

SHOULD FRANCHISE BIDDING SCHEMES BE EMPLOYED  
TO REGULATE INTEGRATED BROADBAND NETWORKS?

by

Mark A. Zupan\*

Revised  
February 1989

Department of Finance and Business Economics  
USC School of Business  
Los Angeles, CA 90089-1421  
(213) 743-5778

\*The author would like to thank Walter Baer, Martin Elton, David Gabel and Roger Noll for helpful comments and suggestions.

## I. INTRODUCTION

Because they are capable of providing voice, data, and video communications from a single digital fiber optic conduit, integrated broadband networks (IBNs) are likely to display economies of scope as well as economies of scale (Allan Cors, 1987; Marvin Sirbu, Frank Ferrante and David Reed, 1988). The appropriate extent and nature of regulation that should be employed during the development of this new technology is thus unclear. On the one hand, IBNs show promise as being a low cost means for delivering a broad array of communications services and as providing a competitive check on local telephone and/or cable television companies--companies which typically are the sole providers of their respective services at the local distribution level. On the other hand, IBNs are themselves likely to possess natural monopoly powers--powers deriving as much from economies of scope as from economies of scale.

This paper examines an important question concerning the appropriate regulation of IBNs. Specifically, if it is deemed appropriate to place restrictions on the property rights to employ the IBN technology, what is the most desirable form for such restraints to take? Under the present regulatory framework, local telephone companies are regulated as public utilities while franchise bidding schemes are employed to control local cable television companies.

Since local telephone revenues dwarf local cable revenues and a predominant majority of IBN revenues is anticipated to derive from the provision of voice and data services (cf., Israel Switzer, 1987), it may seem most appropriate to regulate IBNs as local telephone companies traditionally have been regulated.<sup>1</sup> There are, however, several well-known and well-documented problems associated with public-utility-style, rate-of-return

regulation (cf., Alfred Kahn, 1970; and Richard Schmalensee, 1979). Among these problems are the lack of appropriate incentives to minimize costs and to innovate.

In comparison to public-utility-style regulation, the merits of franchise bidding schemes are less well-known and well-documented. Consequently, this paper focuses on the efficacy of franchise bidding as a means of controlling natural monopolies. Recent empirical evidence from local cable television markets suggests that while franchise bidding schemes are not without their associated drawbacks, they possess several important advantages relative to traditional public-utility-style regulation; advantages which make franchise bidding at least worthy of consideration as a mechanism for controlling IBN natural monopolies.

## II. HOW THE FRANCHISING PROCESS WORKS IN THE CASE OF CATV

Franchise bidding has been advocated by some economists (cf., Harold Demsetz, 1967; and Richard Posner, 1972) as a means of controlling natural monopolies. Ideally, the right to be the sole supplier of a product should be awarded to the bidder promising to charge the lowest price. In this manner, ex ante competition is relied upon to ensure that, ex post, the winner of the competition does not behave monopolistically.

In the case of cable television, franchising falls by and large in the regulatory domain of the municipality (G. Kent Webb, 1983). Local policymakers set franchising in motion by issuing a Request for Proposals (RFP). The RFP serves as a preliminary "wish list" by specifying--albeit vaguely at times (cf., Oliver Williamson, 1976)--a city's minimum requirements and desired services.

On average, cable franchise competitions draw 4 to 5 applicants (Robin

Prager, 1986). In their submitted applications, the contestants promise, although never in complete contingent claims fashion, a construction deadline, basic and pay tier programming and rates, and certain nonprice concessions. The basic tier bundles together local broadcast stations and satellite- or microwave-fed services such as MTV, ESPN, and CNN. Pay tiers provide, largely in unbundled fashion, higher-value, satellite-fed entertainment services such as HBO and Showtime. The nonprice concessions are primarily fixed-cost in nature and may include: direct endowments; free hookups for public institutions; community programming; institutional networks (I-nets) linking various public facilities in a city; excess channel capacity; and franchise fees levied as a percentage of operating revenues.

Of the applications obtained, local politicians weed out clearly inferior bids and conduct hearings on the remainder. Surviving bidders are allowed to amend their original proposals. Competition among remaining applicants ensures that the quality of the final winning proposal is at least as high as the quality of the best initially-submitted proposal. The winning bidder is generally awarded an exclusive, renewable contract--typically for a period of 15 years.

Once awarded, cable franchise contracts require ongoing contact and negotiation between cities and operators (Williamson, 1976). The winning bidder does not disappear after winning the franchise and resurface 15 years later when it is time to relicense. Rather because of the incompleteness of the contracts, there are many details to be ironed out along the way and numerous unanticipated events to be mutually dealt with and resolved. The day-to-day ironing out may in fact be quite desirable on account of the costs of contractually defining parties' obligations under all possible states of nature that may attain (Victor Goldberg, 1976; Benjamin Klein and Roy Kenney, 1986; and Posner, 1986).

### III. THE ADVANTAGES ASSOCIATED WITH FRANCHISE BIDDING SCHEMES

Recent empirical evidence (Prager, 1986; and Zupan, 1988a, 1989a, 1989b, and 1988c) indicates that, at least in the case of local cable television distribution, franchise bidding schemes have five positive features: competition is "healthy" at the time of initial bidding; reputational concerns, among other factors, motivate firms to deliver on their promises during contract execution and limit opportunistic behavior by firms at the time of franchise renewal; rates are constrained below monopoly levels; there are strong incentives to minimize costs and to innovate; and relatively firm protection is provided for operators' First Amendment rights.

