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INFRASTRUCTURE INVESTMENT AND FRANCHISE FEE ABUSE: A THEORETICAL ANALYSIS

Abstract: Fees levied by local franchise authorities on cable television operators are limited to a statutory five-percent cap, though franchise authorities often skirt that maximum levy by demanding additional monetary and in-kind concessions from cable operators. The Federal Communications Commission has recently formally proposed to subject all of a franchise authority's monetary and in-kind demands to the five-percent (5%) cap subject to few statutory exceptions. In this BULLETIN, we analyze the investment effects of this proposal. Whether using simple economic and financial models or a more complex two-stage investment model that mimics the regular negotiations that occur between the cable operator and local authorities, we show that the Commission's proposed limits on local franchise authorities' extra-statutory exactions will promote infrastructure investment by both incumbents and new entrants.

I. Introduction

Before a cable operator can construct and operate a cable system for multichannel video and other services, Section 621 of the Communications Act, as amended, requires that operator to obtain a non-exclusive franchise from the local franchising authority (or, in a few instances, a state authority).¹ By virtue of their monopoly power over public rights-of-way, local

¹ 47 U.S.C. § 541.

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franchising authorities are in a position to extract concessions from cable operators, especially during re-negotiations with incumbent operators that have made large sunk investments in geographic-specific networks. Recognizing the problem, in 1984 Congress capped total franchise fees—the fees that the operator pays for access to public rights-of-way—to five-percent (5%) of gross revenues from the operation of a cable system and defined franchise fees broadly to cover both cash and non-cash (in-kind) exactions, with very limited exceptions. Congress further made clear that the purpose of the cap was to prevent franchising authorities from “taxing private cable operators to death as a means of raising ... revenues for other concerns.”² In 1996, Congress amended the franchise fee cap to no more than five percent (5%) of cable service revenues only, exempting revenues derived from non-cable services provided by operation of the cable system, such as broadband.³ Still, absent effective oversight, many local franchising authorities skirt the cap by extracting discretionary contributions, both monetary and in-kind, over-and-above a five-percent tax on gross cable service revenues.

In an attempt to rein in the excesses of local franchise authorities, last fall the Federal Communications Commission (“FCC” or “Commission”)—tasked by statute with removing barriers to infrastructure investment—issued a *Notice of Proposed Rulemaking* in which the Agency is proposing to subject all in-kind exactions from cable systems to the five-percent cap, subject to the few statutorily-created exceptions.⁴ It is not the first time the Commission has tried to do so. An earlier attempt to clarify that in-kind contributions count toward the franchise fee in 2015 was remanded by the Sixth Circuit Court of Appeals in *Montgomery County, et al. v. FCC*.⁵ While the Sixth Circuit agreed with the Commission “that the term ‘franchise fee’ can include noncash exactions,” the court found that the Commission failed to “give adequate reasons for its decisions” extending that statutory interpretation to cable-related noncash exactions.⁶ Now, the Commission aims to provide this additional rationale seeking, among other things, analysis addressing whether the practices of franchising authorities “likely

² 129 Cong. Rec. S8254 (daily ed. June 13, 1983) (statement of Sen. Goldwater).

³ See generally Cable Act Section 622, 47 U.S.C. § 542.

⁴ *In the Matter of Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992*, FCC 18-131, SECOND FURTHER NOTICE OF PROPOSED RULEMAKING, __ FCC Rcd. __ (rel. September 25, 2018) (hereinafter “Section 621 NRPM”).

⁵ *In the Matter of Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992*, FCC 15-3, ORDER ON RECONSIDERATION, 30 FCC Rcd. 810 (rel. January 21, 2015), *rev'd in part and aff'd in part*, *Montgomery County, Md. et al. v. FCC*, 863 F.3d 485 (6th Cir. 2017).

