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Forward Looking Telecommunications Cost Models

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William Sharkey's paper provides a useful overview of the mechanics, processes, and environment in which cost studies are being performed in support of prices for unbundled network elements and determining universal service support. His discussion explicitly or implicitly raises several issues that go to the heart of the telecommunications industry's regulation:

- ◆ The enormous task regulators face in determining costs and setting prices
- ◆ The importance of understanding the intent of regulatory actions and how outcomes can differ from the intended results
- ◆ Whether the stated objectives can be obtained by prescribing outcomes or through a process that allows competition to produce its results.

1. FORWARD-LOOKING COSTS

Models developed to produce the forward-looking costs of local exchange services are immensely complicated for a number of reasons. First, in their intent to capture the costs of a complex network in a single computer model, these models attempt to represent a large number of day-to-day engineering design decisions in a simplified form. These actions, in turn, forced regulators to make sense of, and render judgment on, a number of contentious design issues. These include 1) how long can copper phone lines serving customers be, and still produce adequate levels of quality, 2) what type of electronics is most efficient with fiber optic facilities, and 3) how should customers be grouped together when designing the local distribution areas that determine the design and cost of telephone lines? These questions and others had to be answered in the long debate over how to develop a model platform (i.e., a representation of the local network).

Once a platform is selected, regulators must wrestle with the inputs: how much should local telephone companies pay for equipment, should they be sharing sup-

port structures (such as telephone poles) with other utilities, and when should they use poles or place wires underground? Again, there is considerable controversy and uncertainty regarding these inputs.

Finally, because telephone equipment tends to have long economic lives, cost models essentially become a long-term forecast of a pattern of prices. The mathematical formulas that convert up-front investments to monthly charges (based on return on investment, economic lives, and taxes) ask and answer the following question: what single price can the firm charge over the life of its investment so that it just recovers its capital and earns a reasonable return on its investment?

The consideration of these complications clearly leads to an appreciation of the hard work that regulators have undertaken in posing these questions. In fact, the daunting task of developing forward looking costs raises the issue of whether these questions are even answerable. In this regard, the theme of this conference and Professor Trigeoris' discussion of real options become germane. Professor Trigeoris pointed out that in the real world, businesses must make decisions constantly and be willing to change decisions they made earlier. In contrast, forward looking cost models are implicitly built on numerous up-front decisions that remain unchanged for many years.

2. INTENT VERSUS OUTCOME

How a policy is implemented has a crucial impact on whether its objectives are met. For example, the FCC and other regulators have professed the entirely proper belief that the prices established by regulation neither favor nor disadvantage particular firms (or types of competitors). Whether this objective is attained depends on the delicate balance among the incumbents' retail prices, prices for resold services, prices for unbundled network elements, and the underlying costs for facilities-based entry. These prices, in turn, are influenced by how vigorously certain firms participate in the regulatory proceedings in which these prices are established.

Not surprisingly, there is a "squeaky wheel" phenomenon at work here. To illustrate this, at the beginning of 1998, there was a widespread belief that local exchange entry was proceeding at a disappointing rate, in part fueled by the laments of firms such as AT&T and MCI. Later in the year, reports by investment analysts such as Salomon Smith Barney¹ and Merrill Lynch² demonstrated that new firms were entering at a healthy pace, attracting considerable amounts of investment, and may in fact be ahead of the pace that firms such as MCI and Sprint had

attained at a comparable point in the development of long-distance competition. Indeed, both AT&T, by acquiring Teleport and planning to acquire TCI, and the completion of the MCI WorldCom merger quicken the pace of local exchange competition.

Another example of how results can deviate from intent relates to the objective that prices should promote efficient investment and entry. Again, imbalances among various prices can frustrate this objective. For example, unduly favorable prices for resale services can dampen the incentives for facilities-based entry, which economists generally agree brings the largest benefits to consumers. A revealing illustration of this phenomenon is the existence of certain competitive local exchange carriers that target information service providers (ISPs). Because ISPs for the most part receive calls (e.g., from their subscribers accessing the Internet), but make few calls, their local exchange carriers can earn large amounts of revenue from charges imposed on the carriers of the ISP's subscribers for terminating traffic. Thus, the business strategy of these carriers has responded to anomalies in interconnection prices, rather than efficient market prices. Further, carriers exploiting this advantage argue strenuously to perpetuate it in regulatory proceedings.

3. MARKET OUTCOMES VERSUS MARKET PROCESSES

The introduction of forward looking cost models can also be viewed as a profound shift in the regulatory paradigm. In the early 1990s, the regulation of local exchange carriers shifted from cost-based to price-based, under the prevailing beliefs that: 1) limiting prices provided better incentives than prescribing costs and 2) management discretion, rather than regulatory fiat, better promotes economic efficiency. The prices subject to regulation, in turn, were set at prevailing rates, with mechanisms to update them annually based on changes in inflation and productivity.

In contrast, forward looking cost models resemble the old-style cost-based regulation with a forward-looking twist (in effect, a review of prudent investment before the fact). And rather than starting with current prices and letting management decisions and competitive outcomes dictate the course of future prices, the use of these models is an attempt to produce prices that would putatively prevail under competition. In fact, some forward looking cost models imply that an efficient carrier could produce service at roughly half the price that incumbents are charging today. This perspective raises the fundamental question of whether we should rely on models to produce results that some claim competition would produce, or, as in the case of long-distance competition and price caps, should we start with

prices that are consistent with current prices and let the competitive process itself determine the outcome?

NOTES

- ¹ Salomon Smith Barney, May 6, 1998. *CLECs Surpass Bell in Net Business Line Additions for the First Time*.
- ² Merrill Lynch, September 1998. *Telecom Services – Local*.