#### III.A. Healthy Initial Bidding Competition

Prager (1986) analyzes the experiences of 92 of 104 Massachusetts communities which undertook the cable franchising process during the period 1973-1981. She finds the number of applicants per community ranged from 1 to 17, with a mean of 5.2, and concludes that (pp. 23-24):

3 or 4 applicants is a sufficient number to generate a healthy degree of competition at the franchising stage, and to ensure that the specifications set forth in the [RFP]... (which are generally quite demanding) will be met or exceeded by at least one firm. In all but the smallest communities, applicants tend to devote substantial resources toward ascertaining the needs and desires of the residents of the community, developing detailed proposals designed to meet those needs and desires, and preparing impressive presentations for public hearings. Overall, the Massachusetts experience suggests that franchise bidding satisfies the first requirement for effectiveness--an adequate degree of competition at the bidding stage.

### III.B. Well-Working Restraints Against Operator Opportunism During Contract Execution and Renewal

Although competition may be healthy at the time of initial bidding, it is infirm after a franchise is awarded and a system begins operating. Incumbent firms possess considerable advantages over potential rivals due to the idiosyncratic investments involved in a cable franchise relationship (Williamson, 1976). The quasi-rents (Klein, Robert Crawford, and Armen Alchian, 1978) associated with such investments provide an operator with the temptation to "hold up" (Goldberg, 1976) a city for favorable changes in the terms of a relationship once the operator gets a foot in the door. And rate increases or scalebacks in nonprice concessions are among the favorable changes cable operators could extort from their city-partners.<sup>2</sup>

The extent to which incumbency advantages foster guileful behavior on the part of operators, however, appears to be limited. The results of systematic, empirical scrutiny indicate that cable operators are typically well-behaved (Prager, 1986; and Zupan, 1988a and 1989c). Reneging on promises during a contract is infrequent and when it occurs it appears to be due to unforeseen changes in demand or cost. The advantages of incumbency, furthermore, are typically not milked by operators at the time of franchise renewal; the deals obtained from incumbent operators by cities conferring renewals are as good as the deals obtained from rookie firms by similarly-situated cities concurrently awarding initial franchise contracts.

Prager (1986) examines the contract execution experiences of 92 Massachusetts communities which franchised cable systems over 1973-1981. By combing through the local newspaper clippings kept on file by the Massachusetts CATV Commission, she concludes that in terms of the three important dimensions of construction timing, service level and quality, and pricing (pp. 27-31):

The overall experience in Massachusetts with respect to each of these dimensions has been quite favorable...In almost all cases, cable systems have been constructed within the promised time period...problems with the level and quality of service are infrequent, and not terribly serious in nature...The pricing behavior exhibited by Massachusetts cable companies--increasing rates once every 2 or 3 years by an amount which in most cases is consistent with general price trends--does not seem to be unreasonably opportunistic.

Prager also sent out questionnaires to policymakers in 398 cabled communities nationwide. She obtained 216 responses and found that:

nearly seven-eighths of those responding to question 35A [Would you advise another community similar to yours in size and composition to award a franchise to this firm?], would recommend their cable operators to other communities. While extreme responses...occur somewhat infrequently, extremely good ratings far outnumber extremely bad ratings for all aspects of firm behavior.

Only four percent of the respondents believed that their operator had asked for an excessive number of rate increases; six percent called the size of the rate increases excessive; six percent rated service quality as poor; and nine percent characterized their company as being "unresponsive" to community needs.

Prager's results are complemented by the findings of a nationwide, random-sample telephone survey of 66 systems coming onstream in the early 1980s (Zupan, 1989c). At the time the telephone survey was conducted in the fall of 1984, all of the surveyed system managers reported having dutifully adhered to their franchise agreements since the initiation of their respective contracts.

A survey of the trade press also reveals only a few possible cases of opportunistic renegeing by operators (Zupan, 1989c). If one excludes conflicts over changes in federal or state law, rate increase requests which are

contested but fall short of the inflation rate, and minor changes in the nonprice provisions of a franchise contract, an exhaustive examination of the trade press unearths fewer than 60 possible cases of opportunistic renegeing by operators among the systems franchised between 1980 and 1986. Relative to the total number of over 3000 systems franchised during that time period, the number 60 is quite small.<sup>3</sup>

To examine for whether operator opportunism may be present at the time of contract renewal, Zupan (1988a) compares the terms of trade in two different types of contracts: [1] a sample of 59 renewal accords agreed upon over the period 1980-1984 for which some relevant contractual (as well as cost and demand) data are available from the weekly industry newsletter, Cable TV Franchising; and [2] the random sample of 66 concurrently-struck initial franchise awards for which detailed demand, cost and contractual data were obtained through a telephone survey. The terms of trade which are compared include channel capacity, franchise fee, dedicated community programming channels, basic tier price, basic tier price per channel of service offered, and lead pay tier price. Econometric analysis of the data indicates that the terms of trade in renewal contracts are generally equivalent to the terms of trade in concurrently-struck initial contracts.

