Stopping Anti-Competitive Conduct in Telecommunications—Beyond the RIO

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The focus of this paper

The benefits of competition in telecommunications, as in other sectors of the economy, are now well recognized. Governments around the world are at various stages of sector liberalization, with the aim of realising these benefits.

Attention in the Caribbean has rightly focused on creating workable interconnection regimes to allow competition in telecommunications. Interconnection is necessary for competition, but it may not be sufficient. Governments and regulators may need additional tools to ensure that competition can flourish. This paper:

- Discusses some of the tactics operators may use to reduce competition in a liberalized environment
- Suggests possible regulatory and competition law responses, and
- Reviews some case study examples of anti-competitive behavior in telecommunications.

Castalia, together with NERA Economic Consulting and Kalba International, is currently engaged by the World Bank and International Telecommunications Union to develop a toolkit on regulating competition, interconnection and prices in the telecommunications sector. Among other things, this Toolkit will focus on the roles of competition policy and telecommunications sector regulation in dealing with anti-competitive behaviour by telecommunications companies ("telcos"). Regulators and others with an interest in these issues will be able to access the completed toolkit over the internet, from early next year.

Interconnection: Necessary but not sufficient for competition

Interconnection is essential for any new entrant to be able to provide telecommunications services. An obvious tactic for incumbent operators to inhibit competition and protect their monopoly is to refuse to provide interconnection. Even where incumbents are required to provide interconnection, they may do so in a way that increases entrants' costs thereby reducing the benefits of competition. Examples include:

- Offering interconnection, but at a high price. By imposing high interconnection prices incumbents can ensure that they continue to earn a monopoly profit on both interconnection and retail sales[1]
- Implementing a "vertical price squeeze". In the extreme, incumbents may set interconnection prices so high that it is not possible for an entrant to match the incumbent's retail price and still earn a profit
- Offering interconnection, but at a lower quality than the incumbent provides its own retail operation (this is sometimes referred to as "sabotage" of the entrant's service). Again, this strategy reduces an entrant's ability to compete effectively, by ensuring that the entrant cannot match the quality of service the incumbent is able to provide to its own customers
- Engaging in delay tactics, for example by "dragging the chain" in interconnection negotiations, or failing to respond to requests for service in a timely manner.

Ensuring the establishment of workable interconnection arrangements is therefore rightly the first focus of telecommunications regulators around the world. An effective interconnection regime should ensure that interconnection is provided:

- At a reasonable price, equivalent to the imputed price the incumbent charges itself
- At a reasonable quality, equivalent to the quality of service the incumbent provides its own retail operation, and
- In a timely manner.

A Reference Interconnection Offer, and supporting regulatory arrangements are therefore an important first step on the road to competition. However, these measures by themselves will not guarantee the development of competition. Refusing interconnection is only one of a set of strategies incumbent telcos may use to chill competition.

Beyond the RIO: The range of potential anti-competitive behaviour

Even where a robust interconnection regime is in place, incumbents may use a number of strategies to seek to impede competition. As I discuss in more detail below, strategies such as predatory pricing and cross-subsidisation are only consistent with profit maximisation if certain conditions are met. A well managed, profit focussed incumbent may be unlikely to use these strategies in many circumstances. However, strategies that increase entrants' costs are more generally profitable. Such strategies force entrants to charge higher retail prices than they would otherwise, enabling the incumbent to prop up its own retail prices. Incumbents that are focussed on retaining (or increasing) their existing market share may attempt to use any of the strategies discussed below to impede competition.

Pricing below full cost

An incumbent may attempt to discourage entry or expansion by a competitor, or to force them to exit the market, by dropping prices in the short term.

[1] In this scenario, entrants must set retail prices at a level sufficient to recover the high interconnection price, as well as retail costs. This enables the incumbent to continue charging retail prices that incorporate an element of monopoly profit.

Entrants must incur substantial capital investment in order to enter the market. In order to operate sustainably they must earn sufficient revenue to service debt and earn a return on capital. However, the incumbent's network investment is sunk. It can therefore drop prices below the level needed to earn a return on capital and, provided it is still covering marginal costs, can sustain such prices.

