ECONOMIC ISSUES OF LOCAL REGULATORY FORBEARANCE

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Abstract

We are now starting to see true-facilities-based competition for wired voice and video services for the first time in many markets as the telephone and cable operators offer directly competing services. However, in the absence of regulation, services to residences and small businesses are still likely to be priced at other than truly competitive levels. This is due to the fact that prices in duopoly, or even oligopoly, markets are generally not the same as one would expect to see in markets with significantly larger numbers of service providers. The question is one of degree, specifically whether the results under duopoly are likely to be equal to or better, in both the short- and long-run, than those under regulated monopoly to warrant regulatory forbearance. One of greatest problems with the emerging duopoly markets is the potential of cream skimming. This leads to the quandary of how one balances the overall savings to consumers, on one hand, with the possible distributional issues, on the other. One aspect of the cream-skimming question is whether the duopoly firms will focus on the higher-value consumers, leaving consumers who want basic service with little choice and, possibly, increased prices. This paper provides a context for the analysis of this problem and explores possible solutions.

Keywords

Local telecommunications forebearance regulation cream-skimming

1. Introduction

The modern telecommunications industry is a set of capital-intensive service businesses. Therefore, we need to consider both the network, including incentives for investment, and the variety of services and the characteristics of those services, including prices in evaluating business strategies and regulatory policies. One set of firms has their origins in the fixed network business, including both the traditional public switched telephone network (PSTN) services and advanced high-speed digital services. (The distinction here is rapidly disappearing as even analog calls are often digitized for economical transport over the network and new technologies allow circuit-switched voice and packet-switched data to be carried simultaneously on unified networks.). In the North American context, single firms originally covered home service areas on a regulated monopoly basis, often at the state/provincial or regional-groups-of-states/provinces basis. These carriers, the incumbent local carriers (ILECs), were and are interconnected with each other, enabling seamless calling from anyone on the network to any other party. Although there was some facilities-based entry by new competitors—the CLECs, the CLECs are almost all now gone at least from the

residential market. But, again, they were interconnected to the same network so that voice or fax or data or whatever calls could be made from almost anywhere to almost anywhere, regardless of which carriers served the originating and terminating parties.

Another set of firms, often with common ownership to the fixed carriers, provides mobile telephony services. The mobile carriers may use one or another of the current over-the-air technologies, predominantly digital. They are interconnected with each other and with the fixed carriers.

Although this discussion has made distinctions between local and long-distance service — on the one hand, and between fixed and wireless service — on the other hand, the ownership structure is not that clear. As one recent research paper states:

> The ownership structure in the telecommunications sector is somewhat complex. Most major incumbent local exchange carriers not only own the copper networks in the ground, but also hold large ownership positions of both long distance and wireless carriers. This ownership structure is unlike any other industry we have studied. In essence, one substitute that challenges the traditional phone carriers is actually owned by the traditional phone carriers. Our paper and our theory are silent on this complex ownership structure, though policymakers will need to consider how this affects legislation and regulatory decisions. We leave this to future academic work. (Fine and de Figueiredo, 2005)

For the most part, I shall ignore mobile carriers and their services for the purposes of this paper.

North American cable television companies operate their own networks, which until only very recently, not only used separate technologies but were not interconnected, either with each other or with the telephone networks. The cable carriers serve approximately 70 per cent of the households in the United States and have almost universal coverage in Canada, especially in the 160 km band that runs from east to west along Canada's southern border. It is important to note that in both countries the cable franchise areas are generally smaller than, more fragmented than, and not co-terminus with the service areas of the fixed PSTN carriers.

What distinguishes telecommunications from most other industries is that in all the parts of the telecommunications industry, we find a large variety of services being offered, all of which are dependent on the network and many of which are interdependent. For example local access, a distinct service offered to both residential and business customers, is valuable because both it provides basic telephony services to the customers (they can call one another) and it enables the delivery of additional ("vertical") features and services such as voice mail, caller ID, etc. Although it seems simplistic to say, a consumer cannot access or use caller ID or call waiting without a telephone line. (You can imagine a system where someone provides voice mail and then converts those messages into another format for delivery, but that situation is a minor exception to this general fact of life.) The telephone carriers make use of this inter-relatedness to

develop varied and sophisticated offerings that package various combinations for the subscribers. We will return to this theme many times throughout this paper.

