatory risk of setting prices that close off superior options for the contracting parties.

2. TSLRIC PRICING AND DYNAMIC EFFICIENCY

11. In its Discussion Paper,¹ the Commission states that “in considering whether a determination will result, or will likely to result, in competition in telecommunications markets for the long-term benefits of end-users”, the Commission will:
- consider the effects of the determination on three types of economic efficiency, allocative efficiency, productive efficiency and dynamic efficiency, while giving priority to the latter (para. 20); and
 - endeavour to set interconnection prices to encourage parties to make efficient decisions (or as efficient decisions as possible given other constraints)” (para. 21).
12. We support the Commission’s commitment to the efficiency objectives for interconnection pricing determination and we endorse the Commission’s priority given to achieving dynamic efficiency. We have previously argued that dynamic efficiency is likely to be maximised by interconnection prices which:²
1. Offer compensation for interconnection that is just sufficient to induce an access provider to agree to interconnection;
 2. Provide the necessary price signals to induce any carrier to sign up a customer whose business can be efficiently added to the network;
 3. Provide price signals that will just induce enhancement of existing networks or the introduction of new networks in response to changes in calling patterns originating with their own or any other carrier’s subscribers;
 4. Provide incentives for market rivalry between network operators that focuses on investment in new technologies and new facilities rather than on the exploitation of arbitrage opportunities to redistribute profits among network operators; and
 5. Minimise transactions costs for interconnected telecommunications carriers, including the costs of negotiating, monitoring and enforcing agreements, and the cost of regulatory determinations and monitoring.

¹ Commerce Commission (2002), *Application of a TSLRIC Pricing Methodology - Discussion Paper*, 2 July.

² Charles River Associates, *Interconnection Pricing*, 7 June 2002.

3. DYNAMIC EFFICIENCY AND THE EFFICIENT SERVICE PROVIDER

13. Maximisation of dynamic efficiency requires that regulators eschew creating an environment that weakens incentives or otherwise impedes the ability of firms to reap the rewards from being innovative. Pricing determinations that focus erroneously on short run allocative and productive efficiency gains (e.g. excessively low interconnection prices) may destroy a firm's incentives to enter the innovation race. Pricing determinations that underestimate the cost of capital for investment in risky new network technology will also deter innovation, discourage the entry of new and more innovative network operators and deprive end-users of substantial long-term benefits.
14. As the criteria for assessing dynamically efficient prices rest entirely on *ex ante* decision-making, dynamic efficiency cannot be gauged by focusing on *ex post* revenue and profitability. Assessment of the correct level of profitability in a dynamically efficient market is enormously difficult because the counterfactual is unclear. In its role as regulator of the telecommunications market the Commission will be able to test its success in creating a dynamically efficient environment by observing over time the extent of the investment (by the incumbents and entrants) in new technologies and services.
15. The concept of an "efficient provider" is a dynamic concept because it is forward-looking. The efficient provider need not be – and indeed should not be required to be statically efficient at any snapshot in time. This is because investment decisions that were prudent and dynamically efficient at the time that they were made may not satisfy the static condition for productive efficiency at some distant future date. Static measures of efficiency do not provide a meaningful basis upon which to make an assessment of any network operator as an efficient provider.
16. The realised or *ex post* outcomes of investment decisions are most unlikely to be (statically) efficient even if the decisions were dynamically efficient *ex ante*. What this means is that the location of nodes and configuration of a network need not be efficient today even if *ex ante* they represented the optimal decision at the time that the decision to invest was made.
17. The idea of aligning past investments with the realisation of productive efficiency at every point in time is a regulatory construct that ignores, in our view, transaction and adjustment costs, irreversible or sunk investments in particular network configurations, and uncertainty. For regulatory purposes, we consider it more meaningful to regard an 'efficient service provider' as one who is dynamically efficient, but with inefficiencies resulting from past investment decisions which:
 - while optimal at the time of the investment, proved to be inefficient at a later date; and

16 August 2002

- either through lack of competitive discipline or through the impost of regulation, were not optimal at the time that they were made.
18. Unless a meaningful and realistic efficient provider standard is adopted, dynamic efficiency will be undermined by forward looking costs estimated on the assumption that network technology and configuration are optimised at every instant in time. This is because:
- given a firm's *ex ante* prudent and efficient investment decisions, the firm's perceived failure to provide the optimised network in any *ex post* assessment has more to do with the realities of transaction costs, irreversible investment and uncertainty than the firm's dynamic inefficiency. Since it would be dynamically inefficient (for example) for a firm to re-optimize its network if the transactions costs outweighed the benefits, then penalising the firm by allowing only optimised costs can involve no improvement in behaviour from the point of view of social welfare; and
 - well-intentioned but misplaced regulatory attempts to deal with static inefficiencies resulting from historical decisions will undermine dynamic efficiency by changing incentives in the market. This would be the case whether or not the static inefficiency results from past optimal decisions that were subsequently made inefficient by the evolution of states of the world, or by the introduction of new regulatory requirements. If firms are led to form rational expectations that they will be penalised for prudent but irreversible investment decisions that would be considered inefficient at a future date, then it is likely that they will respond to the regulatory incentives with behaviour that minimises their private costs of regulation but which reduces overall social welfare.