In extreme cases, incumbents may go further and threaten to drop prices below marginal costs—and make a loss on the service in question—in order to discourage other firms from entering the market. Such "predatory pricing" is notoriously difficult to prove in practice.

There is some debate among practitioners about whether predatory pricing is a credible strategy. Would a profit-maximizing firm ever price in this manner, given the high upfront cost of doing so? Several conditions need to exist for predatory pricing to make any sense for an incumbent:

- The threat to drop prices, and to sustain the drop for as long as it takes to force a new entrant out of the market, must be credible. If entrants do not believe the incumbent will follow the strategy through, then they may ignore the threat
- The incumbent must be confident that the long term gain from preventing competition will outweigh the short term loss from pricing below cost. This means the incumbent must have good reason to believe that:
  - It will only need to sustain the low prices for a limited duration. Otherwise the upfront cost may be too high for the incumbent to recover from high future prices, and
  - It will not have to continuously drop its prices. The strategy will only be profitable if, once an entrant has been forced out of the market, the incumbent is able to raise its prices to a monopoly level and keep them there. This requires high barriers to entry. If firms are able to enter the market easily, then each time the incumbent increases its price this may attract new entrants into the market, forcing the incumbent to drop its price again. The incumbent would potentially need to price below cost almost continuously, and could incur very high losses.

Cross-subsidization

A telco with market power in one area may charge a high price for non-competitive services, and use the proceeds to fund low prices for competitive services. For example an incumbent telco could use its market power in the local calling market to charge high prices for local calls, and use the excess revenue to support prices for internet access that are below incremental cost, in order to undercut competing internet access providers.[2]

We can view this as a form of predatory pricing; the incumbent is charging a price for the competitive service that is below cost. Accordingly, cross-subsidization raises the same concerns as predatory pricing. It discourages entrants that are as efficient as the incumbent in providing the competitive service from entering the market.

Cross-subsidization is more sustainable than the conventional predatory pricing described above. The incumbent is able to fund its loss on the competitive service

[2] By definition, for a firm that breaks even overall, a given service receives a subsidy if it does not generate sufficient revenue to cover its total service long run incremental cost ("TSLRIC"). TSLRIC is the cost the firm would avoid if it ceased providing the particular service altogether (holding all other factors constant).

indefinitely from its ability to charge monopoly prices in another part of its business. However, the incumbent will still lose money as long as it prices in this way, compared to its position without the subsidy (see Box 1). Thus, as is the case with predatory pricing more generally, this strategy will not maximize profits if sustained over time. Cross-subsidization will only make sense for a profit-maximising incumbent if:

- The incumbent can establish a credible threat that it will charge low prices for the competitive service should other firms enter the market, and
- The incumbent is confident that the long term gain from preventing competition will outweigh the short term loss.

If these conditions do not hold, then the incumbent can earn a higher profit if it does not cross subsidize, as Box 1 shows. Cross-subsidization does enable incumbents that are focussed on protecting their market share to do so, albeit at the expense of some profitability.

Box 1: The cost of cross-subsidization

Telco Ltd is a hypothetical incumbent firm. It has a monopoly in the provision of local calling services, and also provides dial-up internet access. ISP Ltd is a competing internet access provider. Assume that:

- Telco Ltd produces local calling services at a cost of $30, and
- It costs both Telco Ltd and a competing internet access provider, ISP Ltd, $15 to produce internet access
- Telco Ltd has market power in the market for local calling services, and is able to set a monopoly price of $40.

Let's look at two scenarios. In Scenario 1 Telco Ltd uses the high price for local calls to cross-subsidize its internet access service. In Scenario 2, Telco Ltd does not cross-subsidize. As the table below shows, if Telco Ltd uses a cross-subsidy to undercut ISP Ltd, its total profitability will be lower than under a no-subsidy scenario.

	Scenario 1: Cross-subsidy		**Scenario 2: No cross-subsidy**	
Revenue				
Local calling	$40		$40	
Internet access	$14		$15	
Total revenue		$54		$55
Costs				
Local calling	$30		$30	
Internet access	$15		$15	
Total costs		$45		$45
Profit		**$9**		**$10**

Note: Revenue and costs shown on a per customer per month basis.