Among the defense mechanisms which appear to ensure that bad behavior by franchised operators is the exception rather than the rule are reputational constraints (Klein and Keith Leffler, 1981) and the potential for vertical integration (Paul Joskow, 1985; and Klein, Crawford, and Alchian, 1978) by cities into the distribution of local CATV services (i.e., municipal ownership). The ability of operators to exploit the advantages of incumbency also appears to be circumscribed by the countervailing power of cities to do likewise; i.e., while their irreversible investments place existing firms in a



superior position vis-a-vis potential entrants, the sunk costs have value only to the city in which they are sunk. The monopsony power an incumbent city can bring to bear on an incumbent operator may be quite substantial.

### III.C. Prices Below Monopoly Levels

Four pieces of evidence suggest that franchising is at least partly successful in restraining the pricing behavior of cable operators. First, the justifications offered by local policymakers for either accepting or rejecting franchise bids indicates some concern on the part of franchising authorities for the interests of cable consumers (Prager, 1986; Zupan, 1989c). In reviewing the reasons given by policymakers in 92 Massachusetts cities for either accepting or rejecting a bid, Prager notes that although "there was not a single case in which the franchising decision was based upon a scalar, lowest-price criterion...Low rates were uniformly cited as one of several criteria applied in judging applicants."

Second, the 16 percent jump in cable stock prices in the two months subsequent to the passage of the Cable Communications Policy Act in 1984 implies that franchising has been at least somewhat successful in limiting basic tier rates.<sup>4</sup> The federal legislation freed basic rates of local control effective December 29, 1986. Over the same two-month period following passage of the legislation, the Standard & Poor index rose 8 percent and the Dow Jones average increased 6 percent.

Third, the observed change in total revenues in systems which have raised their rates also suggests that local authorities have been at least partially effective in controlling basic as well as pay rates. Since the revenue from basic and pay services generally increases in response to a hike in basic and pay tier prices, respectively, this implies cable firms have been constrained

to operate along the inelastic portions of their demand curves (Zupan, 1989c). Only an effectively price-regulated firm would operate along such a region of the demand curve; an unconstrained profit-maximizing firm would never charge a price associated with the inelastic region of demand.<sup>5</sup>

Finally, cross-sectional econometric analysis of the basic and lead pay tier prices charged in October 1984 by 66 telephone-surveyed cable operators suggests that franchising restrains cable prices below monopoly levels (Zupan, 1989c). Everything else held constant, for example, the 10 percent of the surveyed operators free of formal rate control charged \$3.82 more per month for basic service than did operators subject to formal rate control.<sup>6</sup> In addition, ex ante competition for a franchise award succeeds in lowering monthly basic and pay tier prices by \$0.16 and \$0.15, respectively, per bidder competing for the award. Since franchise competitions attracted an average of 4.44 applicants for the systems in the sample, ex ante competition is estimated to decrease basic and pay prices by an average of \$0.71 and \$0.66, respectively.

#### III.D. Strong Incentives to Minimize Costs and to Innovate

Although franchising appears to be effective at preventing monopoly pricing, the econometric evidence also implies that operator profits are not always constrained to equal zero. While formal franchise rate review succeeds in holding down basic rates by an average of \$3.82 per month, for example, these rates could be further lowered by \$4.43 per month if operator profits were completely eliminated (Zupan, 1989c).

A review of the trade press indeed indicates that cities rarely request a contract renegotiation. When market conditions turn out to be better than anticipated at the time of franchising, cable operators generally get to

retain the attendant, unexpected windfall. Contract renegotiations are typically initiated by operators confronting market conditions that are less favorable than anticipated at the time of franchising. Cities, on the other hand, rely primarily on franchise renewals to ensure that the terms of trade in their franchise accords are "at market" (Zupan, 1989a).

The fact that cities rarely attempt to renegotiate franchise contracts when market conditions turn out to be better than expected suggests that franchise bidding schemes are a "flexible" regulatory mechanism that provides cable operators relatively strong incentives to minimize costs and to innovate. The gains associated with any cost savings or innovation redounds directly to the operator--at least until the time of the next franchise renewal. By contrast, effective rate-of-return regulation that rigidly constrains the regulated firm's profits to consistently equal zero provides little incentive for the firm to minimize costs or to innovate.<sup>7</sup>

### III.E. Protection of Operators' First Amendment Rights

A final advantage associated with franchise bidding schemes, at least in the case of cable television, is the protection these schemes afford for the First Amendment rights of operators. Compared to common carriers which have no control over or liability for the contents of their transmission, cable operators possess much greater editorial responsibility and liability for the services they provide (Michael Botein, 1988).<sup>8</sup> And while control over content carries with it the danger that the operator may exclude third-party suppliers of services, either for economic or noneconomic reasons (Botein, 1988), such control is subject to a market test under a franchising framework: specifically, operators who fail to adequately meet the needs of their subscribers--by dropping, for example, a pay television service provided by a

competing programming supplier--are subject to not only ongoing pressure from the relevant franchising authorities during contract execution but also to replacement at the time of franchise renewal.<sup>9</sup>

#### IV. THE DRAWBACKS ASSOCIATED WITH FRANCHISE BIDDING SCHEMES

While the findings summarized in the preceding section suggest that franchising may be an attractive means of regulating IBN natural monopolies, recent empirical evidence also indicates that there are, at least in the case of cable television, two important problems connected with franchising. The two drawbacks that need to be balanced against the advantages associated with franchise bidding are: an apparent overemphasis by local policymakers on nonprice concessions when awarding franchise contracts; and delays in wiring, primarily in certain large cities, due to the lengthiness of the initial bid solicitation and evaluation process.