2. Competing views – Is there effective competition?

2.1 The role of duopolies

As the cable operators start to offer telephony services in North America, we start to see true-facilities-based residential competition for the first time in many markets. However, services to residences and small businesses are still likely to be priced at other than truly competitive levels. We say this because the results of duopoly or even oligopoly markets are generally not the same as one would expect to see from markets with significantly larger numbers of service providers.

In recent years there was a period with non-facilities-based competition in the United States using unbundled network elements (UNEs) purchased from the ILECs. The results from this "experiment" were quite profound. During the 2002-2004 period there was significant entry into residential fixed-line markets in several states. The results in two states, New Jersey and California, where the ILECs lost significant shares in the residential markets are illustrative of the limits of oligopolies.[2]

Verizon is the ILEC serving virtually all of the state of New Jersey. UNE-P based local telephone competition started in July 2002. By the end of 2003, approximately 18 months later, the CLECs, predominantly AT&T and MCI, were serving just under 16% of the residential lines. [Throughout, I use the names for the corporate entities as they existed at the times being discussed.] The resulting savings to consumers was approximately US$130 million per year, and the average savings for the approximately 625,000 residential customers who switched to the new entrants was approximately 14% of the typical monthly bill. (Braunstein, 2004a)

A similar situation occurred in the state of California. Most of the state was served by SBC, and a large portion of the remainder was (and is) served by Verizon. Economically feasible UNE-P based competition for local telephone service first became available in mid-2002. The benefits included a mix of competitively priced bundles that include some or all of local service, features such as call waiting and caller ID, and other services such as long distance and DSL. Other benefits include the effective expansion of the local calling areas through the new entrants' elimination of extra charges for ZUM3 (local toll) calls. SBC lost 13% of its residential market, as measured by access lines, to the new entrants, again predominantly AT&T and MCI by the end of 2003, and Verizon lost 10% of its residential access lines to the CLECs in the first year of competition. The savings were comparable to those in New Jersey, although the specifics of the starting residential tariffs and packages offered led to some differences. (Braunstein, 2004b)

Now the competition to the ILECs in the residential voice market is mostly by VoIP providers. Approximately 60**%** of VoIP users in the U.S. and Canada are subscribers of

the cable companies. There are also over 2 million cable subscribers using circuit-switched voice services. (*Cable Digital News*, 2006) Along with this competition has come pressure for local forbearance, consisting primarily of price deregulation. Although there are a number of possible service providers in any given region, in practice the resulting market structure is or closely resembles a duopoly with the ILEC having the highest market share and cable company with most of the rest.

2.2 Perspectives / objectives

There are two basic sets of questions that should drive the economic discussion of whether local forbearance makes economic sense:

- *How to develop a policy that fosters competition and brings about benefits to all groups of consumers? If the consumer beneficiaries of the new policy are primarily at the high income/consumption end, is it possible to protect the poor—and others with limited communications needs or the means to afford better communications—so that they are not forced to pay more for basic residential service?*

- *Are the results, both the short- and long-run, under duopoly likely to be sufficiently better than those under regulated monopoly to warrant forbearance?*

An economist would classify these as the "distributional" question and the "efficiency" question. As a result, they highlight the nature of possible trade-offs, the obvious one being whether possible efficiency considerations outweigh any possible negative distributional concerns.

3. Alternate views of competition

Those who see the resulting telephone service market as competitive point to the number of firms providing service:

> It has taken about 22 years to go from one national monopoly phone company to a fiercely competitive market characterized by hundreds of phone companies competing for your business. This rough-and-tumble phone competition has brought good things for our state's consumers—high quality voice services at reasonable prices, a huge menu of rate plans, via state-of-the-art technologies. (Chong, 2006)

In addition to being historically inaccurate and confusing national trends and local markets, this approach has other problems. Economists have known for decades that it is not sufficient to count allegedly competing entities or the subscriber shares of such entities. The appropriate test is whether the alleged competition has had any affect on

pricing or demand. No such evidence of this nature has been presented in either Canada or the U.S.

So, if one rejects simple counting of "competitive" entities, what approach should be taken? To answer this we go back to economic principles and ask two questions:

a. Does the entrant (or set of entrants) have sufficient market power and provide sufficient competition to provide pricing pressure—above a trivial level—on the incumbent?

b. Is this competition likely to be sustainable for a reasonable period of time?