Source: Castalia

Increasing switching costs

If the incumbent can increase the cost to customers of switching to a new entrant, it can make it difficult for the entrant to gain market share. One tactic to achieve this is through restrictive customer contracts to seek to lock customers into the incumbent's service, for example by:

- Requiring customers to purchase a minimum quantity of the incumbent's service
- Requiring customers to sign up for a minimum period, to prevent competitors from gaining access to that customer for the duration of the contract.

Failure to provide for number portability also increases customers' switching costs. Customers that change to a new entrant must notify all their contacts of their new phone number. Business customers must reprint office stationary and business cards, a potentially significant cost.

"Tying" and "Bundling" of services

Tying of services occurs where a firm makes the purchase of one product or service conditional on the purchase of a second product or service. For example, a telco might only provide local calling services if customers also pay for dial-up internet services. In this way, an incumbent could leverage market power in one service into another, potentially competitive market. Tying can prevent competition from developing, in the potentially competitive market, and may force customers to pay higher prices than would otherwise be the case. Box 2 provides a simple hypothetical example to illustrate why tying can be a concern.

Box 2: Hypothetical example of tying

Let's revisit the hypothetical incumbent Telco Ltd. Assume that Telco Ltd's prices (on a per customer basis) are:

- Local calling: $40/month
- Internet access: $15/month.

ISP Ltd can produce internet access more efficiently than Telco Ltd, and offers a price of $10 per customer per month. The efficient outcome is for Telco Ltd to provide local calling services, but for ISP Ltd to provide internet access to those customers who want it.

Assume, however, that Telco Ltd engages in a tying strategy. Telco Ltd charges customers $55/month for both local calling and internet access, and refuses to provide the two services separately. In this case:

- Customers will be worse off:
  - All customers that want local calling services must pay for internet access, even if they don't want it
  - Those customers who want internet access will use Telco Ltd's internet access service, even though it costs more to produce. Customers who use Telco Ltd's service will pay $55/month, whereas if they chose ISP Ltd's service they will pay $65/month (the full $55 to buy local calling plus $10 for ISP Ltd's service), and
- The potential efficiency gains from competition will be lost. Even though ISP Ltd is more efficient at providing internet access, it will not be able to compete in the market.

Source: Castalia

Service bundling is less restrictive than tying. The incumbent offers two or more services separately, but offers a discount to customers who purchase the services as a combined bundle. For example an incumbent might offer a discounted price on internet access if purchased together with its local calling service. Box 3 provides a hypothetical example of bundling.

Box 3: Hypothetical example of bundling

Telco Ltd and ISP Ltd. both firms offer internet access, and Telco Ltd also offers local calling services. In this example let's assume that the two firms' prices (per customer per month) are:[1]

	Local calling	Internet access (stand alone)	Local calling plus internet access
Telco Ltd	$30	$15	$40
ISP Ltd	Not applicable	$15	Not applicable

The incremental cost to Telco Ltd of providing internet access, if it is already providing local calling services, at $10, is lower than the stand alone cost of the service. This because some costs, such as the cost of billing and collection, are common to both local calling services and internet access. Telco Ltd is therefore able to offer a discounted price to customers who purchase internet access in a bundle with local calling.

In this case, customers who want both local calling services and internet access have the choice of:

- Purchasing local calling services from Telco Ltd and internet access from ISP Ltd, for the total price of $45, or
- Purchasing a bundle of local calling and internet access from Telco Ltd, for the total price of $40.

Customers will prefer to purchase these services as a bundle from Telco Ltd, at a saving of $5.

Notes: 1) For the purpose of this example, I assume that prices are based on underlying costs.

Source: Castalia

Bundling is not anti-competitive *per se*. Such behaviour can be a positive feature of competitive markets, where competing firms offer a range of service bundles to meet different customers' tastes. Bundling can also reflect the presence of common costs, as Box 3 illustrated. To the extent that customers pay lower prices, bundling may be beneficial. (This is provided that the bundled price is not lower than the total incremental cost of providing all the services in the bundle, which would be a case of predatory pricing.)