##### IV.A. An Overemphasis on Nonprice Concessions

Of the various impediments to the promotion of efficiency through franchise bidding schemes, the pursuit of nonprice concessions by local policymakers may be the most significant obstruction. No matter how potent a city's defenses against operator opportunism and no matter how perfect the competition at the time of initial bidding, the lowest level to which prices can be held ultimately depends on the costs associated with building and operating a cable system. If nonprice concessions raise costs (particularly if they needlessly raise costs--i.e., if they are bells and whistles that provide little in the way of economic benefits) and yet prove desirable to local policymakers, the efficiency-enhancing potential of franchise bidding

schemes is curtailed.

That franchise award decisions may be based partly on the nonprice concessions offered by competing bidders has been well-noted (Posner, 1972; and William Shew, 1984). To justify why an application is approved or denied, for example, local policymakers frequently point to the nonprice concessions either promised or not promised by the bidder (Zupan, 1989c).

To investigate the effect of nonprice concessions on cable costs, Zupan (1989b) employs data from a nationwide, random-sample telephone survey conducted in the fall of 1984 of 66 systems coming onstream in the early 1980s. Econometric estimation based on the survey data reveals that nonprice concessions significantly increase the costs of building and running a cable system. Nonprice concessions account for 26 percent of building costs and 11 percent of operating expenses.<sup>10</sup>

By raising costs, nonprice concessions also translate into higher prices for cable consumers. Based on econometric analysis, for every dollar spent (per home passed by cable) on nonprice concessions, basic rates are \$0.35 higher, all else held constant (Zupan, 1988a). Were it not for the expenditures on nonprice concessions by the surveyed operators, basic rates would have been approximately \$0.50 lower in October 1984, on average.

Of the expenditures related to nonprice concessions, a sizeable portion appears to provide only limited economic benefits. I-nets, for example, account for 14 percent of construction costs, but generally lie idle. Less than 9 percent of the I-net channel capacity in the survey sample is at least partially utilized. This low rate exists even though operators do not charge public institutions for usage.

Only six of the 66 systems surveyed reported some commercial utilization of their I-nets. Of the six, only one is making commercial revenues sufficient to cover operating expenses. Most surveyed operators with I-nets

stated unequivocally that they would never freely invest in such a project. As one operator put it: "No way...its just an expensive toy for the local politicians that was necessary to win the franchise."

Spending on local origination and access likewise appears to provide only limited economic benefits. Studies report that community programming has little, if any, effect on the demand for cable (Paul MacAvoy, 1977; and Webb, 1983). Televised city council meetings and local high school football games simply do not sell many subscriptions for an operator.<sup>11</sup>

In cases of aerial wiring, furthermore, there is no economic advantage to installing excess capacity (Malarkey, Taylor, and Associates, 1975).<sup>12</sup> There may even be an economic disadvantage if changes in technology render the excess capacity obsolete.<sup>13</sup>

Standard channel capacities in the cable industry are 12, 36, 54 or some combination thereof. Five of the 66 surveyed managers reported having a larger than optimal residential capacity and stated that the superfluous and unutilized capacity was due to the franchising process. Two of these systems have a larger than necessary cable (e.g., 54 channels as opposed to an optimal 36). Three systems have a second, inactive residential cable (e.g., two 54-channel cables of which only one is used).

Given the ostensible economic inefficiency of spending on I-nets, community programming and excess capacity, why do policymakers award franchises at least partly on the basis of such nonprice concessions? Are policymakers' revealed preferences for such concessions irrational?

Three reasons suggest not. For one, any higher price necessitated by the cost of nonprice concessions can always be blamed on the cable operator. A local policymaker may even get favorable publicity and win political support from putting up a valiant, though ultimately unsuccessful, effort to protect

cable consumers from higher rates.

Second, the benefits from nonprice concessions are both relatively concentrated (Mancur Olson, 1965; and James Wilson, 1980) and are focused in the hands of individuals who tend to be active and influential in local community politics. The beneficiaries of the dollars spent on I-nets, community programming and endowments are the local educators, the fire department chiefs, the heads of area hospitals, and the overseers of the community libraries. The winners from franchise fees include local policymakers themselves since such fees augment city government revenues. In contrast, the benefits from expenditures on general cable services are relatively diffuse and accrue to individuals who are typically much less active and influential in local politics--namely, the average cable consumer.

Third, nonprice concessions may provide less visible, more-difficult-to-measure nonpecuniary benefits to a community. There may be, for example, pride and prestige associated with having the finest local origination studio in the state or in having a state-of-the-art system--albeit a commercially nonviable studio and a system with a superfluous amount of residential and I-net capacity. And while economic analysis is capable of pointing out that the provision of such "merit" goods appears to provide only limited (easy-to-measure) economic benefits, one cannot rule out the possibility that there are important, but less-easily-measurable, nonpecuniary benefits associated with the nonprice concessions typically requested by local policymakers.