Basically, the problems with a duopoly are heightened versions of the problems with oligopolies. When there are a limited number of sellers, there is the potential for collusion in pricing, the restriction of output, the reduction in the variety of products and services, and possibly the control of input markets. This collusion can either be overt or tacit; in either case consumers are negatively affected in that some have to pay higher prices and others may be excluded from the market altogether. Duopolists can also cooperate to keep other competitors (or potential competitors) from establishing a strong position.

While it is correct that collusion can be facilitated by having fewer, rather than many, firms, modern economics has moved away from a one-to-one linkage between the number of sellers in a market and the degree of competition (or—on the other hand—of monopoly or market power). Although "structure" and "conduct" are linked in a logical sense, the specific circumstances of a given market determine the strength of that linkage. This is reflected in the anti-monoply policies in both Canada and the U.S. In *Decisions 94-19* and *2002-37*, the Canadian Radio-television and Telecommunications Commission (CRTC) recognized that market conduct is the key issue:

> In Decision 94-19, the Commission adopted the concept of market power, commonly used in economics and in competition law, as the standard by which to determine whether a market is competitive. As stated in that decision, this criterion is intended to assess the ability of a dominant firm to raise prices above those that would prevail in a competitive market. The Commission also stated that a well-defined product market, which takes into account practical substitutes and other demand features, such as falling prices, rivalrous behavior and aggressive marketing of the product in question, is critical in analyzing market power. Further, once defined, the relevant product market forms the basis for assessing whether there is sufficient competition to warrant forbearance from regulation under section 34 of the Act, as well as any subsequent analysis examining alleged anti-competitive behavior. (CRTC, 2002)

The horizontal merger guidelines of the U.S. Department of Justice and the Federal Trade Commission take a similar approach:

> First, the Agency assesses whether the merger would significantly increase concentration and result in a concentrated market, properly defined and measured. Second, the Agency assesses whether the merger, in light of market concentration and other factors that characterize the market, raises concern about potential adverse competitive effects. Third, the Agency assesses whether entry would be timely, likely and sufficient either to deter or to counteract the competitive effects of concern. Fourth, the Agency assesses any efficiency gains that reasonably cannot be achieved by the parties through other means. Finally the Agency assesses whether, but for the merger, either party to the transaction would be likely to fail, causing its assets to exit the market. (U.S. Department of Justice and the Federal Trade Commission, 1997)

4. Why cream skimming is a major issue

In the two examples of UNE-based entry described above, the entrants targeted "high value" customers, both residential and small businesses. The entrants primarily offered bundles that included all of local access, several vertical services such as call-waiting, caller ID, etc., and long-distance (trunk) calling. To some extent this was the result of AT&T's and MCI's background as inter-exchange carriers, and to some extent it was the result of the existing regulated tariffs. But there was nothing that prevented the CLECs from offering competitively-priced basic service on a stand-alone basis or bundled with only a bare minimum of features. However, they either chose not do so or, if they did, they refrained from promoting such offerings. At the same time the ILECs in each geographic market offered promotional packages, first with vertical features and then with long-distance bundles. But they also did not respond by offering to cut the basic tariff or to offer promotions targeted at low-end users. The overall impact of this "experiment" in competition was that most of the gains were concentrated on the "high value" customers and significant number of those in lower socio-economic groups saw no benefits at all.

One can find more recent examples of this strategy in the voice offerings of cable companies. For example, Cogeco's digital telephony offering in Quebec was limited to a single package that included unlimited calling in Canada and the continental US (excluding Hawaii and Alaska), voice mail, call display, call waiting, visual call waiting, and call forwarding. This package was priced at C$44.99 per month if one already subscribed to Cogeco's high speed Internet or cable TV service or at C$39.99 per month if one subscribed to both the Internet and cable TV. (Cogeco, 2005)

Both the UNE bundles and the Cogeco package illustrate one type of targeted offering, an example of what is sometimes referred to as "cream skimming," that could easily lead to a similar response by the ILECs under forbearance. From the perspective of economic efficiency, this need not necessarily be good or bad, but such a scenario is possible and has intriguing implications, especially for business strategy and economic equity considerations. For example, assume forbearance where there is competition and price caps exist everywhere (or price caps exist "everywhere else"—either works).

One strategy for the ILEC is to keep the current basic tariff (or even raise it, if permitted by the price cap rules) for stand-alone basic service. They would then design bundled prices for packages of basic and vertical services or for bundles of wired and broadband, wireless or satellite, or whatever. These could match the cable telephony offering in their region or be strategically designed alternatives. (One does not need rate de-averaging for this happen, but it would make it easier. However, it is necessary that the "basket and rate imputation" regulations be dropped as part of forbearance.)