⁶ *Montgomery County v. FCC*, *id.*, 863 F.3d at 491.

delay or deter infrastructure investment by new competitors” or “affect incumbent cable operators’ ability to invest in new facilities and services?”⁷

As shown in this BULLETIN, local franchise authorities’ extra-statutory exactions from cable operators are expected to deter investment by both incumbents and new entrants. The presence of such an effect is nearly axiomatic: these exactions reduce the expected flow of revenues and/or increase the cost of an investment project, either of which reduces the net present value of an investment project and thus, at the margin, attenuates capital investments. While these effects may be demonstrated using simple economic and financial models (which we provide), we analyze how such behaviors affect investment decisions using a two-stage investment model that mimics the regular negotiations that occur between the cable operator and local authorities over the terms of the franchise agreement. Whether incumbent or new entrant, the wide latitude to expropriate surplus by local franchise authorities from cable systems is shown to reduce investment incentives. Accordingly, the Commission’s *Section 621 NPRM* to ensure compliance with the Cable Act by counting both monetary and in-kind contributions against the five-percent statutory cap on cable service revenues on investment grounds has strong theoretical support.

II. Background

Cable operators require permission from local governments to construct and operate cable systems.⁸ This exclusive control over such rights grants significant bargaining power to local franchising authorities, and this power may be (and has been) used to extract concessions from cable operators over and above the statutory franchise fee limit.⁹ Recognizing the problem, Section 622(b) of the Communications Act limits franchising authorities to five percent (5%) of cable service revenues annually in the form of a franchise fee. Congress’ motivation, expressed in the legislative history, was clear: the fee cap was to prevent local authorities from “taxing private cable operators to death as a means of raising ... revenues for other concerns” and because “without a check on such fees, local governments may be tempted to solve their fiscal problems by what would amount to a discriminatory tax not levied on cable’s competitors.”¹⁰

⁷ *Section 621 NPRM, supra n. 4* at ¶ 23.

⁸ *Supra n. 1.*

⁹ *C.f., F. Easterbrook, The Court and the Economic System, 98 HARVARD LAW REVIEW 4-60 (1984).*

¹⁰ *Supra n. 2.* In an asymmetric linear Cournot duopoly model, the second firm’s equilibrium quantity equals $q_2^* = (a - 2c_2 + c_1) / 3b$, where q_2 is the quantity sold by firm 2, a is the intercept and b the slope of the linear demand curve, and c_i is the marginal cost of firms 1 and 2. Thus, costs imposed on one firm but not its rivals advantages the rival firms and increases their output relatively to the disadvantaged firm.

By amending the cap in 1996 to limit franchise fees to cable service revenues only, Congress further sought to promote the operation of cable systems to provide non-cable services, such as broadband, thereby increasing intermodal competition to the benefit of consumers.¹¹

While the franchise fee appears to consumers as a simple line item on the cable bill, the fee is intended to capture almost all cash and non-cash exactions made by the franchising authority. In particular, Section 622(g)(1) of the Communications Act defines the franchise fee to include, with few exceptions, “any tax, fee, or assessment of any kind imposed by a franchising authority or other governmental entity on a cable operator or cable subscriber, or both, solely because of their status as such[.]”¹² Notwithstanding the broad definition of franchise fees and the hard cap imposed on such fees by Congress, some franchising authorities have skirted the law and used their unique position to extract additional contributions, both monetary and in-kind, over-and-above a five-percent tax on gross cable service revenues. A rich record exists on local franchise authority abuses including, as mentioned in the *Section 621 NPRM*, such in-kind contributions as planting flowers, funding scholarships, supporting traffic control systems, free services, and other non-cable related expenditures.¹³ Now, the Commission seeks to remedy such statutory evasions by rolling-up all monetary and in-kind contributions, with few exceptions delineated in the statute, into the five-percent cap on franchise fees.¹⁴

Exceptions to the cap are delineated in the statute. Section 622(g)(2)(D) of the Communications Act specifically excludes minor charges that are “incidental to the awarding or enforcing of the franchise, including payments for bonds, security funds, letters of credit, insurance, indemnification, penalties, or liquidated damages[.]”¹⁵ For franchise agreements active on October 30, 1984, Section 622(g)(2)(B) excludes from the franchise fee “payments which are required by the franchise to be made by the cable operator during the term of such franchise for, or in support of the use of, public, educational, or governmental [PEG] access facilities.” However, for agreements entered into after that date, only PEG “capital costs” are

¹¹ See H.R. Conf. Rep. No. 104-458, at 180 (1996), as reprinted in 1996 U.S.C.C.A.N. 124, 193 (“This amendment makes clear that the franchise fee provision is not intended to reach revenues that a cable operator derives for providing new telecommunications services over its system, but only the operators [*sic*] cable-related revenues.”)