#### IV.B. Delays in Decision-Making

While the franchise selection process typically takes no more than one or two years to complete, a recent U.S. Department of Commerce report (1988, p. 27) notes that there have sometimes been long delays, particularly in certain

large metropolitan areas:

For example, the franchise selection process in one section of Los Angeles consumed more than five years, amid allegations that council members were delaying their decision in order to collect campaign contributions from the various bidders. Similar delays occurred in Washington, D.C. and Baltimore before franchises were awarded. Philadelphia endured four separate franchising processes since 1966 before it finally selected a franchisee in 1984.

Where cities take a long time to obtain and evaluate franchise bids and to make a franchise award, there may be substantial welfare costs. Consumers of basic cable service must do without such service during the period of delay. The beneficiaries from nonprice concessions also obtain no benefits from such concessions until the award is made. The costs to a city and its citizens of a lengthy delay during franchise selection may significantly outweigh any benefits (e.g., obtaining a bid promising lower prices and/or greater nonprice concessions) from the delay.

#### V. WHY ARE FRANCHISE BIDDING SCHEMES NOT EMPLOYED TO REGULATE TELEPHONE SERVICE?

Is it because the disadvantages associated with franchise bidding schemes are significant that local telephone companies are currently regulated as public utilities? I think not. For one thing, although there are probably significant costs associated with lengthy delays in the franchise selection process, such delays are uncommon. In addition, while the nonprice concessions pursued by local policymakers appear to provide only limited economic benefits, it would seem unlikely that public-utility-style regulation has been adopted in the case of local telephone service to restrict the pursuit of such concessions.

What then explains why franchise bidding schemes are not currently



employed to regulate local telephone monopolies? I can think of three possible reasons. First, telephone service is probably considered to be more of a necessity than cable service is. The possibility of exploitive, monopoly pricing, in other words, is of greater concern to telephone consumers (and their political representatives) than cable consumers. As a result, direct regulation, tighter control, is justified more easily for local telephone monopolies while a more flexible, private-sector-oriented regulatory technology is employed as a means to control local cable monopolies.

Second, compared to cable television, telephone service probably is perceived to be a more standardized commodity, less susceptible to technological change. The need for a flexible regulatory mechanism that provides sufficient incentives to minimize costs and to innovate may thus not appear to be as strong in the telephone case as it is in the case of cable.

Finally, franchise bidding schemes are particularly effective when reputational considerations are relevant to franchisees. Where a bad name implies lost future business from existing and/or new customers, franchisees will be deterred from opportunistic behavior. In the telephone case, however, there has been, until recently, only one provider of services. Prior to technological breakthroughs in the the long distance market, the ability to easily access any given location in the country through a single network implied tremendous economies of scale for the dominant firm, AT&T. On account of the tremendous economies of scale, reputational considerations were a less pressing concern for the dominant firm. Since AT&T had most of the telephone market, there was not much more to be gained, at least in that market, from behaving well and not much that could easily be lost from behaving poorly. With reputational considerations being diminished, franchise bidding schemes become a less effective means for regulating natural

## VI. COULD FRANCHISE BIDDING SCHEMES BE EMPLOYED TO REGULATE IBNS?

Are the three preceding explanations for why telephone companies are regulated as public utilities sufficient to imply that franchise bidding schemes should not be employed to control IBNs? Probably not. In the first place, important changes in technology have markedly improved the competitiveness of the long-distance telephone market. The significant elements of natural monopoly that remain in telephone service appear to be at the local exchange level (Nina Cornell, 1988; Roger Noll, 1987; Noll and Bruce Owen, 1988; and David Reed, 1988). By relying on competition between the Regional Bell Operating Companies spun off from AT&T in 1984 and the numerous multiple system owner (MSO) cable firms with ample financial resources, reputational considerations could be brought into play more fully at the local level--thereby substantially enhancing the potential effectiveness of franchise bidding schemes as a means of controlling IBN natural monopolies.

While telephone service may appear to be a more standardized commodity than cable, furthermore, the same relationship is unlikely to hold true between IBNs and cable television. A cursory reading of the trade press and the other articles of this conference volume indeed indicate a smorgasbord of possible design alternatives and service offerings as well as rapid technological change for IBNs (cf., Cablevision, January 4, 1988, p. 12; and Sirbu, Ferrante, and Reed, 1988). To encourage appropriate incentives for innovation and cost minimization in this type of environment, the employment of a flexible regulatory mechanism such as franchise bidding is desirable. Franchise bidding encourages innovation and cost minimization by ensuring that a provider of IBN services that is particularly successful at innovating and

minimizing costs in one local market is rewarded with profits not only in that market but in other local markets as well.

Finally, IBNs will provide services characterized by a varying degree of necessity/luxury. While public utility regulation is typically utilized to control prices in the markets for necessities, the empirical evidence summarized in this paper above suggests that franchise bidding could also be similarly employed. So long as competition is healthy at the time of initial bidding and reputational concerns are brought to bear on franchised operators that fail to restrain their pricing of necessities, franchise bidding succeeds in preventing monopoly pricing.

All of the foregoing, of course, should not be taken to imply that franchise bidding could be relied upon, without any difficulty, to control IBN natural monopolies. Besides the possibility of lengthy franchise selection delays and the pursuit of nonprice concessions by policymakers, the appropriate jurisdictional level (e.g., state, city, etc.) for implementing franchise bidding poses a thorny problem. Another potential difficulty associated with franchise bidding in the case of IBNs involves the externalities a franchised IBN operator may impose on an existing cable or telephone company and its customers. If the IBN franchisee, for example, offered services that attracted away a subset of the existing cable firm's customers, the customers that remain with the cable firm may face sharp price increases due to economies of scale in the provision of cable (Eli Noam, 1985; and Bruce Owen and Peter Greenhalgh, 1983).