4. TSLRIC PRICING AND EFFICIENT DECISION-MAKING

19. Consistent with the priority the Commission will give to achieving dynamic efficiency, interconnection prices should be set at a level that is just sufficient to enable full recovery of the efficient costs associated with the fixed PSTN (including its sunk costs). These costs must be recoverable to preserve investment incentives.
20. Following para. 25, the Commission states:
- In determining interconnection prices on the basis of TSLRIC, the Commission will, among other matters, consider the effect interconnection prices may have on:*
- *the decision of access providers to invest in fixed PSTNs;*
 - *the decisions of access providers to provide interconnection services in the most cost effective manner;*
 - *the decisions of access seekers (or other investors) to duplicate parts or all of the access provider's PSTN;*
 - *and decisions to enter and exit dependent telecommunications markets.*
21. Each of these matters are now considered in turn.

4.1. DECISIONS OF ACCESS PROVIDERS TO INVEST IN FIXED PSTNS.

22. We concur with the Commission's view that to promote efficient investments, "interconnection prices should also be set to ensure that they have the expectation of recovering the costs of prudent investments" (para. 22).
23. In Telecom's PSTN a high proportion of the costs are incurred in long-lived assets and not operating costs. Telecom must therefore be allowed to maintain its financial and operational capacity on commercial terms if it were to compete effectively in the real business world. Baumol and Sidak (1994) put it succinctly as follows: interconnection prices set below the level needed to recover fixed costs would "condemn the firm with scale economies to insolvency." (p. 5). *Ex post* realisation of inadequate revenues that is anticipated *ex ante* by investors will lead to zero future investment and the loss of consumer benefits in the long term.

16 August 2002

4.2. DECISIONS OF ACCESS PROVIDERS TO PROVIDE INTERCONNECTION SERVICES IN THE MOST COST EFFECTIVE MANNER.

24. The Commission is of the view that “to the extent possible, the cost base upon which prices are set should be ‘decoupled’ from the access provider’s actual costs” (para. 23). The Commission’s position reflects a concern with an access provider’s weak cost minimisation incentives when the provider’s profits are not affected by its costs of providing interconnection services.
25. The basis of the Commission’s concern is not entirely clear to us. To the extent that TSLRIC pricing caps the revenue that could be earned, it seems to us that a profit-maximising provider would have strong rather than weak incentives to minimise costs.
26. While ‘decoupling’ may help to deter cost-padding or perpetuation of X-inefficiencies, it should also be recognised that some ostensibly “inefficient” cost drivers are beyond the control of a provider. These include outlays for inputs and materials that simply reflect price distortions in those markets. Nonetheless, we see no *a priori* reasons why a profit-maximising provider operating under a *de facto* revenue cap would not adopt cost-cutting measures and/or more efficient purchasing practices.
27. We consider there are intrinsic incentives for an access provider to provide services in the most cost-effective manner as a significant component of the cost of the interconnection is the cost of local call conveyance that is also a component of services that it offers to the retail market.

4.3. DECISIONS OF ACCESS SEEKERS (OR OTHER INVESTORS) TO DUPLICATE PARTS OR ALL OF THE ACCESS PROVIDER’S FIXED PSTN.

28. Interconnection prices, and the underlying cost of the local call conveyance, affect investment decisions in related markets that rely on the services of the PSTN. The Commission has expressed the view that “interconnection prices should be set to neither encourage inefficient duplication nor discourage efficient duplication” (paragraph 24), while acknowledging the difficulty in achieving this balance in practice.