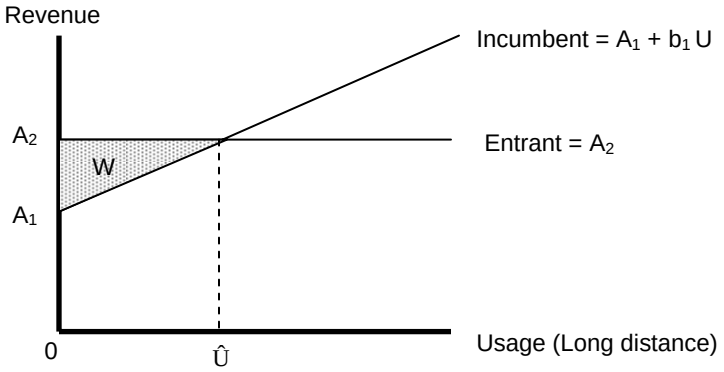
Why would the ILEC do this? The "low value" customers who want only basic service have only three options:

1) pay a higher tariff to the ILEC, if the ILECs are permitted to raise rates for basic service
2) move to the cable telephony service if it has a basic service offering
3) drop off the network.

Even if (2) is most likely, it just sticks the cable companies with these low-value customers, letting the ILEC focus on the remaining high-value customers.

This can be illustrated with a rather simple economic model. (See FIGURE 1.) Assume residential subscribers are offered service from an ILEC with a two-part tariff. The fixed monthly fee A_1 includes access and unlimited local calling while there is a usage fee of b_1 per minute of long-distance calling.[3] The monthly payment (and the revenue to the ILEC) is $A_1 + b_1 U$, where U is the volume of long-distance calling. If an entrant offers a package of local service and unlimited long-distance calling for a fixed amount A_2, those consumers with average usage levels above $\hat{U}$ will save money by switching to the entrant. (This switchover may be less than complete due to transactions costs, etc.) The result is that the ILEC will lose some of its high-volume customers and see a significant drop in revenues. If, as is likely, it is the case that there is a correlation between usage levels and the likelihood of purchasing high-margin vertical services such as call-waiting, caller ID, and voice mail, this customer loss can have a more-than-proportional effect on ILEC profits.

FIGURE 1: INCUMBENT AND ENTRANT REVENUE



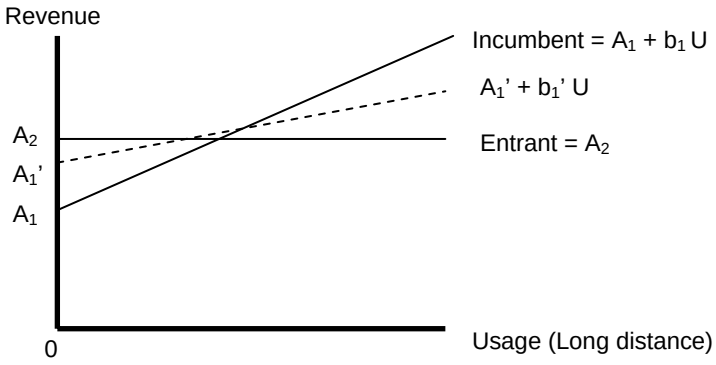
At this point the ILEC has only a few options to restore its revenue, each of which has potentially harmful effects on the low-usage subscribers.

a. The ILEC can switch to a flat price at or near A_2. In addition to the efficiency loss of pricing usage below marginal cost, there is the distributional problem in that the low-volume users now suffer a welfare loss equal to the shaded triangle labeled W in FIGURE 1.

b. The ILEC can increase A and reduce b, flattening the revenue curve to $A_1' + b_1' U$. (See FIGURE 2.) This will both reduce economic efficiency (as b_1' is below marginal costs) and reduce the welfare of some or all of the low-volume users. The exact mix of effects depends on the precise values of A_1' and b_1' and, therefore, on the new cross-over point which may be above or below $\hat{U}$.

c. The ILEC can switch to a differential access price model. (See Baumol, 2001.) While this may lead to the least efficiency distortion, it still has the effect of lowering the welfare of the low-volume subscribers.