It has been noted by previous authors that the externality imposed by an IBN franchisee may reflect economically undesirable cream skimming or bypass: production for certain subsets of the market which, while lucrative for the IBN franchisee, leaves the incumbent cable firm, the cable firm's residual customers, and society worse off (William Baumol, Elizabeth Bailey, and Robert

Willig, 1977; Gerald Faulhaber, 1975; John Panzar and Willig, 1977; and Edward Zajac, 1978). To prevent such economically undesirable cream skimming, policymakers will need to ensure that IBN bidding competitions are open to all possible bidders (i.e., both the existing cable and phone company) or that there is an active Coasian (Ronald Coase, 1960), side-payments market for the right to provide the various services potentially available from an IBN franchisee (cf., Bruce Egan and Dennis Weisman, 1986; and Zupan, 1988b).<sup>15</sup>

## VII. SUMMARY AND CONCLUSIONS

The findings reported above suggest that franchise bidding schemes may be an effective mechanism for controlling IBN natural monopolies. Based on the experience in cable markets, such schemes appear to be successful at: ensuring effective competition at the time of initial bidding; promoting promise-keeping during contract execution and deterring opportunistic behavior at the time of franchise renewal by franchisees; providing incentives for regulated firms to innovate and to minimize costs; and restraining prices below monopoly levels. While franchise bidding is not without its drawbacks and is not currently employed to regulate local telephone companies, the apparent nature of the emerging IBN market may make franchise bidding worth considering as a natural monopoly control technology.

## FOOTNOTES

<sup>1</sup>The combined revenues of the Regional Bell Operating Companies totaled \$70 billion in 1987 (Cablevision, July 4, 1988, pp. 37-42). By contrast, cable company revenues totaled \$11 billion (Paul Kagan Associates, Inc., The Kagan Cable TV Financial Databook, June 1987, pp. 12-13).

<sup>2</sup>During contract execution, any change in basic tier prices (as well as programming) has generally required, until recently, the consent of local policymakers. And while federal law has consistently proscribed local regulation of pay tier rates, certain municipalities have maintained implicit control over changes in these rates as well (Zupan, 1989c). According to the Cable Communications Policy Act passed by Congress in December 1984, basic tier rates are free of local control as of December 29, 1986, provided that there is effective over-the-air competition. The Federal Communications Commission has defined effective competition as being at least three broadcast signals--a definition which implies that decontrol applies to roughly 80 percent of all cable systems and 90 percent of all basic subscribers (Multichannel News, March 15, 1985, p. 1). During the two-year transition period preceding total rate deregulation, operators could raise basic tier rates by up to 5 percent per year (Cablevision, May 20, 1985, p. 32).

<sup>3</sup>Zupan (1989c) also tests for operator opportunism by comparing the basic penetration rate (the ratio of basic subscribers to homes passed by cable) predicted by the winning bidder at franchising time with the realized penetration rate. The results of the test suggest three important conclusions. First overestimates of market size have occurred only in large cities. Second, the overestimates appear to reflect unanticipated changes in market information--namely, stronger-than-expected competition from broadcast television and satellite master antenna television (SMATV)--rather than opportunistic behavior on the part of operators. Third, contractual safeguards such as reputational considerations and the incumbency advantages available to cities appear to be especially effective at limiting bad behavior by operators.

<sup>4</sup>Cablevision, March 4, 1985, p. 4. A recent study of system sale prices by during the 1980s by Adam Jaffe and David Kanter (1989) provides additional evidence that deregulation resulted in an increase in the valuation of cable company assets.

<sup>5</sup>Although federal law proscribes the local regulation of pay rates, operators may exercise pricing restraint in pay markets out of the fear that "overly aggressive" pricing behavior will invite some form of retaliation by a city and its policymakers. For the same reasons that many operators appear hesitant to take advantage fully of the recent federal deregulation of basic pricing (cf., Multichannel News, December 1, 1986, p. 1) and that oil companies have demonstrated an unwillingness to charge what the market will bear in the face of sharp increases in the demand for their products (Stephen Erfle and Henry McMillan, 1986; Erfle, John Pound, and Joseph Kalt, 1981; and Alan Olmstead and Paul Rhode, 1986), pay rates may lie below monopoly levels.

<sup>6</sup>For the sample, the average monthly basic and lead tier prices equal \$9.35 and \$9.57, respectively.

<sup>7</sup>Paul Joskow (1974) provides evidence that owing to regulatory "lag" rate-of-return constraints are not always binding for public utilities. "Price caps" represent an attempt to institutionalize lag in the public-utility regulatory apparatus and to thereby enhance incentives for regulated firms to innovate and to minimize costs. See Ingo Vogelsang (1988) for a discussion of such attempts to introduce more flexibility to public-utility-style regulation.

<sup>8</sup>The First Amendment rights of cable operators are still not as extensive as those of newspaper publishers. There are, for example, still requirements to serve (so long as the population density is sufficient to cover additional wiring expenses) and to provide certain local origination/public access programming (Zupan, 1989c).