¹² 47 U.S.C. § 542(g)(1) (emphasis supplied).

¹³ *Section 621 NPRM*, *supra* n. 4 at fn. 20.

¹⁴ *Id.* at ¶ 1 (“we tentatively conclude that we should treat cable-related, ‘in-kind’ contributions required by a franchising agreement as ‘franchise fees’ subject to the statutory five percent cap on franchise fees set forth in Section 622 of the Communications Act of 1934, as amended (the Act), with limited exceptions.”).

¹⁵ 47 U.S.C. § 542(g)(2)(D).

excluded from franchise fees (while all non-capital PEG costs are included).¹⁶ The Commission's current proposal affirms these statutory exclusions.¹⁷ The market value of all other exactions, as intended by Congress, are to be included in the franchise fee.

This careful attention to the statutory exclusions is driven, in part, by the remand of an earlier attempt by the Commission to ensure that local franchising authorities adhere to the statute's five-percent ceiling on franchise fees. In *Montgomery County, et al. v. FCC*, the Sixth Circuit agreed with the Commission "that the term 'franchise fee' can include noncash exactions." Nonetheless, the court decided that the Commission had failed to "give adequate reasons for its decisions," reasons that should include an "explanation as to why the statutory text allows it to treat 'in-kind' cable-related exactions as franchise fees" and to "define[] what 'in-kind' means."¹⁸ So, in addition to a strict adherence to the statute's guidance on exceptions, the Commission seeks to augment its prior decision by providing "adequate reasons for its decisions."¹⁹

As provided by statute, and as recognized by the Sixth Circuit, the Commission is authorized to make "such rules and regulations as may be necessary" to carry out the purposes of the Communications Act.²⁰ One of the aspirations of the Communications Act, as articulated in Section 706, is to encourage the deployment of advanced telecommunications capability to all Americans "by utilizing, in a manner consistent with the public interest, convenience and necessity, price-cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to

¹⁶ See *Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992*, SECOND REPORT AND ORDER, 22 FCC Rcd. 19633 ¶ 13 (2007) ("[N]on-capital costs of PEG requirements must be offset from the cable operator's franchise fee payments."); compare 47 U.S.C. § 542(g)(2)(B) (for franchises in effect before the 1984 Cable Act, excluding all "payments . . . for or in support of the use of [PEG] facilities"), with *id.* § 542(g)(2)(C) (for franchises after the Act, excluding only "capital costs . . . for [PEG] facilities"). The Commission has further determined, and the Sixth Circuit has affirmed, that PEG "[c]apital costs refer to those costs incurred in or associated with the construction of PEG access facilities." *Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992*, FIRST REPORT AND ORDER AND FURTHER NOTICE OF PROPOSED RULEMAKING, 22 FCC Rcd. 5101 ¶ 109 (2007), *aff'd Alliance for Community Media v. FCC*, 529 F.3d 763, 784 (6th Cir. 2008); see also H.R. Rep. 98-934 at *26 (1984) (likewise stating Congress's intent that "the capital costs associated with the construction of [PEG] access facilities are excluded from the definition of a franchise fee").

¹⁷ *Section 621 NPRM*, *supra* n. 4 at ¶19.

¹⁸ *Montgomery County v. FCC*, *supra* n. 5, 863 F.3d at 491.

¹⁹ *Id.*

²⁰ 47 U.S.C. § 201(b); accord, *Montgomery County v. FCC*, *supra* n. 5, 863 F.3d at 488.

infrastructure investment.”²¹ In search of “adequate reasons,” a sensible place to look is the effect of abusive practices by franchising authorities on infrastructure investment by cable operators.