FIGURE 2: INCUMBENT AND ENTRANT REVENUE WITH REVISED PRICING BY INCUMBENT



One can increase the realism of this analysis by explicitly including consideration of vertical services. For example, in New Jersey the average Verizon residential customer subscribes to approximately one-and-one-half to two services, not including voice mail.[4] To make the tariff changes more acceptable, either to consumers or to regulators, the ILEC can bundle additional vertical services in with the increased access fee. The marginal cost of these services is close to zero, so that is not an issue. However, many

consumers chose not to take these services at their old price, so one has to be careful before assigning a value to them to offset some or all of the welfare loss.

5. Alternate solutions and concluding comments

One of greatest problems with the emerging duopoly markets is the potential of cream-skimming. It is more likely for a duopoly market to experience these problems than a more competitive market. This leads to the quandary of how one balances the overall savings to consumers, on one hand, with the possible distributional issues, on the other. One aspect of the cream-skimming question is whether the duopoly firms will focus on the higher-value consumers, leaving consumers who want basic service with little choice and, possibly, increased prices. This was recognized by the Competition Bureau of Canada in a filing to the CRTC:

> …the Bureau has observed that the focus of this proceeding has very much been on ILEC requests to eliminate downward pricing flexibility, not the constraints on upward pricing flexibility. This has two important ramifications: (i) that the cable CLECs pricing is competitive and (ii) that the Commission, if it is concerned about an increase in prices, can retain restrictions on upward price flexibility. (Canada, Commissioner of Competition, 2005)

One effect of cream-skimming is that the incumbent is placed in the unusual and counter-intuitive position of arguing the need to <u>raise</u> prices in response to competition. The regulatory response can be to protect the lower-end consumers or to ignore the problem. The recent decisions by the CRTC and the California Public Utilities Commission (CPUC) are illustrative of these two approaches. Recognizing the desirability of explicitly dealing with distributional issues, the CRTC included the following provisions in its decision:

> 449. The Commission notes that, in Decision 97-19, it established a price ceiling for basic toll services to protect the interest of customers.
>
> 450. The Commission notes that, while market forces will generally discipline ILEC rates for most local exchange services in forborne markets, it has serious concerns with respect to the plight of vulnerable and uncontested residential customers.
>
> 451. The Commission considers it important to ensure that the affordability of essential basic residential PES [primary exchange service] not be compromised in a forborne market. The Commission is concerned that vulnerable and uncontested residential consumers may not have access to stand-alone PES at affordable rates in a forborne environment without a pricing safeguard.
>
> 452. In light of these concerns, the Commission considers that a ceiling on residential stand-alone PES would be appropriate. The Commission considers that such a ceiling would provide vulnerable and uncontested customers with a

> safeguard against unreasonable rate increases in a forborne environment while only minimally limiting the ILECs' pricing flexibility in forborne markets. (CRTC, 2006)

This can be contrasted to the approach taken in California, which ignores any potential distributional concerns:

> 1. For AT&T, Verizon, SureWest, and Frontier, the four largest ILECs regulated under NRF, the geographic averaging requirement shall be lifted for all services addressed in this proceeding that are not subsidized by CHCF-B.
>
> 2. Basic residential services receiving a CHCF-B subsidy shall be frozen at a level equal to the current rate, which shall be reevaluated in the upcoming CHCF-B review in R.06-06-028.
>
> 3. Price caps on basic residential services that are not subsidized by CHCF-B shall be automatically lifted on January 1, 2009. (CPUC, 2006)

This paper has focused on one aspect of emerging duopoly in North American residential voice telephony—cream skimming—and the policy challenges and responses that arise. There are additional possible problems such as collusion and predation that are not addressed here. To some extent these are inter-related. For example, once forbearance has been implemented in a substantial portion of the market, the temptation of the two main operators to cordon off non-competitive segments or reduce the market share of a third competitor could come to the fore. This underscores the need to keep the option of re-regulation on the books, even though it will ideally remain unexercised.

Whether one is focused on the residential market in its entirety or on specific segments, this analysis indicates the social benefits from maintaining specific, narrowly drawn, regulatory authority over prices in a post-monopoly environment.

Endnotes

[1] Kas Kalba, Christina Nigro, and Janice Hamer contributed to earlier versions of this research. The findings and conclusions in this paper are those of the author and do not necessarily represent the views of any other individual or entity.
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[2] For similar findings from New York States using a different approach, see Nicholas Economides, et al., 2005.

[3] If the usage fee b_1 is equal to the marginal cost, this two-part tariff has static and dynamic efficiency properties. See, for example, Kahn, 1970.

[4] See the spreadsheet accompanying Braunstein, 2004a.

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