<sup>9</sup>In the case of over-the-air television, for example, FCC license renewal is contingent upon the incumbent broadcaster's public service record (e.g., whether the operator has provided a sufficient amount of local/information programming). In practice, however, the threat of nonrenewal has not been used extensively to ensure fulfillment of stated public service requirements. As Botein (1985) puts it, "the renewal process, whether regular or comparative, has been a joke, with the incumbent renewed irrespective of its public service record."

<sup>10</sup>Shew's (1984) estimates of the effect of nonprice concessions on cable costs generally exceed those reported in Zupan (1989b). In arriving at his estimates, however, Shew relies on proposal data and assumes that at any given price, franchising authorities extract all potential profits from a cable operator. The price equals average cost assumption is invalidated by the empirical evidence in Zupan (1989c).

<sup>11</sup>I-nets, local origination, and public access may be "merit goods" (Richard and Peggy Musgrave, 1976) that provide significant noncommercial benefits to a community. Even if they have merit value, however, the underwriting of such goods through higher prices for regular cable service produces an allocative inefficiency in the market for regular cable service.

<sup>12</sup>The estimates pertaining to the effect of nonprice concessions on cable costs assume that only aerial excess capacity represents a nonprice concession. This is to account for any possible economic advantages to installing underground excess capacity (Malarkey, Taylor, and Associates, 1975),

<sup>13</sup>In 1985, GE began marketing a signal compression technology which allows operators to double an existing cable's capacity without installing a new, larger cable or a second trunk (Cablevision, March 11, 1985, p. 14).

<sup>14</sup>Prior to the time AT&T achieved nationwide market dominance on account of the economies of scale associated with the provision of long-distance service, franchise bidding competitions were frequently employed to determine which company would get the rights to provide local telephone service in a given city--with some of the same problems (e.g., an apparent overemphasis on nonprice concessions) occurring in those earlier competitions as in modern-day cable franchising (Gerald Brock, 1981).

<sup>15</sup>With a side-payments market, the question of to whom the right to provide a certain IBN service is assigned remains an important issue. For example,

should the right be assigned to the winner of the IBN franchise or to the incumbent cable firm's residual customers that would get harmed if the service was offered by the IBN franchisee?

## BIBLIOGRAPHY

- Baumol, William J., Elizabeth E. Bailey, and Robert D. Willig, "Weak Irreversible Hand Theorems on the Sustainability of Multiproduct Natural Monopoly," American Economic Review, Vol. 67, No. 3, pp. 350-365.
- Botein, Michael, "The FCC's Regulation of the New Video Technologies: Backing and Filling on the Level Playing Field," in Video Media Competition, Eli M. Noam, ed., New York: Columbia University Press, 1985, pp. 311-329.
- , "The Regulatory Status of Integrated Broadband Networks: A Preliminary Inquiry," unpublished paper, Communications Media Center, New York Law School, 1988.
- Brock, Gerald W., The Telecommunications Industry, Cambridge, Massachusetts: Harvard University Press, 1981.
- Coase, Ronald H., "The Problem of Social Cost," Journal of Law and Economics, October 1960, Volume 3, pp. 1-44.
- Cornell, Nina W., "Letter to the Editor," Regulation, 1988, No. 1, p. 3 and p. 52.
- Cors, Allan D., "Comments of Corning Glass Works: Testimony Before the FCC", unpublished memo, Telecommunications Products Division, Corning Glass Works, November 1987.
- Demsetz, Harold E., "Why Regulate Public Utilities?," Journal of Law and Economics, April 1968, Vol. 11, No. 1, pp. 55-65.
- Egan, Bruce L. and Dennis L. Weisman, "The U.S. Telecommunications Industry in Transition: Bypass, Regulation and the Public Interest," Telecommunications Policy, June 1986, 10, No. 2, pp. 164-176.
- Erfle, Stephen and Henry M. McMillan, "Media, Political Pressure and the Firm: The Case of Oil Pricing in the Late 1970s," unpublished paper, University of California, Irvine, 1986.
- , John A. Pound and Joseph P. Kalt, "The Use of Political Pressure as a Policy Tool During the 1979 Oil Supply Crisis," Discussion Paper #E-80-09, Kennedy School of Government, Harvard University, 1981.
- Evans, D.S., Breaking up Bell, New York: North-Holland, 1983.
- Fairchild Business Publications, Multichannel News, Denver, weekly, various weeks.
- Faulhaber, Gerald R., "Cross-Subsidization: Pricing in Public Enterprises," American Economic Review, December 1975, Vol. 65, No. 5, pp. 966-977.
- Goldberg, Victor P., "Regulation and Administered Contracts," Bell Journal of Economics and Management Science, Autumn 1976, Vol. 7, No. 2, pp. 426-448.



International Thomson Communications, CableFile, Denver, yearly, various years.

-----, CableVision, Denver, weekly, various weeks.

Jaffe, Adam B. and David M. Kanter, "Market Power of Local Television Franchises: Evidence From the Effects of Deregulation," unpublished working paper, Department of Economics, Harvard University, January 1989.

Joskow, Paul L., "Inflation and Environmental Concern: Structural Change in the Process of Public Utility Regulation," Journal of Law and Economics, October 1974, Vol. 17, No. 2, pp. 291-327.