16 August 2002

29. Duplication could be indeed inefficient if it is taken to mean facilities-based competition between two or more networks utilising identical technology and with identical cost structures.³ However, the rate of technical change in telecommunications means that in reality, facilities-based competition is driven by technical changes which reduce the costs of existing technologies, create alternative technologies and allow the delivery of new services demanded by consumers. The presence of an alternative network which duplicates all or parts of an existing network, using an enhanced technology or an alternative technology to deliver additional services or existing services at lower cost, does not imply that society's resources have been wasted. We consider the long term interests of end users are best served when their evolving and diverse needs are met by the introduction of new and differentiated services through alternative facilities, even when they duplicate significant parts of the functionality of the existing infrastructure.⁴
30. To achieve these dynamic efficiency benefits, we therefore consider it more important for the Commission to preserve the incentive property of interconnection prices (i.e. set prices that allow a reasonable return) than to take on the difficult task of finessing the balance between "efficient" and "inefficient" duplication. Given efficiency gains that arise from competitive tension and alternative technologies, it is far from clear that functional duplication of a network is inefficient. Thus, it is our view that if anything the Commission should err on the side of (high) prices that promote investment in by-pass, since the dynamic efficiency losses from this pricing will be less than when prices are set too low.

4.4. DECISIONS TO ENTER AND EXIT DEPENDENT TELECOMMUNICATIONS MARKETS.

31. In para 25 of the Discussion Paper, the Commission states that "to the extent possible, interconnection prices should be set to encourage efficient entry and exit decisions and to enable more efficient providers to attract and retain customers from less efficient providers." From an entrant's perspective, it would as a rule choose to enter a dependent market if it believes it can successfully compete and earn at least normal return on its investments.

³ We note in passing that the use of tilted annuity, an approach advocated by the Commission in its *TSO Implementation* document, prevents by-pass by identical networks in spite of technological innovations after investment.

⁴ Even if, for the sake of argument, interconnection prices are 'so high' as to hasten duplication of all or parts of the existing network, the investments made are not necessarily wasteful if the duplicated facilities provide valuable options on the delivery of new services into the future.

16 August 2002

32. If interconnection prices are set 'too low' – in the sense that they do not fully reflect the carrier's cost of providing interconnection – it will create a wrong signal to less efficient firms to enter the dependent market. Such firms cannot be expected to be competing 'on the merits' with the incumbent in that market.
33. Only truly efficient entry can genuinely promote competition and improve market performance in the long run; inefficient entry merely creates market distortions and reduces productive and importantly, dynamic efficiency:
- Productive inefficiency results because the total cost (to society) will be driven up by inefficient entrants who displace some of the more efficient production of the incumbent; and
 - When inefficient entrants out-compete the incumbent on the basis of an artificial cost advantage, the normal competitive process is damaged and the ability of the market process to 'discover' and reward more efficient firms is compromised. This will lead to significant dynamic efficiency losses in the long term.
34. The competition that is already taking place between facilities-based providers using alternative platforms is a requirement for the maximisation of long term benefits to end users. Misplaced regulatory attempts to encourage entry by mandating cheap access to the incumbent's terrestrial platform or services may reduce the long-term benefits received by end users if the access price is set well below the dynamically efficient level (i.e. the level just sufficient to reduce efficient new investment).

5. PSTN COMMON AND INCREMENTAL COSTS

35. In para 104 of the Discussion Paper, the Commission states:

The costs relevant to determining interconnection charges are restricted to those in the core network. As argued in Chapter 3 [of the Discussion Paper], interconnection charges should make no contribution to the costs of access network. That is interconnection charges should only contribute to the costs of conveying interconnection calls to and from the POI to the point of demarcation with the access network.

36. We do not agree with this statement because we view it as proposing an allocation of costs that may be inconsistent with both the Purpose Statement of the Act and statements made elsewhere in the Discussion Paper.
37. The separation of a PSTN into a core network and access network is a mechanism for a carrier to manage its own internal resources. However shared and common costs make that separation irrelevant in the context of individual services such as interconnection.
38. The TSLRIC is the size of the increment for the entire service. The Commerce Commission (para 28) notes that “Total service refers to the total quantity or amount of the service provided by the firm (including the quantity the firm provides for its own use – if any).” We read this to mean that the increment (to be costed) is to be defined in terms of the total volume of interconnection service, including sales to Telecom’s rivals/entrants and sales to itself (i.e. Telecom’s retail business).
39. Further, the Commission (para 44) note that the access network and the core network “do share some common costs” and these costs “will be apportioned using the allocation rule described in Chapter 5 [of the Discussion Paper]”. But then in para 46, the Commissions says that “by definition the costs of providing commercially viable customers with access to the network are recovered from other revenues achieved by Telecom from providing these customers with access to the network.”