A. *Investment Effects, Put Simply*

While the Commission sought comments on a variety of its proposed rules delineated in its *Section 621 NPRM*, it specifically requested comment on whether excluding in-kind contributions from the five-percent cap would “likely delay or deter infrastructure investment by new competitors” or “affect incumbent cable operators’ ability to invest in new facilities and services?”²² Specifically, the Commission inquired, “... what effect, if any, would excluding cable-related, in-kind contributions from ‘franchise fees’ (i.e., allowing LFAs to seek unlimited cable-related, in-kind contributions on top of the five percent franchise fee permitted by Section 622) have on [infrastructure investment by] new entrants and incumbents?”²³ The answer is obvious – such financial concessions, whether monetary or in-kind, reduce the net present value of an investment and thus reduce, at the margin, the incentive to invest in infrastructure.

This effect can be seen by evaluating the most basic financial treatment of investment decisions.²⁴ An investment is profitable when the economic rate of return (r) exceeds the company’s hurdle rate (h), with r solving,

$$\sum_{t=1}^T \frac{R_t - C_t}{(1+r)^t} - F = 0, \quad (1)$$

where R_t is expected flow of net revenues at time t , C_t is the expected flow of variable costs at time t , F is the up-front capital costs, and T is the expected life of the project. The investment is worth pursuing when $r \geq h$, where r satisfies Equation (1) given projections for R , C , and F .

Now, let a franchising authority impose a tax on revenues w , require the cable system to pay regular monetary or in-kind concessions with market value z , or demand an up-front exaction valued at f . The ERR calculation is now,

²¹ 47 U.S.C. § 1302(a).

²² *Section 621 NPRM*, *supra* n. 4 at ¶ 23.

²³ *Id.*

²⁴ See, e.g., C.S. Park, *CONTEMPORARY ENGINEERING ECONOMICS* (2010) at pp. 226-7; R.A. Brealey and S.C. Myers, *PRINCIPLES OF CORPORATE FINANCE* (2000) at Ch. 2.

$$\sum_{t=1}^T \frac{R_t(1-w) - (C_t + z_t)}{(1+r)^t} - (F+f) = 0, \quad (2)$$

where it is plain to see that a higher tax rate reduces the rate of return ($\Delta r / \Delta w < 0$), a higher recurring exaction reduces the return ($\Delta r / \Delta z < 0$), and a larger up-front concession reduces the return ($\Delta r / \Delta f < 0$). Thus, irrespective of the exaction modality, investment incentives decline. Any and all of the local franchise authority's demands on the cable system reduce the expected return on the investment and thus reduce the incentive to undertake investment projects—the greater the exactions, the lower the investment incentives. The same analysis applies whether the investment decisions are made by new entrants or incumbents.

Another somewhat simple way to see the effect of franchising authority exactions is to employ a model of equilibrium industry structure.²⁵ Let N be the number of firms providing service to a market and let N^* be the equilibrium number of such firms. Under some simplifying assumptions, including the normalization of variable (marginal) costs to zero, the equilibrium number of firms is equal to,

$$N^* = \sqrt{S/F}, \quad (3)$$

where S is the market size in terms of expenditures and F is the fixed and sunk cost of entry. The larger is the ratio of market size to entry costs (S/F), the more firms can exist in equilibrium. Again, let the franchising authority impose a revenue tax of w or an up-front entry fee of f .²⁶ The equilibrium number of firms can now be written as,

$$N^* = \sqrt{S(1-w)/(F+f)}. \quad (4)$$

As before, it is plain to see that the revenue tax shrinks the size of the market, reducing the equilibrium number of firms ($\Delta N^* / \Delta w < 0$). Likewise, an up-front fee to serve the market increases entry costs, thereby reducing the equilibrium number of firms ($\Delta N^* / \Delta f < 0$). Exactions by franchising authorities reduce the number of viable competitors at the margin.²⁷

²⁵ See, e.g., J. Sutton, SUNK COST AND MARKET STRUCTURE (1991) at Ch. 2; G.S. Ford, T.M. Koutsky, L.J. Spiwak, *Competition After Unbundling: Entry, Industry Structure and Convergence*, 59 FEDERAL COMMUNICATIONS LAW JOURNAL 331-367 (2007) (available at: <http://phoenix-center.org/papers/FCLJCompetitionAfterUnbundling.pdf>).