It is common for competitors to complain about bundling, alleging that it prevents them from competing effectively. As the above illustration shows, bundling can prevent competitors from succeeding, where economies of scale or scope give the incumbent an advantage.[3] Whether or not this is viewed as a problem depends on the regulator's approach to competition.

A "hands off" regulator might only wish to encourage entrants that are more efficient than the incumbent. Such a regulator would not generally consider bundling to be a concern.

A "pro-competition" regulator may be concerned about bundling to the extent that bundling prevents competition from emerging. Where competition is very limited, and the development of competition is seen as a priority, such a regulator may wish to

[3] Economies of scale exist where a firm's average costs decline as output increases (over some range of output). For example this is the case in industries such as telecommunications that feature high fixed costs. Economies of scope exist where it costs less to produce two products or services jointly than it would to produce them separately. This occurs where a firm can use the same systems or plant to produce both products or services.

constrain or limit bundling to give competitors a chance to establish themselves. Regulators should only contemplate this:

- Where the long term benefits from competition are likely to outweigh the short term cost to customers, who would miss out on discounted prices. Before intervening the regulator should have good reason to believe that, once competitors become well-established, their costs will come down. (Taking the example in Box 3, will ISP Ltd's cost per customer come down as its customer base increases?), and
- As an interim measure. Once workable competition is established, constraints on bundling should be unnecessary. If competitors are still not able to match the incumbent's bundled price this would indicate that they are in fact less efficient than the incumbent. Protecting inefficient competitors will not produce any economic benefits.

Responding to anti-competitive behaviour

Broadly there are two approaches to dealing with anti-competitive behaviour by incumbent telcos: competition policy and sector specific regulation. Both forms of regulation seek to achieve the benefits of competition, but in different ways.

Competition policy

Competition policy provides a set of tools to protect the competitive process. Competition laws generally include provisions to:

- Prevent competing firms from banding together ("colluding") to increase prices or reduce quantities of goods and services, or to exclude other firms from a market
- Prevent firms with a dominant position, or "significant market power", in a market from abusing that position, or using that dominance to exclude competitors from the market or otherwise reduce competition
- Stop mergers or acquisitions that would give the merged entity a dominant position in a market, and result in reduced competition.

With the exception of provisions for mergers and acquisitions, competition laws are *ex post* regulation. That is, the law gives the competition authority or the courts powers to respond to anti-competitive behaviour once it has occurred. The advantage of an *ex post* approach is that the law only intervenes in a firm's decisions in cases where they have been shown to be problematic. Behavior or decisions that do not raise competition concerns are not caught. The major disadvantage of this approach is that it can lead to uncertainty for businesses. In particular dominant firms (such as incumbent telcos) may be reluctant to act in an aggressively competitive manner for fear of crossing the line between competitive behaviour and anti-competitive predatory or exclusionary conduct.

Sector specific regulation

Effective competition is not always feasible. For example in the telecommunications sector, competition in the local loop will not be feasible in most cases.

Where the conditions for effective competition do not exist, sector regulation attempts to directly ensure desired outcomes (for example prices that reflect efficient costs, and price structures that reflect the incremental costs of providing different services). Sector regulation intervenes directly in the market by determining certain business decisions *ex ante*. For example telecommunications regulation is widely used to set the price and

quality of specific services, such as interconnection services, where the potential for anti-competitive conduct is concern.

A major advantage of this *ex ante* approach is that it provides certainty for both incumbents and entrants. By stopping anti-competitive outcomes before they occur, sector regulation can also avoid the potential damage from anti-competitive conduct. However, *ex ante* regulation has its own costs. In particular, *ex ante* regulation substitutes the regulator's decisions for market outcomes. No matter how skilled and well informed the regulator is, it cannot deliver outcomes as efficient or timely as market outcomes. For this reason, governments should target *ex ante* regulation only to those parts of the telecommunications sector where effective competition is not feasible. As the market evolves and competition develops, regulators should withdraw from potentially competitive areas.