-----, "Vertical Integration and Long-Term Contracts: The Case of Coal-Burning Electric Generating Plants," Journal of Law Economics and Organization, Spring 1985, Vol. 1, No. 1, pp. 33-80.

Kahn, Alfred E., The Economics of Regulation, Vols. I and II, New York, NY: Wiley, 1970 and 1971.

Klein, Benjamin, Robert Crawford, and Armen Alchian, "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," Journal of Law and Economics, October 1978, Vol. 21, No. 3, pp. 297-326.

----- and Roy W. Kenney, "Contractual Flexibility," unpublished paper, UCLA Department of Economics, January 10, 1986.

----- and Keith Leffler, "The Role of Market Forces in Assuring Contractual Performance," Journal of Political Economy, December 1981, Vol. 89, No. 4, pp. 615-641.

MacAvoy, Paul W., ed., Deregulation of Cable Television, Washington, DC: American Enterprise Institute, 1977).

Malarkey, Taylor, and Associates, Philadelphia Cable Television Analysis: Initial Report, Washington, DC: Malarkey, Taylor, and Associates, 1975.

Musgrave, Richard A. and Peggy B. Musgrave, Public Finance in Theory and Practice, New York: McGraw-Hill Book Company, 1976.

Noam, Eli, editor, Video Media Competition, New York: Columbia University Press, 1985.

Noll, Roger G., "The Twisted Pair: Regulation and Competition in Telecommunications," Regulation, 1987, Vols. 3/4, pp. 15-22.

----- and Owen, Bruce M., "U.S. v. AT&T: The Economic Issues," in The Antitrust Revolution, John Kwoka, Jr. and Lawrence White eds., Glenview, IL: Scott, Foresman, 1988.

Olmstead, Alan L. and Paul Rhode, "Rationing Without Government: The West Coast Gas Famine of 1920," American Economic Review, December 1985, Vol. 75, No. 5, pp. 1044-1056.

- Olson, Mancur, The Logic of Collective Action, Cambridge, MA: Harvard University Press, 1965.
- Owen, Bruce M. and Peter R. Greenhalgh, "Competitive Policy Considerations in Cable Television Franchising," Washington, DC: Economists, Inc., 1983.
- Panzar, John C., and Robert D. Willig, "Free Entry and the Sustainability of Natural Monopoly," Bell Journal of Economics, Spring 1977, Vol. 8, No. 1, pp. 1-22.
- Posner, Richard A., "The Appropriate Scope of Regulation in the Cable Television Industry," Bell Journal of Economics, Spring 1972, Vol. 3, No. 1, pp. 211-240.
- , Economic Analysis of Law, 2nd. ed., Boston: Little, Brown and Company, 1986.
- Prager, Robin A., "Firm Behavior in Franchise Monopoly Markets: The Case of Cable Television," unpublished Ph.D. dissertation, M.I.T., 1986.
- Reed, David S., "Letter to the Editor," Regulation, 1988, No. 1, p. 3.
- Schmalensee, Richard, The Control of Natural Monopolies, Lexington, Massachusetts: D.C. Heath and Company, 1979.
- Shew, William B., Costs of Cable Television Franchise Requirements, White Plains, New York: National Economic Research Associates, 1984.
- Sirbu, Marvin, Frank Ferrante and David S. Reed, "An Engineering and Policy Analysis of Fiber Introduction into the Residential Subscribership Loop," unpublished paper, Department of Engineering and Public Policy, Carnegie Mellon University, May 1988.
- Switzer, Israel, "Comments on DOC Study," unpublished memo, July 1987.
- U.S. Department of Commerce, "Video Program Distribution and Cable Television: Current Policy Issues and Recommendations," NTIA Report 88-233, June 1988.
- Vogelsang, Ingo, "Price Cap Regulation of Telecommunications Services," unpublished paper, RAND Corporation, February 1988.
- Webb, G. Kent, The Economics of Cable Television, Lexington, MA: Lexington Books, 1983.
- Williamson, Oliver, "Franchise Bidding for Natural Monopolies--in General and with Respect to CATV," Bell Journal of Economics and Management Science, Spring 1976, Vol. 7, No. 1, pp. 73-104.
- Wilson, James Q., ed., The Politics of Regulation, New York, NY: Basic Books, Inc., 1980.
- Zajac, Edward E., Fairness or Efficiency: An Introduction to Public Utility Pricing, Cambridge, Massachusetts: Ballinger Publishing Company, 1978.

Zupan, Mark A., "Cable Franchise Renewals: Do Incumbent Firms Behave Opportunistically?," unpublished paper, Department of Finance and Business Economics, USC School of Business, November 1988a.

-----, "On Cream Skimming, Coase, and the Sustainability of Natural Monopolies," unpublished paper, Department of Finance and Business Economics, USC School of Business, April 1988b.

-----, "A Test for Regulatory Lag and the Role Played by Periodic Contract Renewals in Mitigating Such Lag in Local Cable Franchise Relationships," forthcoming, Journal of Regulatory Economics, 1989a.

-----, "Nonprice Concessions and the Effect of Franchise Bidding Schemes on Cable Company Costs," forthcoming, Applied Economics, 1989b.

-----, "The Efficacy of Franchise Bidding Schemes in the Case of CATV: Some Systematic Evidence", forthcoming, Journal of Law and Economics, October 1989c.