²⁶ The effect of recurring exactions (z) has the effect akin to reducing market size.

²⁷ For a different theoretical approach and empirical evidence, see T.W. Hazlett and G.S. Ford, Hazlett, *The Fallacy of Regulatory Symmetry: An Economic Analysis of the 'Level Playing Field' in Cable TV Franchising Statutes*, 3 BUSINESS AND POLITICS 21-46 (2001) (available at: <https://ssrn.com/abstract=1674533>).

With statutory objectives to “promote competition” and increase “infrastructure investment,” the Commission is rightly moved to constrain franchising authorities to the franchise fee cap established by Congress.

Our hurdle analysis underlines an obvious point: policies that reduce net returns discourage investment projects, whether they represent *de novo* entry or build-out of existing plant. However, franchise terms and fees, which determine the viability of a project, are to some degree the result of strategic negotiations between the cable system and local franchising authorities. Thus, one might well ask whether the recognized prospect of future exactions by the franchising authority would reduce willingness to pay by the firm in such a manner as to preserve proper investment incentives. In other words, since the firm knows it will be subject to a future exaction that will reduce its net earnings, the firm would undertake the project only if it were profitable nonetheless, and this profitability is also determined by the initial franchise terms and conditions. In this initial agreement, the cable system and franchising authority jointly wish to implement a mutually-beneficial plan.²⁸

Although this efficiency scenario appears plausible, it is relatively straightforward to show that the investment-suppressing effects of franchising authority “taxation” persist despite the firm knowing they will face post-agreement costs. This outcome occurs because some amount of investment must be made prior to the later imposition of extra costs and, by assumption, one regulator cannot preempt the rights of a later one through contract. In this world of imperfect contracting, the firm recognizes that future exactions will reflect future available rents, which are positively related to early and now sunk investments. Knowing this, the firm reduces its initial sunk capital investment relative to the case where *ex post* exploitation of its sunk investment is impossible, thus reducing its later costs. We provide a model of this mechanism below.

B. *Investment Effects with Re-Negotiation*

Franchise agreements expire and typically have terms of about 10 to 15 years.²⁹ A cable operator may have hundreds or even thousands of such agreements across its footprint, so the renewal process is always active. Whether negotiating as a new entrant for the first agreement

²⁸ As political entities, we cannot exclude the possibility that a franchise authority is so demanding – say with onerous build out requirements – that a deal cannot be reached.

²⁹ See *Montgomery County v. FCC*, *supra* n. 5, 863 F.3d at 487; T.W. Hazlett, *Duopolistic Competition in Cable Television: Implications for Public Policy*, 7 YALE JOURNAL ON REGULATION 65-120 (1990) (available at: <https://digitalcommons.law.yale.edu/yjreg/vol7/iss1/3>); O. Williamson, *Franchise Bidding for Natural Monopolies – in General and with Respect to CATV*, 7 BELL JOURNAL OF ECONOMICS 73-104 (1976) (available at: http://www.webssa.net/files/4a_sem_williamson_franchise_bidding.pdf).

or as an incumbent on its fifth agreement, the cable operator realizes that its location-specific sunk investments operate on a much longer time horizon than a franchise agreement. Incumbents and new entrants understand, as a result of their investments, that they are vulnerable to being held hostage by franchising authorities at these re-negotiations.