16 August 2002

40. The Telecommunications Act sensibly prohibits double-counting of local access costs (for example, as TSO costs and as interconnection costs) but it is not obvious to us that it prescribes that local access costs be fully recovered from services other than interconnection. More importantly, as a matter of economics it is untenable to claim that the TSLRIC of interconnection should contain no component of the costs of access in its allocation of common costs. The relevant concept as explained by Professor Alfred Kahn (1990, p. 78) may be paraphrased as follows: when the same access line may be used to make a local call (A) or a toll call (B) or a 'data call' (C) (accessing the Internet), and when producing A uses capacity that could otherwise be used to supply B (or C) then their costs are common. Furthermore, if any one of these services uses capacity that would otherwise be used for one of the other services, or if it requires construction of greater capacity than would otherwise be necessary, then "it does bear a causal responsibility for a share of the common capacity costs". Since the origination and termination of interconnected calls uses capacity on the local access network that would otherwise be used for intra-network calls, then the cost of local access is a common cost in respect of interconnection. In our view the price that will best approximate the TSLRIC of interconnection is the price that includes service-specific fixed costs, and allocation of shared (core network) costs and an allocation of and common (access network) cost.

6. SCORCHED NODE AND ASSET STRANDING

41. In paragraph 32 of the Discussion Paper, the Commission states:

Forward-looking costs are costs that will be incurred in the future in providing the service. This involves estimating costs on the basis of current and future prices of inputs and given the availability of modern technologies and assets. The aim is to estimate the cost of providing the service in the future rather than the past.

42. Accordingly, the Commission took the view that forward-looking costs:

- should be based on a *scorched node* assumption of network design (p. 9); and
- should reflect the costs of providing services using best-in-use technology with modern equivalent assets (p. 10).

43. As we have argued elsewhere,⁵ the scorched node approach will have less pernicious effects on dynamic efficiency than will the scorched earth approach, but the general direction of its effects will be the same. Forward-looking costs which reflect the costs of providing interconnection using best-in-use technology available and modern equivalent assets (rather than costs prudently incurred at the time of investment) expose the investor to large risks associated with technological change. According to Laffont and Tirole (2000: 151), “computing at each point in time an access price corresponding to the most efficient equipment to date would be confiscatory when equipment is long lived”.

44. The allowed price path for services produced by assets (i.e. investments) subject to regulation should be one that is just sufficient to induce the firm to invest at a time that promotes dynamic economic efficiency and the long-term interest of end users. If technological change is expected to lower costs, then the asset will be depreciated faster (in an economic sense), increasing the charge that just compensates for the investment in early years and decreasing it in later years when the existing assets are required to compete with the lower-cost technology. Where there is more uncertainty about the technology, prices will have to be higher to induce appropriate investment. Expected technological progress that reduced future access prices need to be recognised as a risk premium.

45. The Commission has acknowledged the combined effect of new market entry and innovation on incumbent capital charges in advocating the use of tilted annuity in their *TSO Implementation* document.

⁵ Charles River Associates, *Interconnection Pricing*, 5 June 2002.

16 August 2002

46. The optimised replacement cost approach in TSLRIC modelling has other dynamic efficiency implications:
- The purpose of optimisation models is to compute the price path that a firm would have to adopt if its network investments are to recover their cost and be priced at a level that made consumers just indifferent between continuing with the existing network and switching to a network with a new technology. Particularly because future technology and other aspects of demand and supply are uncertain, optimisation approaches will generally discourage efficient investment by comparison with approaches that provide full recognition of the ongoing costs of past investments; and
 - The price path that provides dynamically efficient compensation for the firm will be higher where the costs allowed are regularly reduced to optimised replacement cost. This is because the firm must expect to at least cover the cost of its investment. If each new technology immediately results in a reduction of the firm's allowable costs, then the firm will be reluctant to undertake new investment unless it is either (i) permitted to earn a rate of return that compensates it both for uncertainty surrounding the pace and impact of technical change and the high expected rate of depreciation of allowable costs, or (ii) it receives an undertaking that it will be compensated, ex post, for assets stranded by technological change.