The interplay between competition policy and sector regulation

In practice, both competition policy and sector regulation have a role to play in the telecommunications sector. The nature of telecommunications networks means that, for the foreseeable future, incumbent network operators will have a dominant market position. Competing entrants depend on inputs from the incumbent in order to provide service. Thus left to itself the market is unlikely to deliver effective competition, at least in the provision of local access services and interconnection.

In the telecommunications sector, competition laws can play an important role in stopping anti-competitive behaviour, including the types of conduct I described above. This might be supplemented by a telecommunications law dealing with the specifics of interconnection, and (possibly) requiring the incumbent telco to provide information to assist in the detection of anti-competitive practices. This type of approach is used in Jamaica and Barbados. The Bahamas is currently developing a competition law which will supplement its existing regulatory arrangements for the sector.

Alternatively, governments may take a regulatory approach. A comprehensive telecommunications sector law can give a telecommunications regulator the power to deal with various anti-competitive tactics, without reliance on a general competition law. This is the approach used in Guyana.

Some examples of anti-competitive behaviour in telecommunications

In this section I review some examples of anti-competitive behaviour in the telecommunications sector.

I start with two examples from New Zealand. The first example is a direct case of the incumbent seeking to increase an entrant's costs by charging a high interconnection price. The second is an example of price discrimination. The incumbent responded to retail competition by dropping its effective retail price, only in those areas where it faced competition. These examples are particularly relevant to a discussion of competition policy and telecommunications, as at the time they took place New Zealand relied solely on its competition laws to provide for competition in the telecommunications sector. (I note that New Zealand has subsequently introduced a telecommunications regulator to regulate the supply of telecommunications services.)

Efficient Component Pricing Rule: The Clear-Telecom Case (New Zealand)

When New Zealand first liberalized its telecommunications sector it relied solely on competition law to prevent anti-competitive behaviour. Entrants had to negotiate with the incumbent (Telecom New Zealand) to establish the terms and conditions of

interconnection arrangements. Their only recourse was to the courts under New Zealand's competition law.

Clear Communications sought interconnection from Telecom at incremental cost, with payments between the two companies on a reciprocal basis. Telecom offered pricing terms based on the "Efficient Component Pricing Rule" (ECPR), also known as the Baumol-Willig rule, which would have required Clear to pay Telecom the opportunity cost of providing interconnection together with a contribution to common costs and profits including any monopoly profit foregone by Telecom from business lost to Clear. Clear alleged that the price was too high, and that Telecom was using its dominant position anti-competitively.

The case went to the Privy Council. The Privy Council found that Telecom's application of the ECPR was lawful. The Privy Council:

- Concluded that the use of the ECPR for pricing interconnection services provided for competitive parity and enabled Clear and Telecom to compete on a level playing field
- Held that Telecom was not acting anti-competitively in seeking to charge its opportunity cost since that is what it would have charged in a fully competitive market
- Noted that Clear had not established that Telecom's charges would be so high that Clear would be prevented from entering the market at all, and
- Found that while the ECPR may allow network owners to recover any loss of monopoly profits through their prices for access, the Government could address this problem by introducing retail price controls.

Following the Privy Council decision, the parties went back to the negotiating table. They eventually agreed on an interconnection price somewhere between incremental cost and ECPR, after the Prime Minister threatened to intervene. The dispute took five years to resolve.

Dropping retail prices to discourage competition: Telecom and Saturn (New Zealand)

In May 1998, Saturn Communications launched a residential local telephony service in parts of New Zealand's capital city. Saturn offered customers a residential rate of NZ$29.95 per month (for connection and free local calls). This undercut Telecom's rate NZ$35.66. At the same time, Saturn announced plans to roll out a competing cable and telephone network in key parts of the country.

Telecom responded to Saturn's entry by offering a $5 loyalty discount, which effectively matched Saturn's price. Telecom's discount was specifically targeted to customers who had the option of switching to Saturn, and was clearly intended to discourage customers from doing so. For example if Saturn's network had been rolled out on the northern side of a street, but not the southern side, Telecom's loyalty discount was only available to customers on the northern side.