Suppose there is a cable operator that can develop and offer a product of variable quality given access to the city or county by the franchising authority. The capital investments made by the cable operator occur up front, while the revenue generated from selling cable service will occur over many years. The timing of the negotiations over the franchise agreement can have a substantial impact on the amount of capital investment made by the cable operator. We illustrate this point by setting up a simple two period model and comparing two different contract negotiation regimes. Under both regimes, the firm will choose the amount of capital investment (k) in the first period that will generate $R(k)$ revenue in both the first and second period. We assume that the revenue function $R(k)$ is a strictly increasing and strictly concave function. In other words, the greater the investment, the greater the revenue, but there are diminishing returns. We also assume the cable system has operating costs of C per period.

The first type of franchise agreement we consider is a fixed long-term (i.e., both periods) franchise contract that occurs at the start of the first period, before any capital investment is made. Let the negotiated per period *fixed* fee (or cost) of this agreement be denoted by \bar{P} , which may include the planting of wildflowers, monetary exactions, free service for government offices, or any other sort of monetary or in-kind exaction. We also assume the cable system is subject to a fixed revenue tax of τ in both periods (typically 5%). Hence, the fee \bar{P} is negotiated in addition to the fixed revenue tax.

In this scenario, the cable operator would choose a level of capital investment to solve the following problem:

$$\max_k \{2(1 - \tau)R(k) - k - 2\bar{P} - 2C\}. \quad (5)$$

Note that the franchise fee is already determined at the time the capital investment is chosen. Hence, the long-term franchise agreement with respect to the fixed fee \bar{P} does not distort the future capital investment decisions (assuming a deal is made).³⁰ This maximization problem yields the following first-order condition for the optimal level of capital investment chosen by the cable operator:

³⁰ In the first stage, the cable operator brings to the negotiating table its investment. If a deal cannot be struck, then no investment occurs.

$$R'(\bar{k}^*) = \frac{1}{2(1-\tau)}. \quad (6)$$

Notice that the optimal level of capital investment is a *decreasing* function of the fixed revenue tax (τ) given the concavity of $R(k)$. Hence, the franchising authority can potentially increase investment by agreeing to lower the gross revenue tax rate in exchange for fixed exactions that are independent of revenue. That is, a fixed in-kind transfer is more efficient than revenue taxes because revenue taxes reduce marginal investment decisions.³¹

The second type of franchise agreement we will examine is a short-term agreement that is negotiated at the start of each period. Hence, the price for access to the franchised cable market during the second period is negotiated *after* the initial capital investment is made. These costs are therefore sunk and no longer on the table when the second period price is negotiated. Let P_2 denote the franchise fee and we will assume that it is determined by Nash Bargaining. Hence, P_2 will maximize the following Nash product:

$$\max_{P_2} \{P_2 ((1-\tau)R(k) - C - P_2)\}. \quad (6)$$

The first-order condition for this simple problem yields an even split of the operating margin:

$$P_2(k) = \frac{1}{2}((1-\tau)R(k) - C). \quad (7)$$

The firm will now perceive that the fixed fee for the second period is going to be an increasing function of the costly investment that it makes during period one. The firm's investment decision under this short-term agreement is now determined by:

$$\max_k \{2(1-\tau)R(k) - k - P_1 - P_2(k) - 2C\}. \quad (8)$$

The new first-order condition for the optimal level of capital investment appears as follows:

$$R'(k^*) = \frac{2}{3(1-\tau)}. \quad (9)$$

³¹ This point is not much different than what we observe in spectrum auctions. Spectrum is sold outright without the ability of the Commission to re-negotiate the price later. If re-negotiation was possible, then spectrum would be less valuable at auction.

Clearly, the optimal marginal revenue requirement is higher under the short-term agreement compared to the fixed long-term agreement. In other words,

$$R'(k^*) > R'(\bar{k}^*). \quad (10)$$

Since the revenue function is strictly concave (diminishing returns), the marginal revenue function is a strictly decreasing function. Thus, we reach the conclusion that $\bar{k}^* > k^*$. The long-term fixed fee agreement will generate a higher level of capital investment by the cable system compared to the short-term agreement that can be re-negotiated in later periods after the investment costs are sunk.