7. PRICE STRUCTURE

47. In this section, we consider the process for determining the structure of future interconnection contracts and, in particular:
- Whether the Commission should mandate a complex pricing structure or set the average price and leave the parties to unbundle this into a specific structure by means of agreement;
 - Whether the Commission should select a pricing structure that is not proposed by any party; and
 - Whether existing interconnection contracts should serve as the basis for interconnection pricing structure initially, and be varied only if a good case for doing so can be established.
48. The economic efficiency of an interconnection contract will be determined to a large extent by the level of the origination and destination charges and the pricing structure established in the contract. By pricing structure we mean the (linear or nonlinear) way that interconnection charges vary with observable characteristics of the call (including minutes of use); in essence, whether the contract specifies a single or multiple-part tariff for interconnection. If either the level of the origination and termination charges or the pricing structure are inappropriate they may create arbitrage opportunities that will not promote inefficiency. Moreover, since the incentives provided by any contract can only be understood in the context of the terms of the contract as a whole, the level and the structure of prices should be considered jointly in any regulatory determination.
49. Arbitrage serves to ensure that prices for any good or service are equalised within and across markets. Where prices are fixed by regulation over a defined period – as would be the case for regulated interconnection –they are not amenable to change by arbitrage. This would lead to inefficient investment in network locations based on differences between origin and destination charges that are not indicative of actual resource cost differences. This suggests that interconnection contracts should not be fixed over time but allowed to evolve and respond to arbitrage that encourages network location decisions based on cost differentials.
50. The Commission (following paragraph 469) notes that it is aware of both “the potential benefits of departures from simple average per-minute interconnection prices” and the “need to minimise the complexity of the price structure in order to make it workable”. CRA’s position is that complex pricing structures are fraught with difficulties and the more so when imposed by regulation. The optimal structure of an interconnection contract is affected by the nature of demand (elasticity and location) and supply (cost and location), the possibilities for arbitrage and the allocation of risk between the parties. The following examples serve to illustrate our concerns:

16 August 2002

- (i) Pricing structures and to the level of origination and destination charges will illicit arbitrage that may take the form of changes in the location of supply and demand across networks and may be reflected in the price of such services as ISPs and call centres offered on these networks.
 - (ii) If the contract structure is not linear, then the “average price” will vary as volume varies. Hence, if some average price is to constrain the contract structure, some predicted volume will have to be fixed upon;
 - (iii) The allocation of risk is a critical element of any contract.⁶ Contracts are negotiated and must be interpreted as a whole. Among the trade-offs in negotiation will be the allocation of the various elements of risk, since pricing structure may affect the allocation of risk-bearing. For example the use of a two-part tariff may shift risk of volume variability between parties as the fixed element is varied relative to the variable component.
 - (iv) For simple one-way interconnection it is possible to derive contract structures that reflect demand and supply to maximize welfare. Such derivations often, but not always, have a fixed (variable) component that matches fixed (variable) cost. Even in this simplest circumstance, practical calculation is very imprecise: it is vastly more complicated if it is attempted to account for the other relevant factors.
 - (v) Where congestion can arise, peak-load prices can effectively signal willingness to pay for new investment and, if demand is not perfectly inelastic, induce economic usage. The utility in incorporating peak-load prices would have to be matched against the complexity it would imply: should it affect origin and destination charges and is demand sufficiently inelastic for such pricing to be sustained.
51. The credibility of the regulatory regime may be undermined if the Commission imposes a complex pricing structure that creates substantial arbitrage opportunities for one or more parties. These arbitrage opportunities may result in an inefficient redistribution of the income in the industry, and if this redistribution is sufficiently large it could destabilise the industry as a whole.
52. We consider that the Commission should take as the starting point existing contracts and vary their structure only if the parties cannot agree and if there is a strong justification for intervention. This will minimise the regulatory risk of setting prices that close off superior options for contracting parties. Our reasons for taking this position are as follows:

⁶ Its importance is spelled out in L. Evans and N. Quigley (2000), “Contracting, Incentives for Breach, and the Impact of Competition Law”, *Journal of World Competition*, 23(2), 79-94.

16 August 2002

- (i) Since the existing contracts were negotiated as a whole their provisions depend on a balancing of the desirability of all terms by all parties. Any variations to the contract would need to consider the balance of advantage in the contract as a whole, and create an alternative contract that efficiently reflected the positions and risk appetites of all parties;
 - (ii) In addition to the imposition of its own normative view of parties' positions and appetites for risk, a regulator creating a unique new contract would require extensive knowledge of relevant equipment, demand and supply and would need to make a complex calculation that may not serve the public interest anymore more than existing structures;
 - (iii) Interconnection contracts are evolving over time in all countries in response to arbitrage and the changing characteristics of supply and demand. Permitting existing contracts to evolve this way is likely to be dynamically efficient, given that the starting point is the commercial solution to the contracting problem that reflects the trade-offs already mentioned; and
 - (iv) The structure of the contract will generally be of secondary importance to the setting of the level of destination and origination charges. It is likely to affect location of providers as well as congestion. In light of this, the intricate calculations that a complex contract structure would call for are almost certainly not needed.
53. Existing contracts represent the outcome of the commercial consideration of the relevant factors. Allowing them to evolve with shifts in supply, demand and regulatory variation over time from the present starting point will avoid complexity of calculation and allow the pressures for change to be articulated and, where justified, effected will almost certainly be the most comprehensible and efficient approach.

8. REFERENCES

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