Saturn complained to the Commerce Commission, New Zealand's competition regulator. Following an investigation the Commission found that Telecom's behavior did not breach New Zealand's competition law. The Commission considered that:

- Telecom was pricing above marginal cost, and so was not engaging in predatory pricing, and

- Regional pricing *per se* was not necessarily an anti-competitive use of a dominant position in a market.

The Commission's approach here can be regarded as quite "hands off". If a government was actively seeking to encourage competition in telecommunications, it might want to take a different approach. For example, it could give the competition regulator a mandate to more aggressively prevent behavior that is likely to deter entry, or put sector specific rules in place for this purpose.

Misuse of information and "win-back" behaviour: Internet Providers versus Bell Canada (Canada)

In 2002, the Independent Members of the Canadian Association of Internet Providers (IMCAIP) brought a series of complaints against Bell Canada. The complaints related to the Bell Canada's wholesaling of high-speed DSL internet services through its affiliate, Bell Nexxia.[4]

Among other things, IMCAIP alleged that there were many instances of inappropriate disclosure of confidential ISP customer information by Bell Nexxia to Bell Canada's retail operations or technical staff. IMCAIP claimed that this information was used to either promote Bell Canada's retail DSL internet services or win back customers attempting to switch to other retail DSL internet providers. IMCAIP asked the Commission to:

- Direct Bell Canada and/or Bell Nexxia to establish procedures for the confidential treatment of all information provided to them by ISPs, and
- Establish a set of "winback" rules for the DSL internet services market.

The Commission already had rules and procedures in place to prevent Bell Nexxia from disclosing confidential customer information to Bell Canada. The Commission found no breach of these rules, and so concluded that additional procedures were not needed at that time.

However, the Commission recognized that Bell Canada's position as both a dominant supplier of telecommunications facilities and services required by independent ISPs and a competitor of these ISPs created the potential for abuse of confidential information. In particular, where DSL customers switched from Bell Canada to other ISPs, the potential existed for Bell Canada to use confidential information to target those customers in order to win them back. The Commission considered the potential for such abuses sufficient to warrant the introduction of "winback" rules.

Accordingly the Commission directed Bell Canada **not** to:

- Directly market to customers who, through a competing ISP, have given notice of their intention to cancel Bell Canada's DSL internet service in order to receive service from an ISP that uses Bell Canada's (or an affiliate's) wholesale DSL internet service, or
- Offer discounts or other inducements not generally offered to the public, to customers who personally contact Bell Canada to give notice of their intention to cancel Bell Canada's DSL internet service, in order to receive service from

[4] See Telecom Decision CRTC 2002-37, 27 June 2002, available on the World Wide Web at http://www.crtc.gc.ca/archive/ENG/Decisions/2002/dt2002-37.htm. IMCAIP also claimed the Bell Canada sold retail DSL at prices considerably lower than its wholesale DSL offering, an example of a price squeeze. The Commission declined this claim, as it was considering the issue of wholesale DSL prices in another forum.

an ISP that uses Bell Canada's (or an affiliate's) wholesale DSL internet service.

Both of these restrictions are effective from the date on which Bell Canada receives notice of a customer's wish to cancel its DSL internet service, to 90 days after the date of disconnection.

This example illustrates the potential for incumbents to use their position to cross the line from aggressively competitive behavior to anti-competitive behavior. It can be difficult in practice to detect instances where an incumbent misuses confidential information obtained in its role as a wholesaler. *Ex ante* rules such as those set out by the Canadian Radio-television and Telecommunications Commission in this example are intended to prevent such abuses before they occur, rather than relying on detection after the event.

Summary

Regulation of interconnection is important to ensure that entrants are able to obtain key inputs from the incumbent telco at reasonable prices and a reasonable quality. This has quite rightly been the focus of governments around the Caribbean Region.

An effective interconnection regime is key to encouraging competition, but may not be sufficient. Incumbent telcos can use a range of anti-competitive tactics to make life difficult for their competitors.

Governments need tools in place to stop such anti-competitive conduct. These tools may take the form of a general competition law, or may form part of a comprehensive telecommunications sector law. Requirements for the incumbent telco to provide information can also help regulators to detect and prevent anti-competitive practices.