While this presentation is technical, the idea discussed here is very simple.³² When the franchise agreement's term is less than asset life and some assets are (at least partially) sunk, then at such time as the initial agreement expires, there will be re-negotiation. At re-negotiation, the franchising authority now has the opportunity to capture some of the profits produced by the investment, lowering the marginal return on the initial investment, and thereby discouraging such investment. There are two key points demonstrated by the analysis. First, the negotiation over fees needs to occur upfront, not in the future. The statutory limit of all franchising authority exactions to five-percent of gross cable service revenues, if enforced, has that consequence. Second, franchising authority exactions should not be marginal to capital investment. A revenue tax is marginal to the investment decision and thus reduces investment. Aside from the administrative difficulty of valuing in-kind fixed exactions, gross revenue taxes are the worst form of franchise fees. Up to the five-percent statutory limit, it is better for franchising authority to exact "fees" of a fixed nature rather than an explicit revenue tax.

C. A Particularly Pernicious Tax

Most franchising authorities apply a five-percent gross cable service revenue tax on cable systems and many demand additional exactions over-and-above this amount in monetary and in-kind contributions. As shown above, a revenue tax is a particularly burdensome form of taxation when it comes to investment incentives. Investment decision are motivated by profits,

³² This analysis is a simple application of the basic contracting model of Oliver Hart, *FIRMS, CONTRACTS, AND FINANCIAL STRUCTURE* (1995) at Ch. 2. This analysis borrows heavily from G.S. Ford and T.W. Koutsky, *Unnecessary Regulations and the Value of Spectrum: An Economic Evaluation of Lease Term Limits for the Educational Broadband Service*, PHOENIX CENTER POLICY BULLETIN No. 15 (February 2006) (available at: <http://phoenix-center.org/PolicyBulletin/PCPB15Final.pdf>). Our use of the term "social" here relates only to the parties of the transaction. We do not, for example, evaluate the impact on consumer welfare. Empirical evidence somewhat related to this problem is presented in P. Joskow, *Contract Duration and Relationship-Specific Investments: Empirical Evidence form Coal Markets*, 77 *AMERICAN ECONOMIC REVIEW* 168-85 (1987).

not revenues. When expected profits are small, a revenue tax may be a particularly effective entry deterrent. A five-percent revenue tax is the equivalent of a much higher tax on profit.

To illustrate this fact, consider a cable system that earn \$1 million in revenue and has a gross margin of 50%. A five-percent revenue tax equals \$50,000, which is equal to an 10% profit tax. The tax on profits is more than twice the tax on revenues, and it is profit that determines investment decisions. It is easy to see that a five-percent revenue tax alone may be particularly onerous in franchise markets that are only marginally profitable; adding additional in-kind contributions on top of the five-percent fee only makes matters worse. It is these marginal areas (often rural, high cost areas) where deployment is most needed. Bridling franchising authorities from excessive exactions is a sensible means by which to encourage deployment in unserved or underserved areas.

III. Conclusion

Adding to the already difficult supply-side conditions of providing facilities-based communications services, many local governments exploit their exclusive control over a cable operator's access to the public rights-of-way by imposing substantial cash and non-cash exactions. Recognizing the problem of excessive local taxation, Congress limited such exactions to five-percent of gross annual revenues from cable service, a limit intended to keep local governments from "taxing private cable operators to death as a means of raising ... revenues for other concerns."³³ Nonetheless, many franchising authorities skirt the law by requiring monetary and in-kind contributions in excess of the statutory five-percent gross revenue tax on cable services, including demands such as planting wildflowers.

In an ongoing proceeding, the FCC now proposes to enforce the law and limit, with few statutorily-created exceptions, the franchising authority's exactions to five-percent cap. In this BULLETIN, we attempt to satisfy the Commission's request for an analysis of how local franchising authorities' excessive exactions affect infrastructure investment. Using a variety of models, both simple and complex, we demonstrate that the abuse of power by local governments does, in fact, reduce investment and, in turn, reduces social welfare. Tasked by Congress to "remove barriers to infrastructure investment," the Commission's attempts to shut down the abusive practices of franchising authorities is well-supported on economic grounds.

³³ *Supra* n. 2.